# Body Electrical


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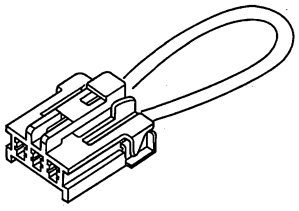
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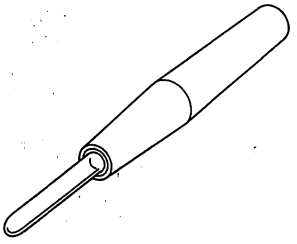

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## Special Tools

| Ref. No. | Tool Number | Description | Qty |
|---|---|---|---|
| ① | 07WAZ-001010A | MPCS (MCIC) Service Connector | 1 |
| ② | 07TAZ-001020A | Back Probe Adaptor | 1 |



①



②

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# General Troubleshooting Information

## Tips and Precautions

### Before Troubleshooting

1. Check applicable fuses in the appropriate fuse/relay box.

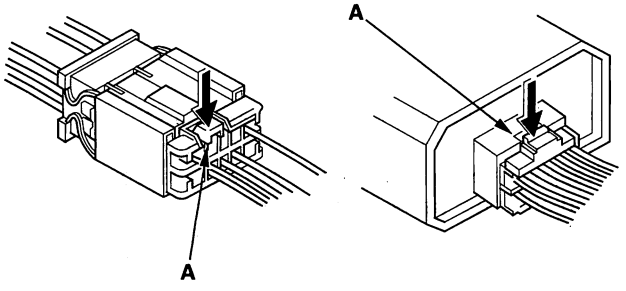
2. Check the battery for damage, state of charge, and clean and tight connections.

**NOTICE**

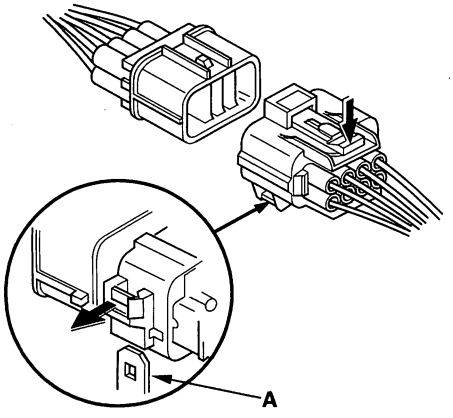
- Do not quick-charge a battery unless the battery ground cable has been disconnected, otherwise you will damage the alternator diodes.
- Do not attempt to crank the engine with the battery ground cable loosely connected or you will severely damage the wiring.

### Handling Connectors

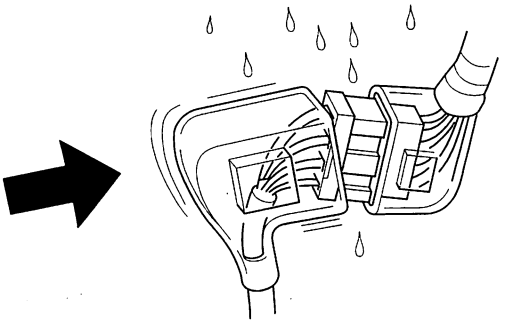
- Make sure the connectors are clean and have no loose wire terminals.
- Make sure multiple cavity connectors are packed with dielectric grease (except watertight connectors).
- All connectors have push-down release type locks (A).



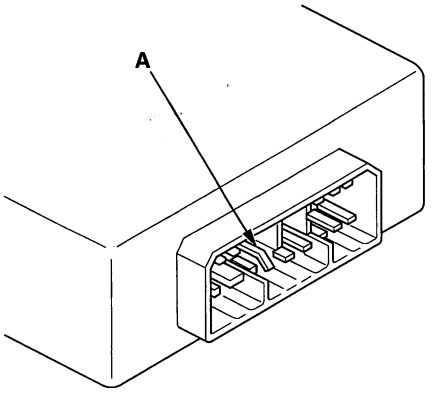

- Some connectors have a clip on their side used to attach them to a mount bracket on the body or on another component. This clip has a pull type lock.
- Some mounted connectors cannot be disconnected unless you first release the lock and remove the connector from its mount bracket (A).




- 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.

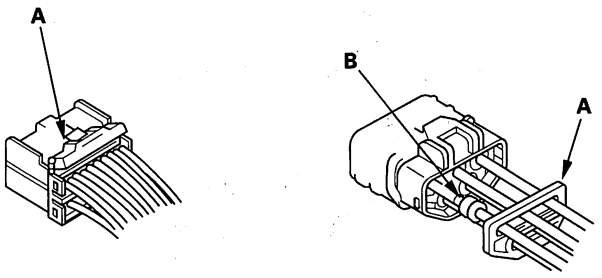



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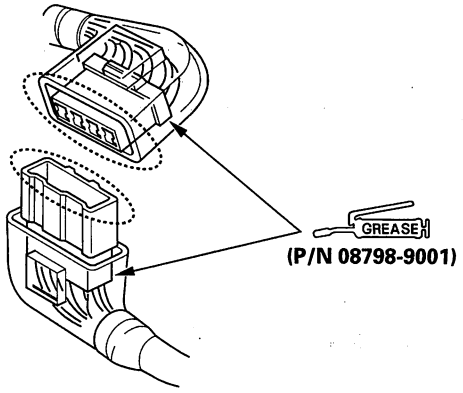
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## General Troubleshooting Information (cont'd)

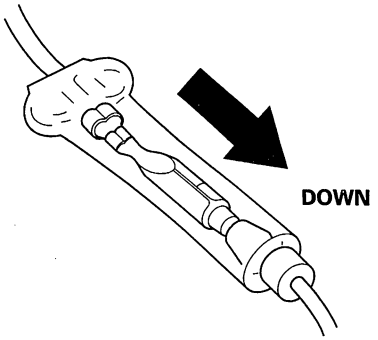
- Check for loose retainer (A) and rubber seals (B).




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

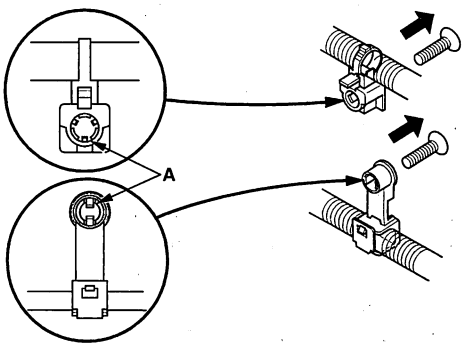



- Insert the connector all the way and make sure it is securely locked.
- Position wires so that the open end of the cover faces down.

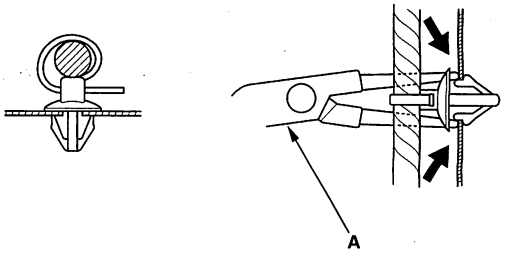



**Handling Wires and Harnesses**

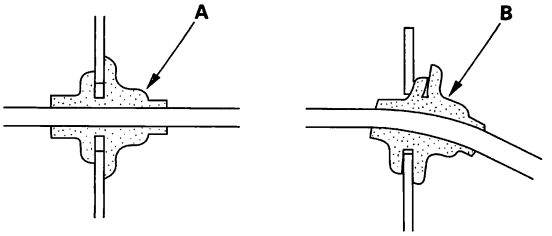
- Secure wires and wire harnesses to the frame with their respective wire ties at the designated locations.
- Remove clips carefully; don't damage their locks (A).




- 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 components 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).



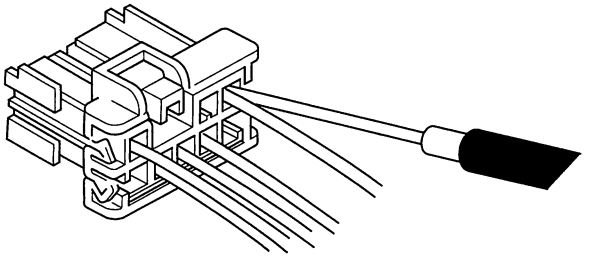

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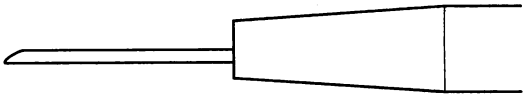
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**Testing and Repairs**

- Do not use wires or harnesses with broken insulation. Replace them or repair them by wrapping the break with electrical tape.
- Never attempt to modify, splice, or repair SRS wiring. If there is an open or damage is SRS wiring or terminals, replace the harness.
- 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 back probe adaptor 07TAZ-001020A.



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

## Five-step Troubleshooting

1. Verify The Complaint:
   Turn on all the components in the problem circuit to verify the client 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 a 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.

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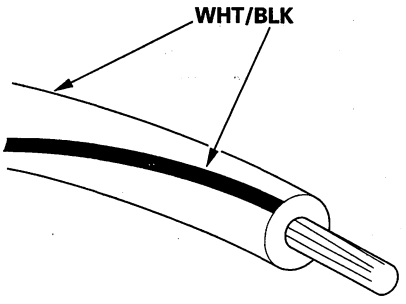
## General Troubleshooting Information (cont'd)

### 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 |

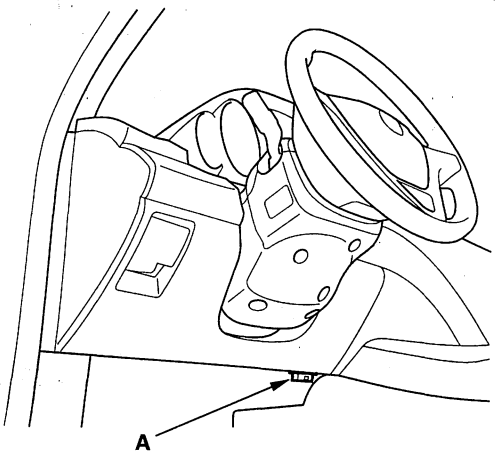
The wire insulation has one color or one color with another color stripe. The second color is the stripe.




### How to Check for DTCs with the Honda Diagnostic System (HDS)

NOTE: For specific operations, refer to the user's manual that came with the Honda Diagnostic System (HDS).

1. Connect the HDS to the data link connector (A) located under the driver's side of the dashboard.




2. Turn the ignition switch ON (II).
3. Make sure the HDS communicates with the vehicle, if it doesn't, troubleshoot the DLC circuit (see page 11-223).
4. Enter the BODY ELECTRICAL then select the TEST MODE menu.
5. Check for DTCs with the HDS.
6. If any DTCs are indicated, note them, and go to the indicated DTC troubleshooting.

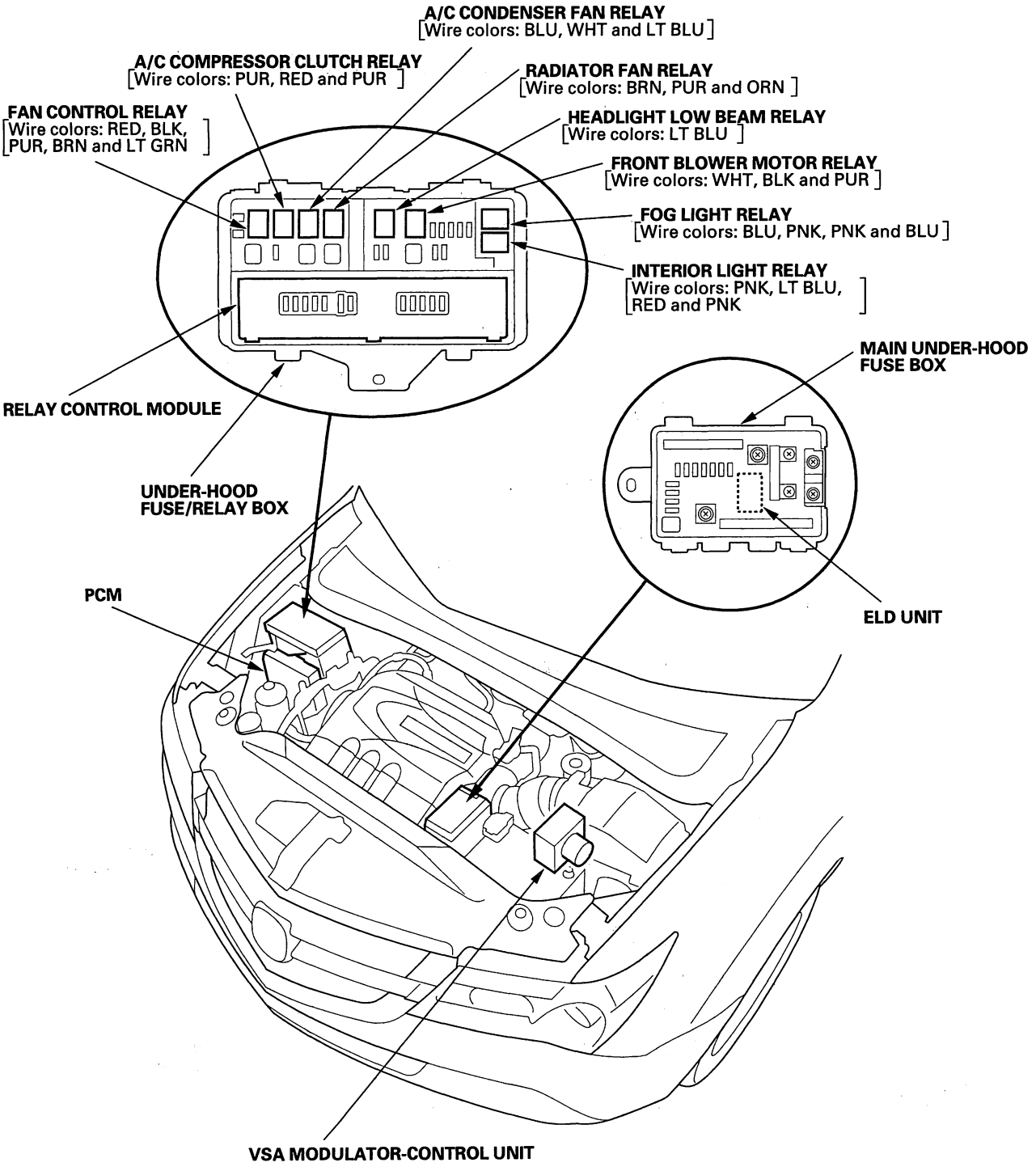
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# Relay and Control Unit Locations

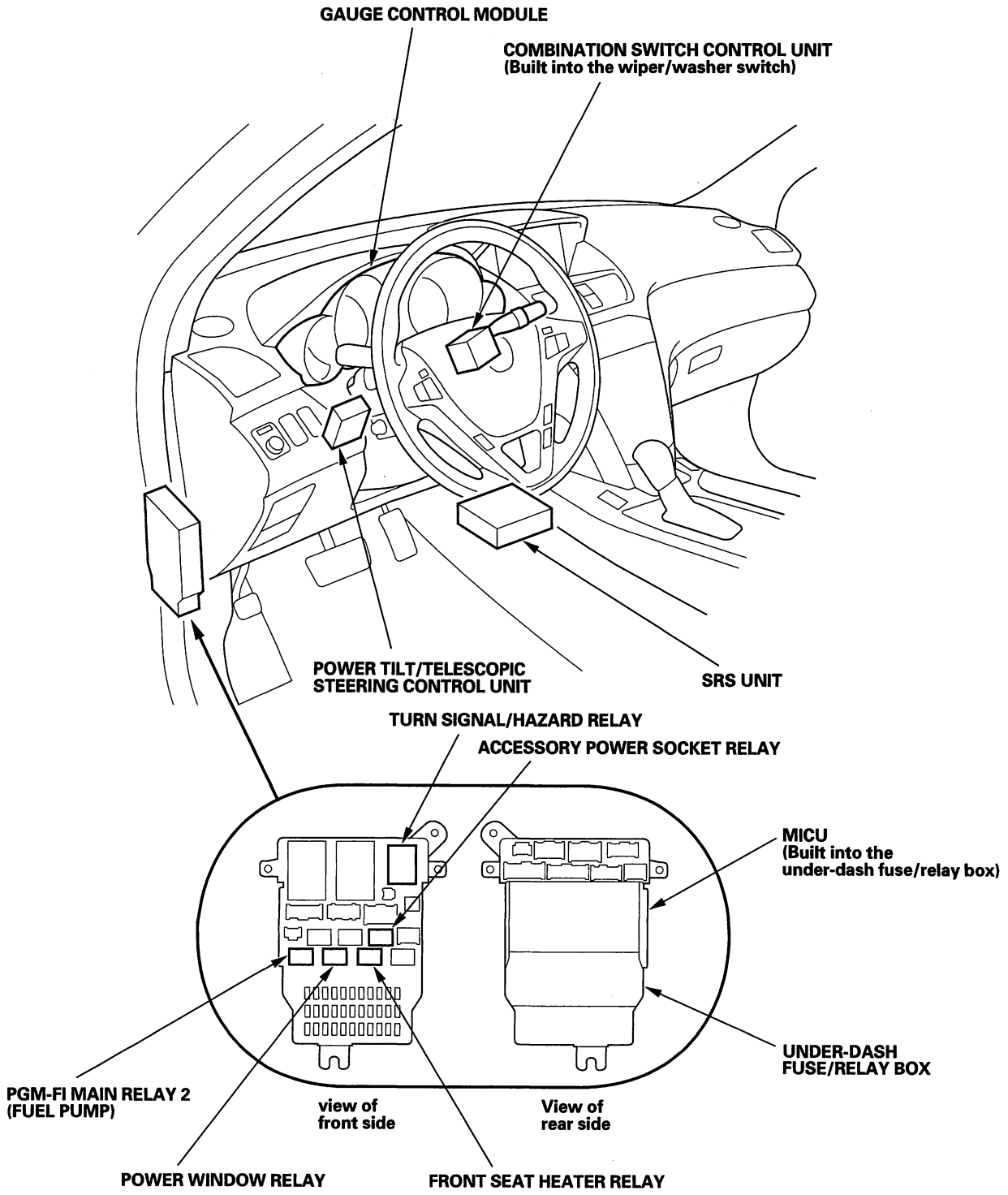
## Engine Compartment




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# Relay and Control Unit Locations

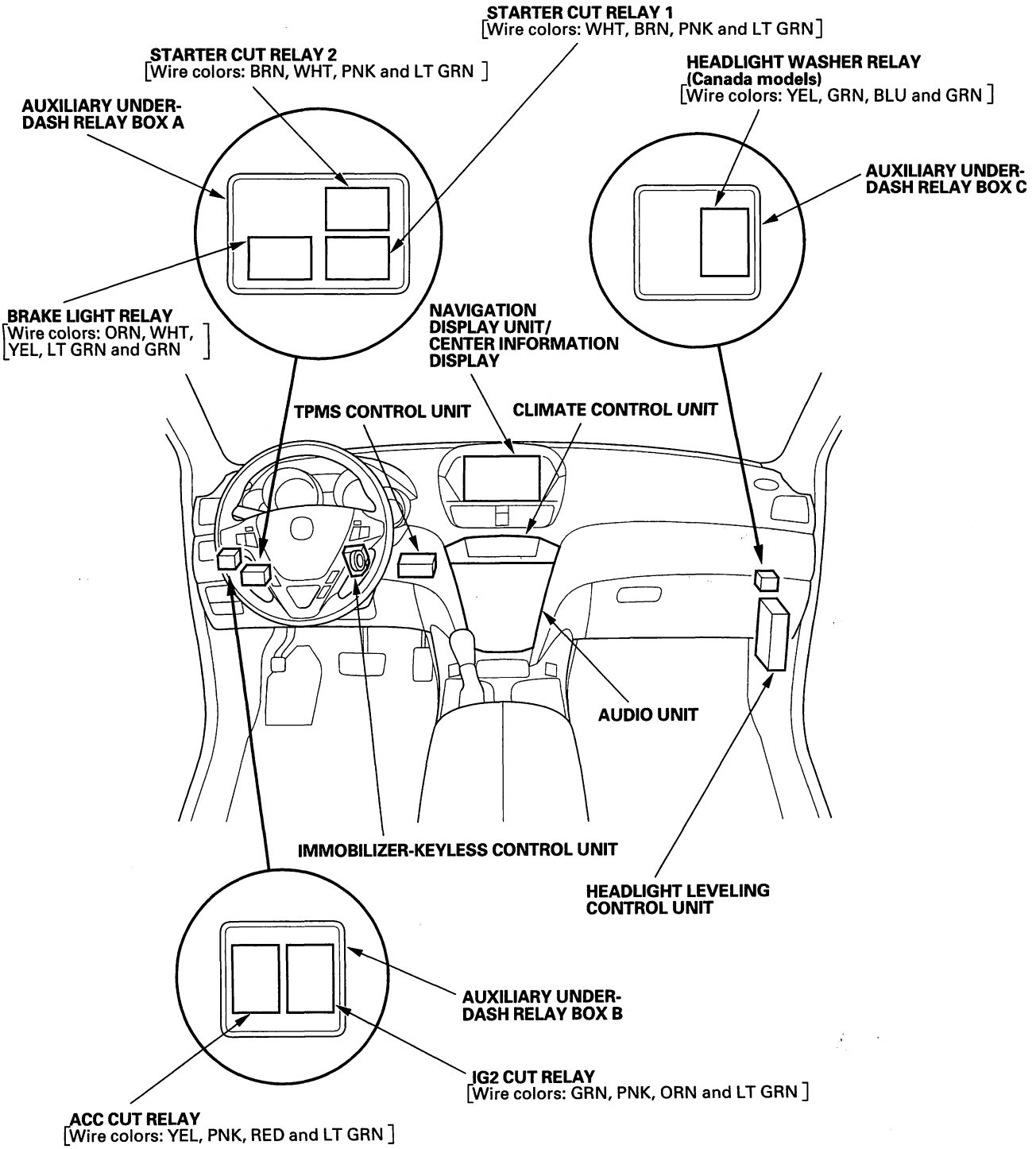
## Dashboard




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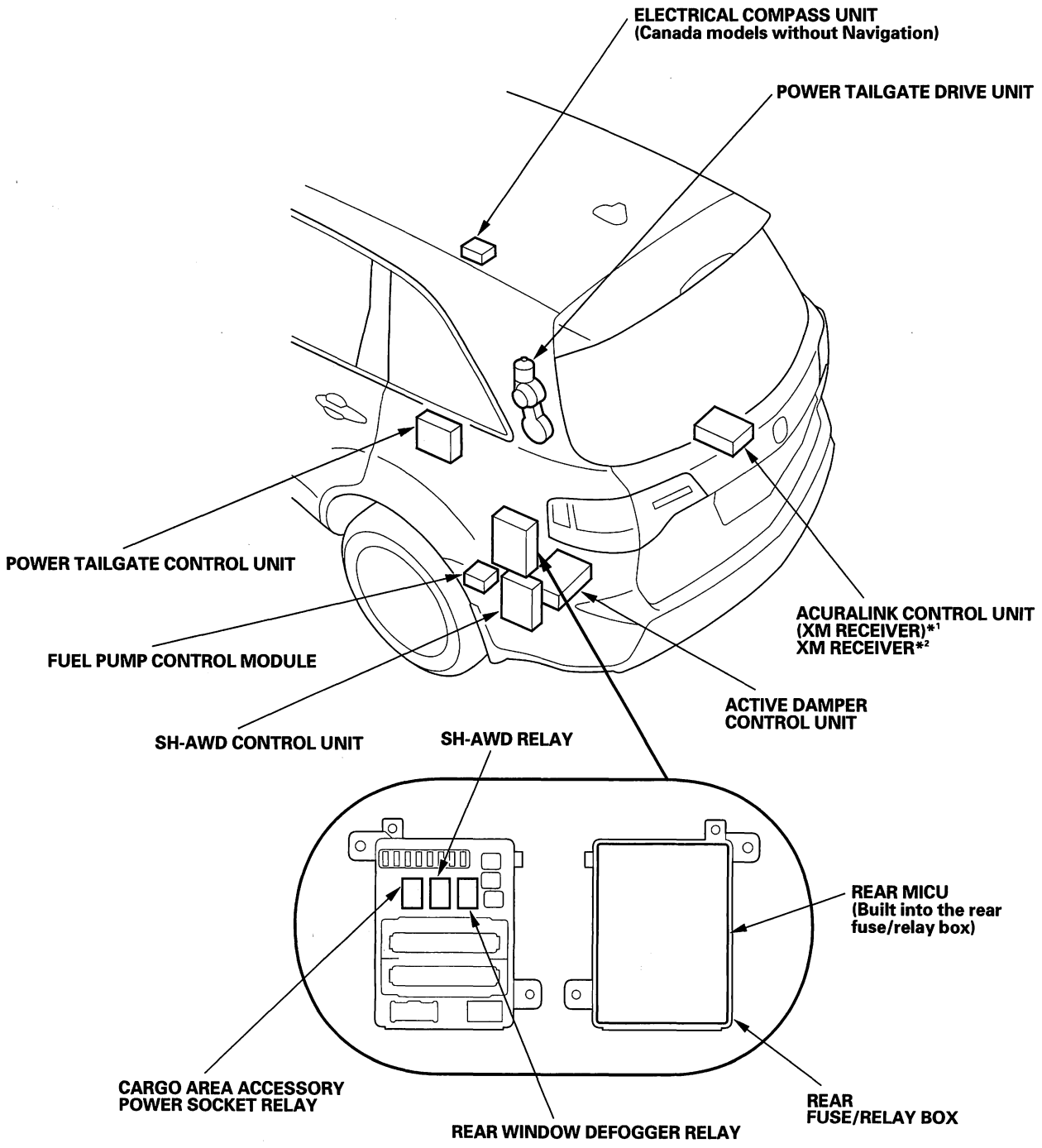
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# Relay and Control Unit Locations

## Rear



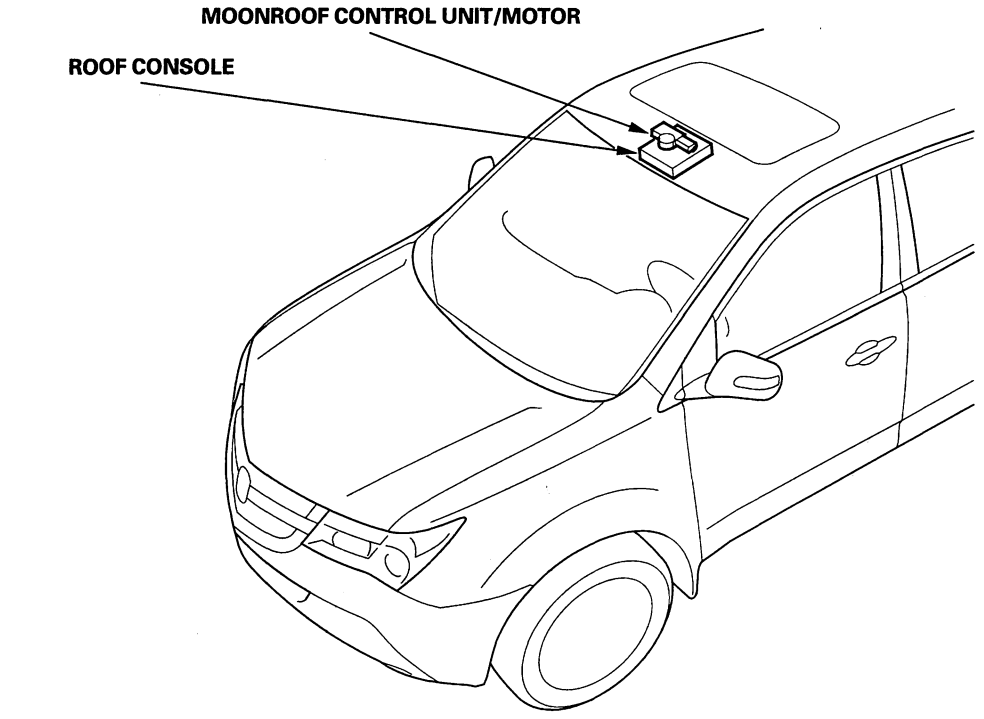

*1 : USA models
*2 : Canada models and USA models without Acuralink

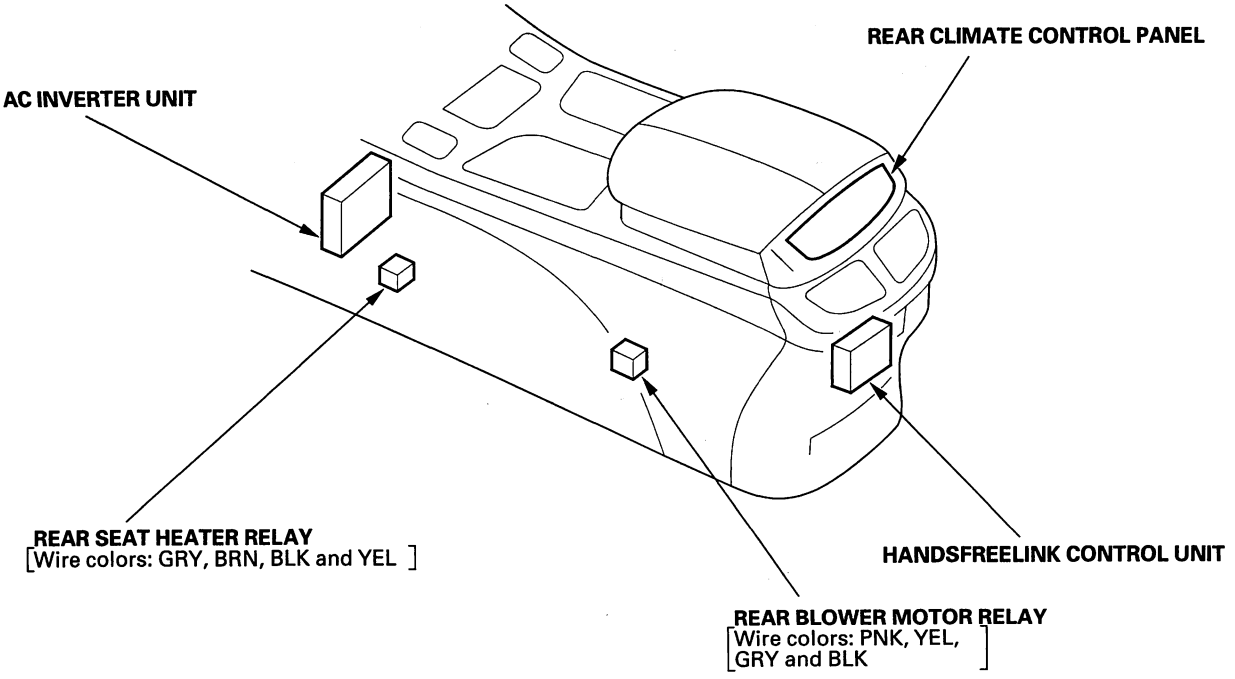
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## Roof and Console

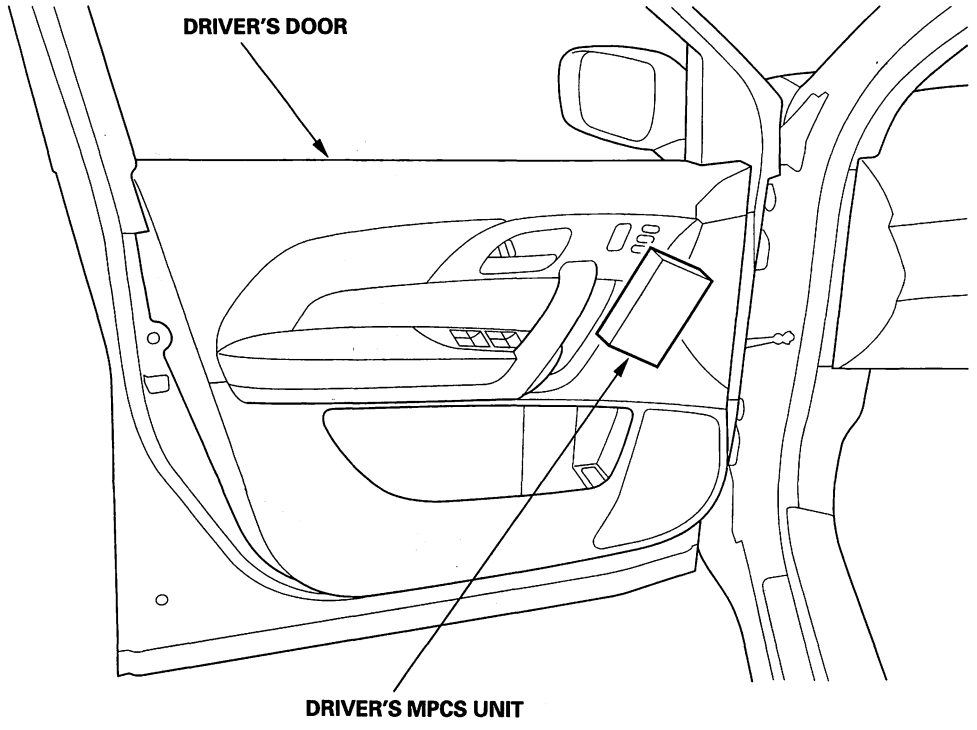


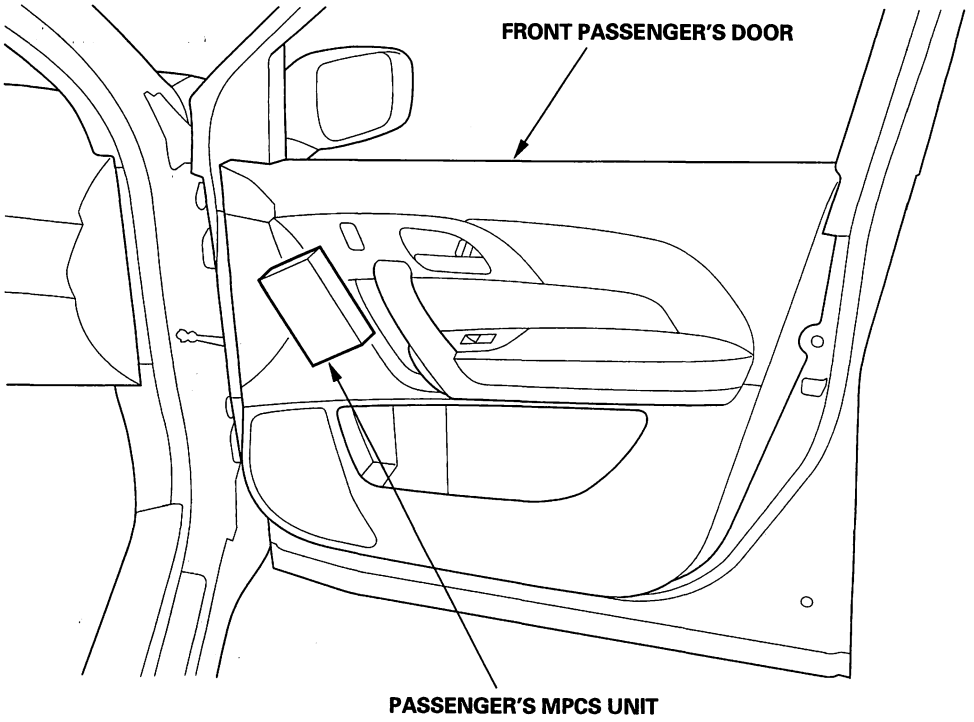




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# Relay and Control Unit Locations

## Door



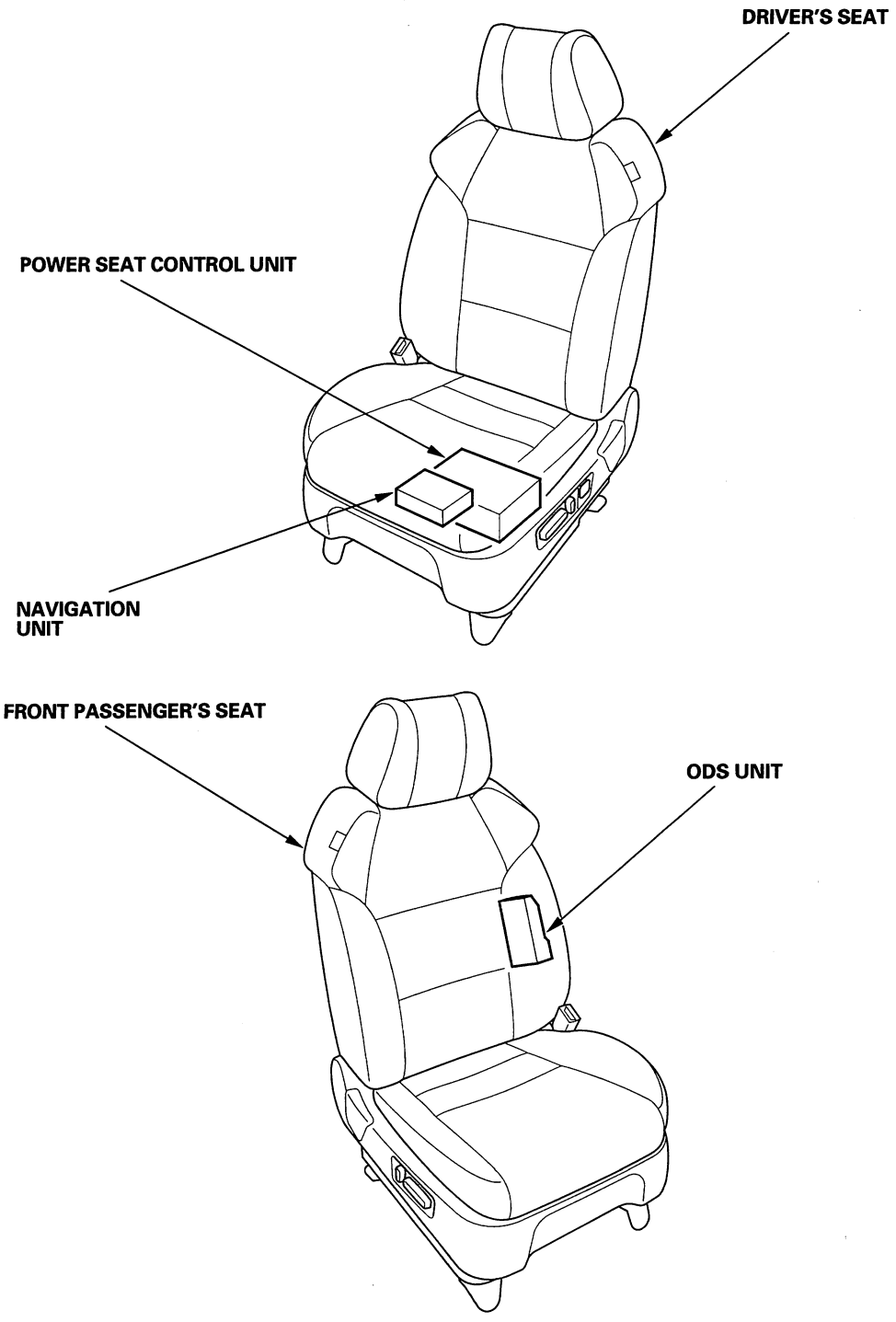




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## Seat




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## Connector Index

Identification numbers have been assigned to in-line connectors, junction connectors, and terminals. The number is preceded by the letter "C" for connectors "G" for ground terminals or "T" for non-ground terminals.

| Harness | Location | | | |
|---|---|---|---|---|
| | Engine Compartment | Dashboard | Others (Floor, Door, Tailgate, and Roof) | Notes |
| A/C wire harness | | C502, C503 | | (see page 22-56) |
| Battery ground cable | (—), G1 | | | (see page 22-15) |
| CKP sensor subharness | C151 | | | (see page 22-16) |
| Console subharness | | C901, C902 | | (see page 22-47) |
| Dashboard wire harness (View of driver's side) | | C304, C305, C501, C510, through C518, C601 G501, G502 | | (see page 22-26) |
| Dashboard wire harness (Center console) | | C505 | C602, C603 G503 | (see page 22-30) |
| Dashboard wire harness (View of passenger's side) | | C201, C202, C203, C502, C503, C521, through C530, C604, C605, C606, C771, C901, C951 G504, G506, G507 | | (see page 22-32) |
| Driver's door power mirror wire harness | | | C753 | (see page 22-48) |
| Driver's door subharness | | C751 | | (see page 22-48) |
| Driver's door wire harness A | | | C752, C753 | (see page 22-48) |
| Driver's door wire harness B | | C751 | C752 | (see page 22-48) |
| Driver's seat subharness | | | C931 | (see page 22-54) |
| Driver's seat wire harness | | | C609, C931 | (see page 22-54) |
| ECT sensor subharness | C205 | | | (see page 22-20) |
| Engine ground cable A | T2, G2 | | | (see page 22-15) |
| Engine ground cable B | T3, G3 | | | (see page 22-15) |
| Engine wire harness (Right side) | C101, C103, C104, C105, C151, C152, T101, T102 G101 | | | (see page 22-16) |
| Engine wire harness (Left side) | C102, C153 T103, T104 | | | (see page 22-18) |
| Floor wire harness (Left branch) | | C303, C601 G601 | C602, C603, C609, C611, C612, C613, C781 G602, G603, G604 | (see page 22-34) |
| Floor wire harness (Right branch) | | C204, C604, C605, C606 | C608, C610, C614, C615, C616, C617, C791 G605, G606 | (see page 22-38) |
| Front passenger's door power mirror wire harness | | | C773 | (see page 22-50) |
| Front passenger's door subharness | | | C772, C773 | (see page 22-50) |
| Front passenger's door wire harness | | C771 | C772 | (see page 22-50) |
| Front passenger's seat wire harness | | | C610 | (see page 22-55) |
| Knock sensor subharness | C152 | | | (see page 22-16) |
| Left engine compartment wire harness | C102, C301 G302, G303 | C206, C207, C303, C304, C305 | | (see page 22-24) |
| Left rear door wire harness | | | C781 | (see page 22-52) |
| Left tailgate wire harness | | | C701, C702 | (see page 22-42) |
| Middle tailgate wire harness | | | C702, C703 | (see page 22-42) |
| ODS unit harness | | | C616 | (see page 22-55) |
| Rear wire harness | | | C611, C614, C701, C704, T701 G701, G702 | (see page 22-40) |
| Rear subframe wire harness | | | C613, G651 | (see page 22-44) |
| RES wire harness | | C951 | | (see page 22-46) |
| Right engine compartment wire harness (Front of engine compartment) | C101, C205, C212, C301 G201, G301 | | | (see page 22-20) |
| Right engine compartment wire harness (Dash to rear of engine compartment) | G202 | C201 through C204, C206 through C211 G401 | | (see page 22-22) |
| Right rear door wire harness | | | C791 | (see page 22-53) |
| Right tailgate wire harness | | | C703, C704 | (see page 22-43) |
| Roof subharness | | | C851 | (see page 22-45) |
| Roof wire harness | | C501 | C851, C852, C853 | (see page 22-45) |
| Shift solenoid subharness | C153 | | | (see page 22-18) |
| Starter cable | (+), T1, T4 | | | (see page 22-15) |
| Shift solenoid wire harness | C104 | | | (see page 22-18) |

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# Connector to Harness Index

### Starter Cable

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| T1 | 6 | | Left side of engine compartment | Main under-hood fuse box | |
| T4 | 5 | | Left side of engine compartment | Starter motor | |
| (+) | 9 | | Battery | Battery positive terminal | |

### Battery Ground Cable

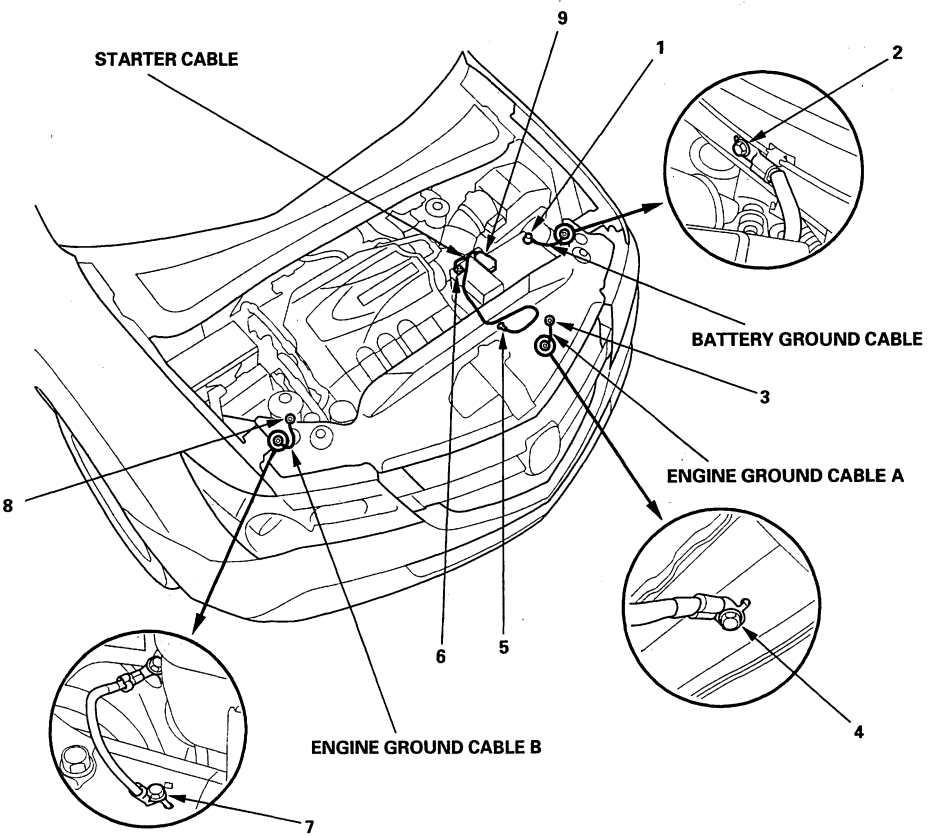
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| (−) | 1 | | Left side of engine compartment | Battery negative terminal | |
| G1 | 2 | | Left side of engine compartment | Body ground, via battery ground cable | |

### Engine Ground Cable A

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| T2 | 3 | | Left side of engine compartment | Transmission housing | |
| G2 | 4 | | Left side of engine compartment | Body ground, via battery ground cable A | |

### Engine Ground Cable B

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| T3 | 8 | | Right side of engine compartment | Engine mount bracket | |
| G3 | 7 | | Right side of engine compartment | Body ground, via battery ground cable B | |




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## Connector to Harness Index (cont'd)

### Engine Wire Harness (Center to Right Side)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| A/C compressor clutch | 28 | 1 | Right side of engine compartment | | |
| Alternator | 27 | 4 | Middle of engine compartment | | |
| CMP sensor | 34 | 3 | Right side of engine | | |
| EGR valve and position sensor | 16 | 6 | Left side of engine compartment | | |
| ECT sensor 1 | 15 | 2 | Middle of engine | | |
| EVAP canister purge valve | 13 | 2 | Left side of engine compartment | | |
| Front A/F sensor (Bank 2, Sensor 1) | 19 | 6 | Exhaust manifold (front bank) | | |
| Front secondary heated oxygen sensor (secondary HO2S) (Bank 2, Sensor 2) | 18 | 4 | Exhaust manifold (front bank) | | |
| Ignition coil No. 1 | 3 | 3 | Middle of engine | | |
| Ignition coil No. 2 | 5 | 3 | Middle of engine | | |
| Ignition coil No. 3 | 7 | 3 | Middle of engine | | |
| Ignition coil No. 4 | 25 | 3 | Middle of engine | | |
| Ignition coil No. 5 | 23 | 3 | Middle of engine | | |
| Ignition coil No. 6 | 21 | 3 | Middle of engine | | |
| Injector No. 1 | 9 | 2 | Middle of engine | | |
| Injector No. 2 | 10 | 2 | Middle of engine | | |
| Injector No. 3 | 11 | 2 | Middle of engine | | |
| Injector No. 4 | 24 | 2 | Middle of engine | | |
| Injector No. 5 | 22 | 2 | Middle of engine | | |
| Injector No. 6 | 20 | 2 | Middle of engine | | |
| Intake manifold turning (IMT) actuator | 33 | 5 | Middle of engine compartment | | |
| Oil pressure switch | 29 | 1 | Middle of engine compartment | | |
| PCM connector B | 37 | 49 | Right side of engine compartment | | |
| PCM connector C | 36 | 49 | Right side of engine compartment | | |
| Rear A/F sensor (Bank 1, Sensor 1) | 12 | 6 | Exhaust manifold (rear bank) | | |
| Rear secondary heated oxygen sensor (secondary HO2S) (Bank 1, Sensor 2) | 14 | 4 | Exhaust manifold (rear bank) | | |
| Rocker arm oil control solenoid | 1 | 1 | Right side of engine | | |
| Rocker arm oil pressure switch | 32 | 1 | Right side of engine | | |
| C101 | 35 | 12 | Right side of engine compartment | Right engine compartment wire harness (see page 22-20) | |
| C103 (Junction connector) | 4 | 24 | Middle of engine compartment | | |
| C104 (Junction connector) | 6 | 24 | Middle of engine compartment | | |
| C105 (Junction connector) | 8 | 24 | Middle of engine compartment | | |
| C151 | 2 | 6 | Middle of engine compartment | CKP sensor subharness | |
| C152 | 30 | 1 | Right side of engine compartment | Knock sensor subharness | |
| T101 | 17 | | Right side of engine compartment | Main under-hood fuse box | |
| T102 | 26 | | Right side of engine compartment | Alternator | |
| G101 | 39 | | Right side of engine | Body ground, via engine wire harness ground cable | |

### CKP Sensor Subharness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| CKP sensor A/B | 38 | 6 | Right side of engine compartment | | |
| C151 | 2 | 6 | Right side of engine compartment | Engine wire harness | |

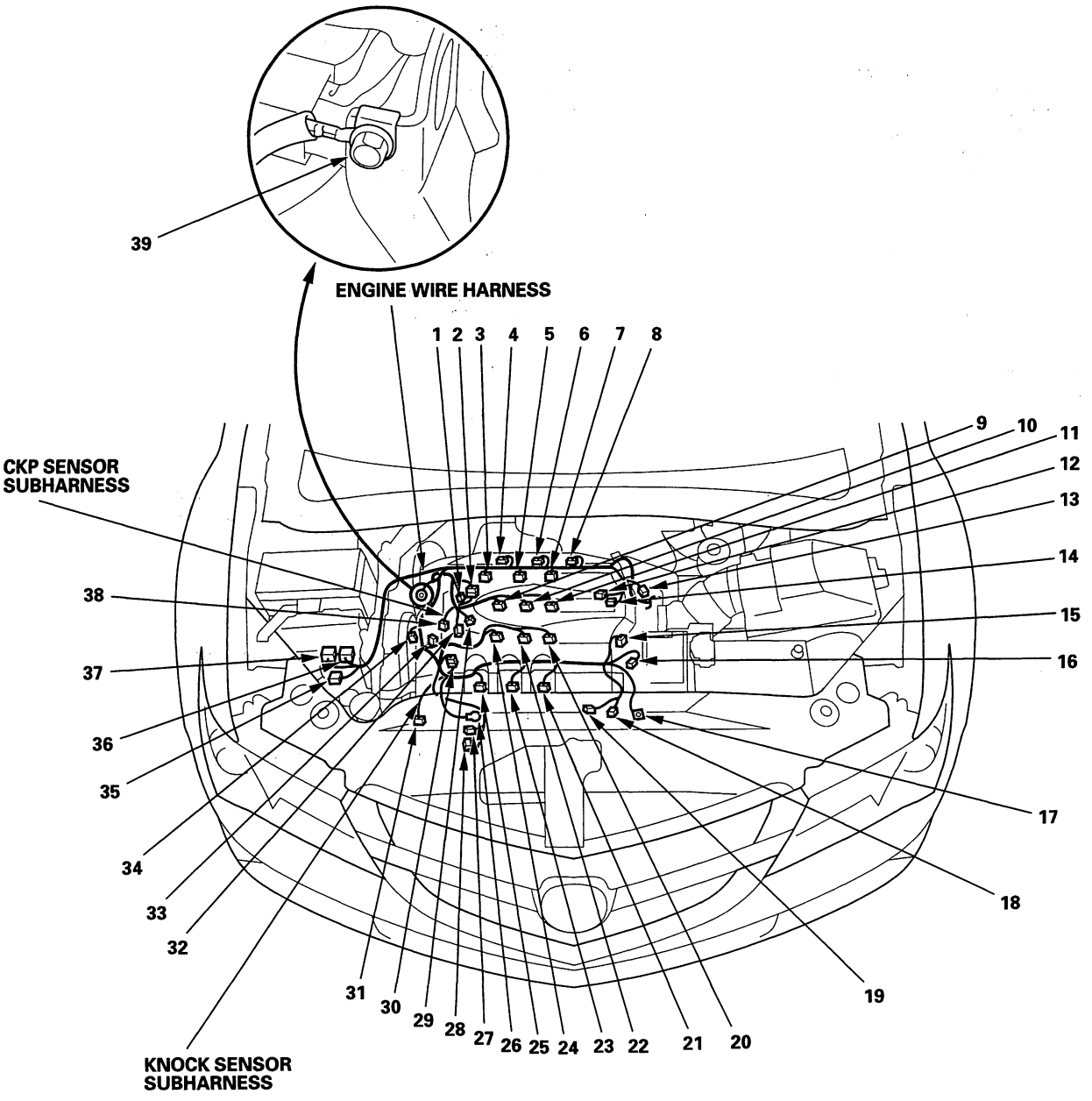
### Knock Sensor Subharness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Knock sensor | 31 | 1 | Middle of engine compartment | | |
| C152 | 30 | 1 | Middle of engine compartment | Engine wire harness | |

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## Connector to Harness Index (cont'd)

### Engine Wire Harness (Left Side)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| A/C clutch pressure control valve A | 12 | 2 | Transmission housing | | |
| A/C clutch pressure control valve B | 13 | 2 | Transmission housing | | |
| A/C clutch pressure control valve C | 10 | 2 | Transmission housing | | |
| ATF temperature sensor | 15 | 2 | Transmission housing | | |
| Engine mount control solenoid | 6 | 2 | Left side of engine compartment | | |
| Input shaft (mainshaft) speed sensor | 19 | 3 | Transmission housing | | |
| Manifold absolute pressure (MAP) sensor | 5 | 3 | Right side of engine compartment | | |
| Mass air flow (MAF)/Intake air temperature (IAT) sensor | 7 | 5 | Right side of engine compartment | | |
| Output shaft (countershaft) speed sensor | 17 | 3 | Transmission housing | | |
| Starter solenoid | 21 | 1 | Left side of engine compartment | | |
| Throttle actuator and throttle position sensor | 4 | 6 | Left side of engine compartment | | |
| Transmission range switch | 16 | 10 | Transmission housing | | |
| 2nd clutch transmission fluid pressure switch | 3 | 1 | Transmission housing | | |
| 3rd clutch transmission fluid pressure switch | 18 | 1 | Transmission housing | | |
| 4th clutch transmission fluid pressure switch | 9 | 1 | Transmission housing | | |
| C102 | 8 | 1 | Left side of engine compartment | Left engine compartment wire harness (see page 22-24) | |
| C153 | 20 | 5 | On the transmission housing | Shift solenoid wire harness | |
| T103 (Thermal joint) (SG2) | 1 | | Left side of engine compartment | | |
| T104 (Thermal joint) (LG2) | 2 | | Left side of engine compartment | | |

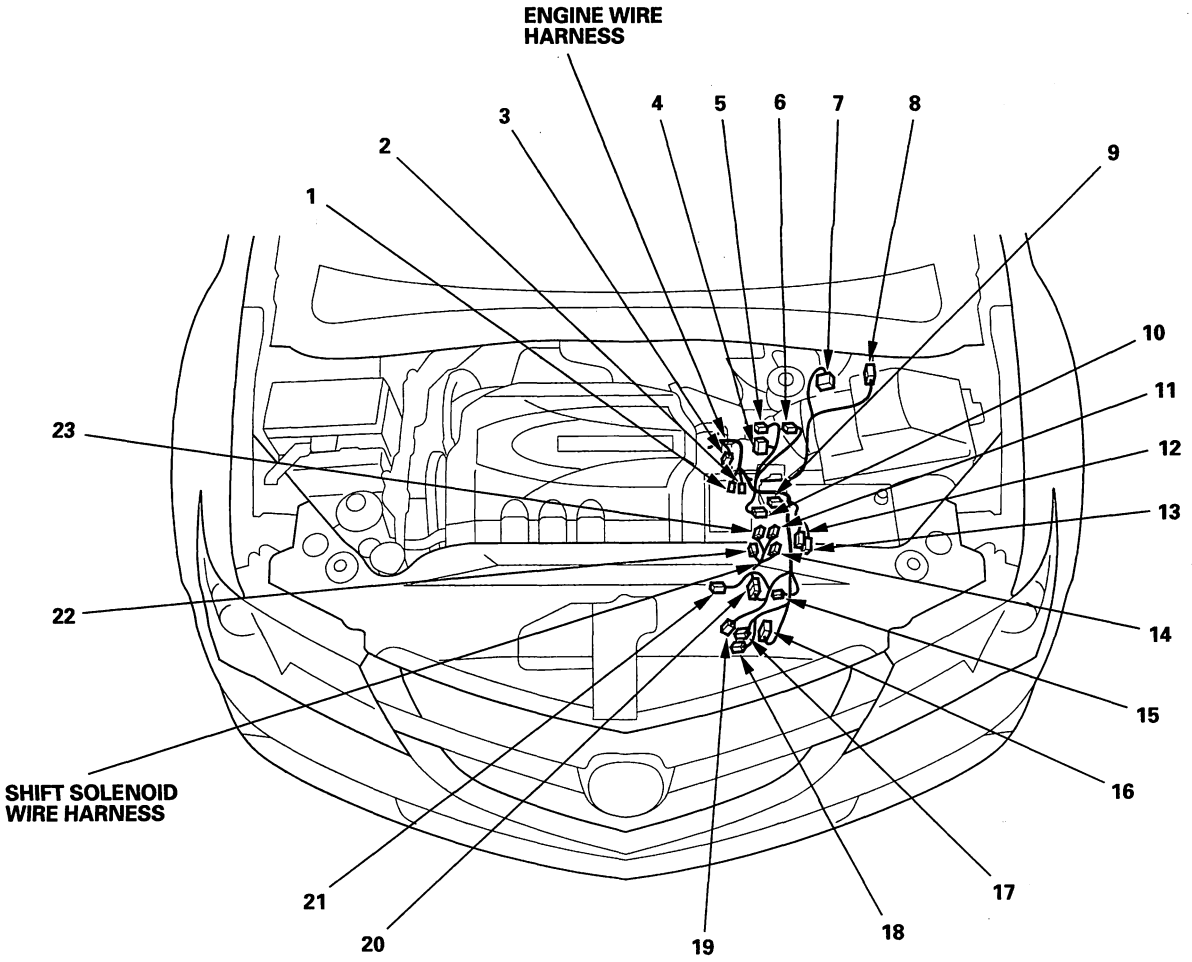
### Shift Solenoid Wire Harness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Shift solenoid valve A | 22 | 1 | In the transmission | | |
| Shift solenoid valve B | 14 | 1 | In the transmission | | |
| Shift solenoid valve C | 23 | 1 | In the transmission | | |
| Shift solenoid valve D | 11 | 1 | In the transmission | | |
| C153 | 20 | 5 | On the transmission housing | Engine wire harness | |

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## Connector to Harness Index (cont'd)

### Right Engine Compartment Wire Harness (Front of Engine Compartment)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| A/C condenser fan motor | 24 | 2 | Front of engine compartment | | |
| Headlight washer motor | 5 | 2 | Behind right side of front bumper | | Canada |
| Hood switch | 23 | 2 | Front of engine compartment | | |
| Horn (High) | 26 | 1 | Front of engine compartment | | |
| Horn (Low) | 31 | 1 | Front of engine compartment | | |
| Left daytime running light | 17 | 2 | Behind left side of front bumper | | |
| Left fog light | 16 | 2 | Behind left side of front bumper | | |
| Left front parking light | 10 | 2 | Behind left headlight | | |
| Left front side marker light | 9 | 2 | Behind left headlight | | |
| Left-front suspension stroke sensor | 14 | 3 | Left front suspension | | * |
| Left front turn signal light | 11 | 2 | Behind left headlight | | |
| Left headlight (high beam) | 13 | 2 | Behind left headlight | | |
| Left headlight leveling motor | 12 | 3 | Behind left headlight | | |
| Left HID unit | 8 | 2 | Under left headlight | | |
| Outside air temperature sensor | 20 | 2 | Front of engine compartment | | |
| PCM | 2 | 49 | Right side of engine compartment | | |
| Radiator fan motor | 21 | 2 | Front of engine compartment | | |
| Right daytime running light | 27 | 2 | Behind right side of front bumper | | |
| Right fog light | 28 | 2 | Behind right side of front bumper | | |
| Right front initiator | 30 | 3 | Behind right side of front bumper | | TPMS |
| Right front impact sensor | 29 | 2 | Behind right side of front bumper | | |
| Right front parking light | 34 | 2 | Behind right headlight | | |
| Right front side marker light | 36 | 2 | Behind right headlight | | |
| Right-front suspension stroke sensor | 38 | 3 | Right front suspension | | * |
| Right front turn signal light | 32 | 2 | Behind right headlight | | |
| Right front wheel sensor | 37 | 2 | Right side of engine compartment | | |
| Right headlight (high beam) | 7 | 2 | Behind right headlight | | |
| Right headlight leveling motor | 6 | 3 | Behind right headlight | | |
| Right HID unit | 33 | 2 | Under right headlight | | |
| Washer fluid level switch | 4 | 2 | Behind right side of front bumper | | |
| Windshield washer motor | 35 | 2 | Behind right side of front bumper | | |
| C101 | 3 | 13 | Right side of engine compartment | Engine wire harness (see page 22-16) | |
| C205 | 18 | 2 | Front of engine compartment | ECT sensor subharness | |
| C212 (Junction connector) | 1 | 24 | Right side of engine compartment | | |
| C301 | 15 | 3 | Left front of engine compartment | Left engine compartment wire harness (see page 22-24) | |
| G201 | 25 | | Right side of engine compartment | Body ground, via right engine compartment wire harness | |
| G301 | 19 | | Left side of engine compartment | Body ground, via right engine compartment wire harness | |

*: With active damper system

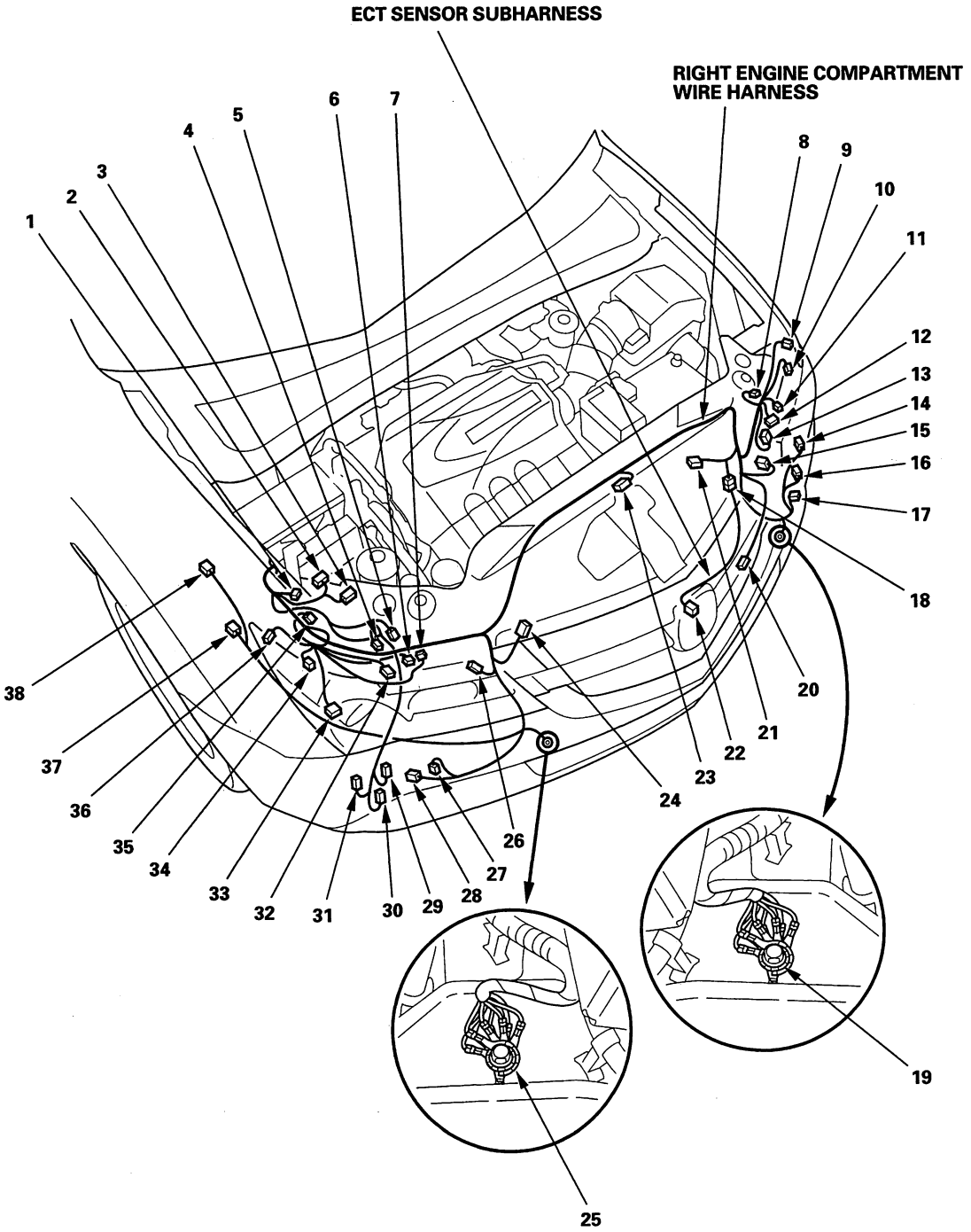
### ECT Sensor Subharness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| ECT sensor 2 | 22 | 2 | Left side of engine compartment | | |
| C205 | 18 | 2 | Left side of engine compartment | Right engine compartment wire harness | |

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## Connector to Harness Index (cont'd)

### Right Engine Compartment Wire Harness (Dash to Rear of Engine Compartment)

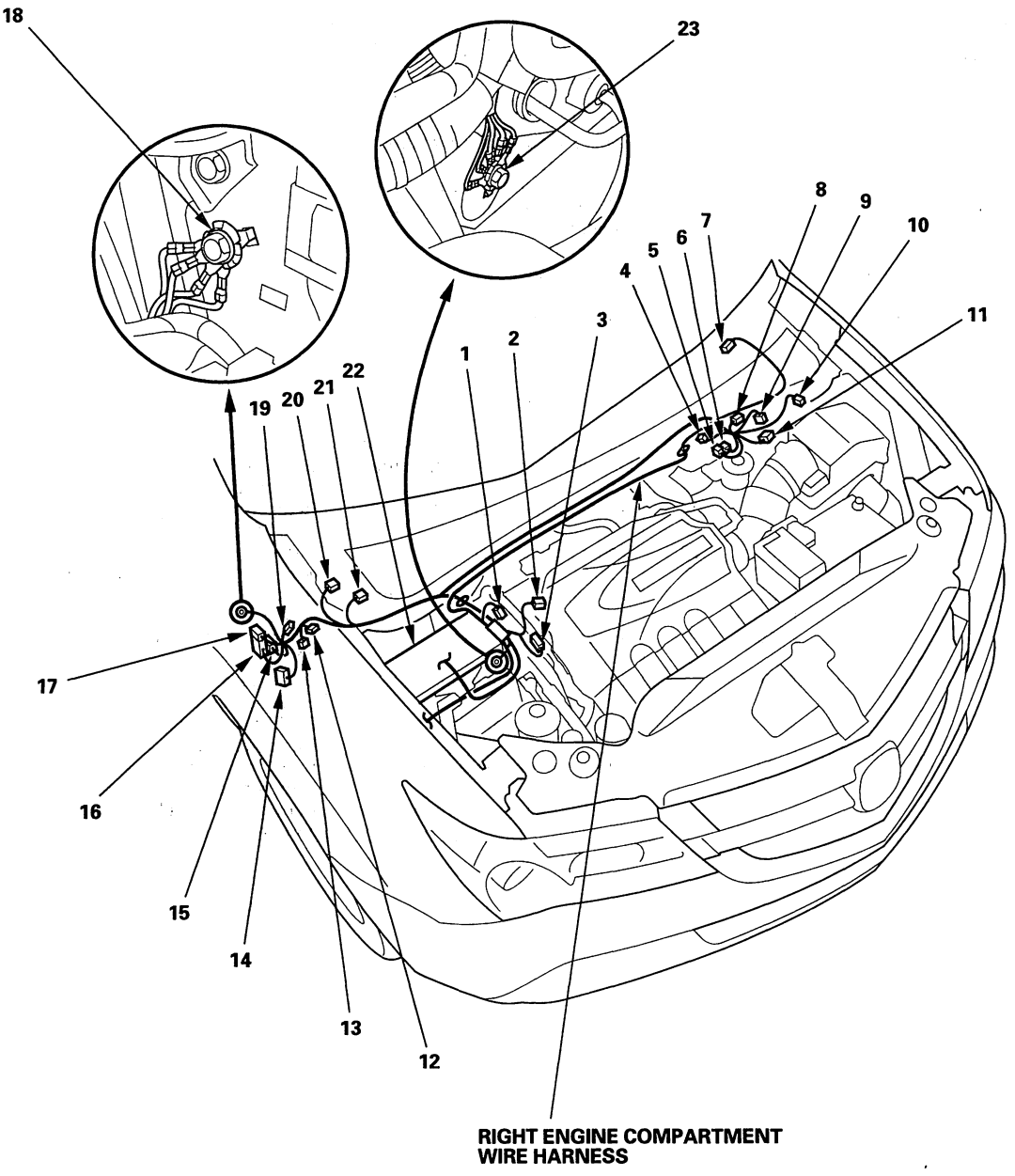
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| A/C pressure sensor | 1 | 3 | Right side of engine compartment | | |
| APP sensor | 9 | 6 | Under left side of dash | | |
| Brake pedal position switch | 10 | 4 | Under left side of dash | | |
| Fog light relay | 22 | 4 | In the under-dash fuse/relay box | Under-hood auxiliary relay box (see page 22-57) | |
| Front vertical acceleration sensor | 8 | 3 | Under left side of dash | | * |
| Headlight leveling control unit | 20 | 16 | Under right side of dash | | |
| Headlight washer relay | 21 | 4 | Under right side of dash | | Canada |
| Interior light relay | 22 | 4 | In the under-hood fuse/relay box | Under-hood auxiliary relay box (see page 22-57) | |
| Power steering pressure (PSP) switch | 2 | 2 | Right side of engine compartment | | |
| Under-hood fuse/relay box (Relay block) connector A | 22 | 1 | In the under-hood fuse/relay box | Relay block (see page 22-57) | |
| Under-hood fuse/relay box (Relay block) connector B | 22 | 1 | In the under-hood fuse/relay box | Relay block (see page 22-57) | |
| Under-hood fuse/relay box (Relay block) connector C | 22 | 1 | In the under-hood fuse/relay box | Relay block (see page 22-57) | |
| Right front damper coil | 3 | 2 | Right side of engine compartment | | * |
| TPMS control unit | 11 | 20 | Under left side of dash | | TPMS |
| Under-hood fuse/relay box (Relay control module) connector A | 22 | 4 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector B | 22 | 5 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector C | 22 | 2 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector D | 22 | 10 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector E | 22 | 14 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector F | 22 | 1 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector G | 22 | 4 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Under-hood fuse/relay box (Relay control module) connector H | 22 | 9 | In the under-hood fuse/relay box | Relay control module (see page 22-57) | |
| Windshield wiper motor | 7 | 5 | Left side of engine compartment | | |
| C201 | 16 | 34 | Under right side of dash | Dashboard wire harness (see page 22-32) | |
| C202 | 15 | 5 | Under right side of dash | Dashboard wire harness (see page 22-32) | |
| C203 | 17 | 4 | Under right side of dash | Dashboard wire harness (see page 22-32) | |
| C204 | 14 | 23 | Under right side of dash | Floor wire harness (see page 22-38) | |
| C206 | 5 | 14 | Under right side of dash | Left engine compartment wire harness (see page 22-24) | |
| C207 | 6 | 20 | Under right side of dash | Left engine compartment wire harness (see page 22-24) | |
| C208 (Junction connector) | 19 | 12 | Under right side of dash | | |
| C209 (Junction connector) | 13 | 12 | Under right side of dash | | |
| C210 (Junction connector) | 12 | 12 | Under right side of dash | | |
| C211 (Junction connector) | 4 | 12 | Under left side of dash | | |
| G202 | 23 | | Right side of engine compartment | Body ground, via right engine compartment wire harness | |
| G401 | 18 | | Under right side of dash | Body ground, via right engine compartment wire harness | |

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## Connector to Harness Index (cont'd)

### Left Engine Compartment Wire Harness

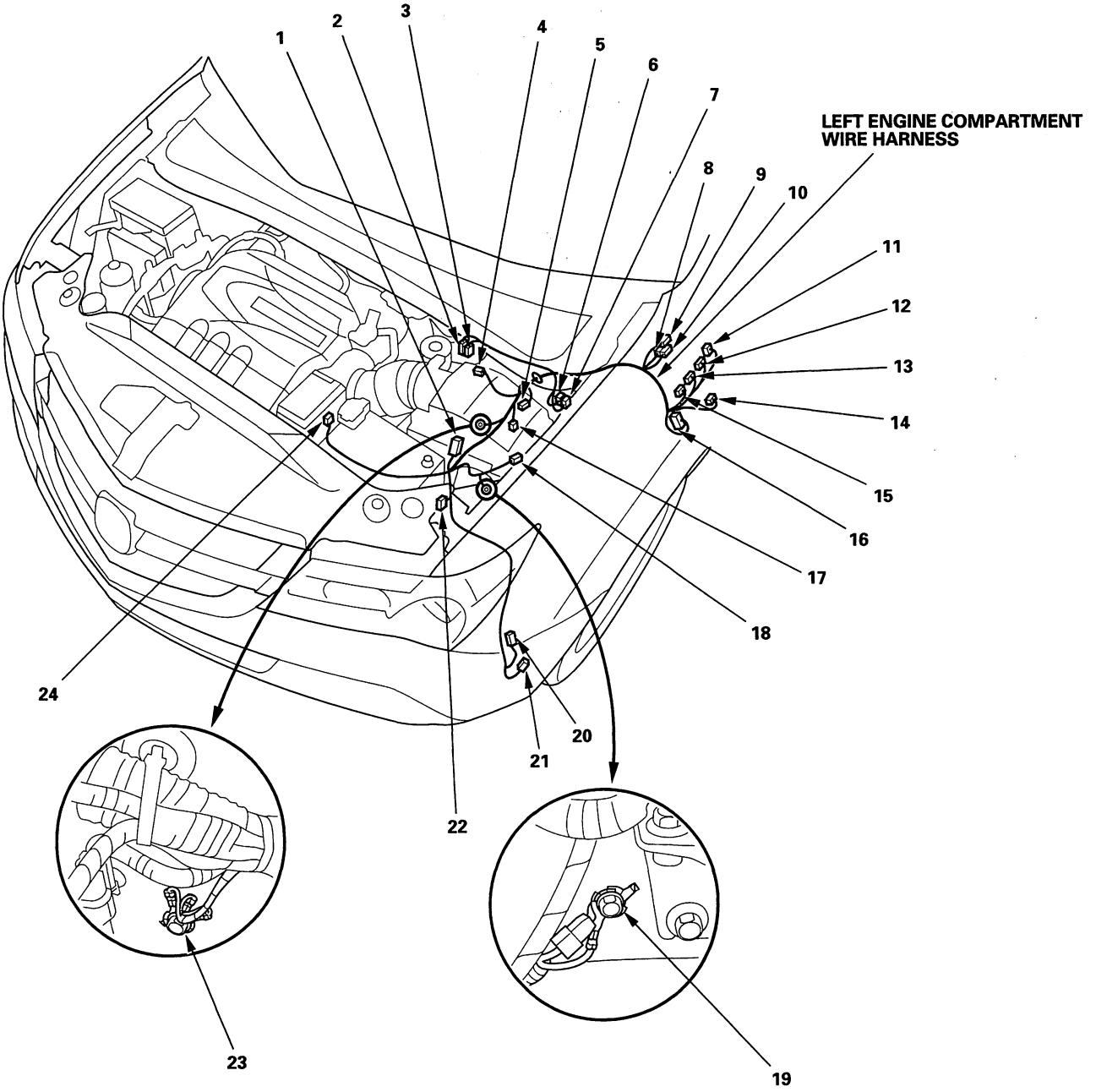
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Brake fluid level switch | 4 | 2 | Left side of engine compartment | | |
| Brake light relay | 9 | 5 | Under left side of dash | | |
| ELD unit | 24 | 3 | In the main under-hood fuse box | | |
| Left front damper coil | 17 | 2 | Left side of engine compartment | | * |
| Left front impact sensor | 20 | 2 | Behind left side of front bumper | | |
| Left front initiator | 21 | 3 | Behind left side of front bumper | | TPMS |
| Left front wheel sensor | 18 | 2 | Left side of engine compartment | | |
| Main under-hood fuse box | 14 | ——— | Left side of engine compartment | | |
| Starter cut relay 1 | 10 | 4 | Under left side of dash | | |
| Starter cut relay 2 | 8 | 4 | Under left side of dash | | |
| Under-dash fuse/relay box connector B (see page 22-59) | 12 | 6 | Left kick panel | | |
| Under-dash fuse/relay box connector C (see page 22-59) | 13 | 12 | Left kick panel | | |
| Under-dash fuse/relay box connector D (see page 22-59) | 11 | 17 | Left kick panel | | |
| Under-dash fuse/relay box connector W (see page 22-59) | 15 | 5 | Left kick panel | | |
| VSA modulator-control unit | 1 | 46 | Left side of engine compartment | | |
| C102 | 5 | 1 | Left side of engine compartment | Engine wire harness (see page 22-18) | |
| C206 | 2 | 14 | Under right side of dash | Right engine compartment wire harness (see page 22-22) | |
| C207 | 3 | 20 | Under right side of dash | Right engine compartment wire harness (see page 22-22) | |
| C301 | 22 | 3 | Left front of engine compartment | Right engine compartment wire harness (see page 22-20) | |
| C303 | 16 | 7 | Under left side of dash | Floor wire harness (see page 22-26) | |
| C304 | 6 | 14 | Under left side of dash | Dashboard wire harness (see page 22-26) | |
| C305 | 7 | 4 | Under left side of dash | Dashboard wire harness (see page 22-26) | |
| G302 | 23 | | Left side of engine compartment | Body ground, via left engine compartment wire harness | |
| G303 | 19 | | Left side of engine compartment | Body ground, via left engine compartment wire harness | |

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## Connector to Harness Index (cont'd)

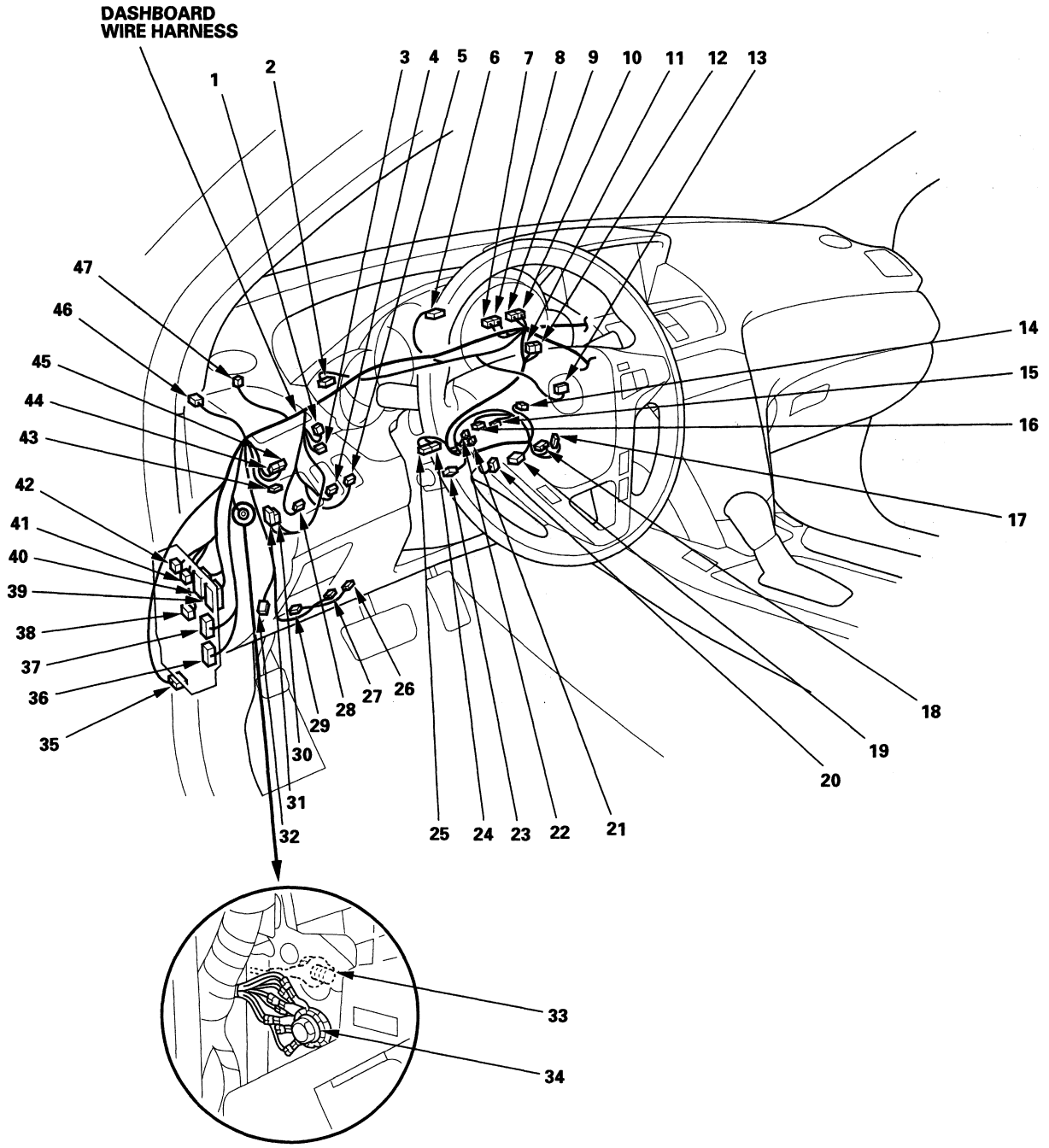
### Dashboard Wire Harness (View of Driver's Side)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| ACC cut relay | 44 | 5 | Under left side of dash | | |
| Cable reel connector A | 16 | 20 | In steering column cover | | |
| Combination switch control unit | 15 | 8 | In steering column cover | | |
| Dash lights brightness controller | 17 | 6 | Under left side of dash | | |
| Driver's airbag inflator | 14 | 4 | In steering column cover | | |
| Driver's ambient light | 27 | 3 | Under left side of dash | | |
| Driver's footwell light | 26 | 2 | Under left side of dash | | |
| Gauge control module connector A | 3 | 12 | Behind gauge | | |
| Gauge control module connector B | 6 | 23 | Behind gauge | | |
| Headlight washer switch | 5 | 5 | Under left side of dash | | Canada |
| Ignition key switch/key light | 13 | 6 | In steering column cover | | |
| Ignition switch | 19 | 6 | In steering column cover | | |
| IG2 cut relay | 45 | 5 | Under left side of dash | | |
| Immobilizer-keyless control unit | 18 | 7 | In steering column cover | | |
| Left front tweeter | 47 | 2 | Under left side of dash | | |
| Optional connector (trailer brake) | 29 | 5 | Under left side of dash | | |
| Parking brake switch | 43 | 1 | Under left side of dash | | |
| Power mirror switch | 28 | 10 | Under left side of dash | | |
| Power telescopic motor/position sensor | 25 | 6 | In steering column cover | | |
| Power tilt motor/position sensor | 24 | 8 | In steering column cover | | |
| Power tilt/telescopic steering control unit connector A | 22 | 16 | In steering column cover | | |
| Power tilt/telescopic steering control unit connector B | 21 | 8 | In steering column cover | | |
| Power tilt/telescopic steering switch | 23 | 13 | Left side of steering column | | |
| Steering angle sensor | 20 | 5 | In steering column cover | | |
| Under-dash auxiliary fuse holder | 35 | 2 | Under left side of dash | | |

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## Connector to Harness Index (cont'd)

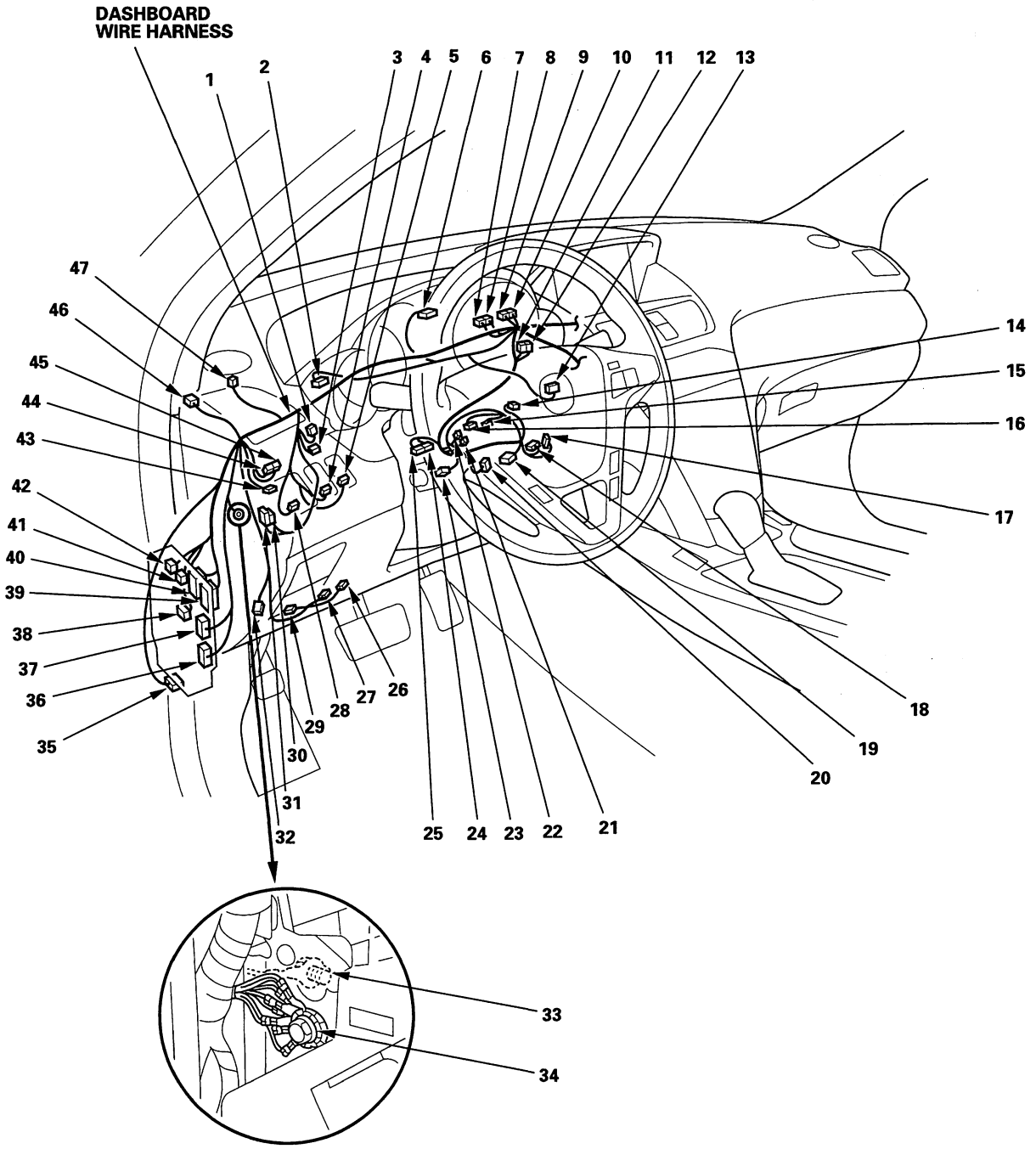
### Dashboard Wire Harness (View of Driver's Side) (cont'd)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Under-dash fuse/relay box connector A (see page 22-59) | 38 | 6 | Left kick panel | | |
| Under-dash fuse/relay box connector N (see page 22-59) | 40 | 45 | Left kick panel | | |
| Under-dash fuse/relay box connector P (MICU) (see page 22-59) | 37 | 30 | Left kick panel | | |
| Under-dash fuse/relay box connector R (MES) (see page 22-59) | 42 | 2 | Left kick panel | | |
| Under-dash fuse/relay box connector S (see page 22-59) | 41 | 2 | Left kick panel | | |
| Under-dash fuse/relay box connector X (see page 22-59) | 39 | 39 | Left kick panel | | |
| VSA OFF switch | 4 | 5 | Under left side of dash | | |
| C304 | 31 | 14 | Under left side of dash | Left engine compartment wire harness (see page 22-24) | |
| C305 | 30 | 4 | Under left side of dash | Left engine compartment wire harness (see page 22-24) | |
| C501 | 46 | 28 | Under left side of dash | Roof wire harness (see page 22-45) | |
| C510 (Junction connector) | 32 | 12 | Under left side of dash | | |
| C511 (Junction connector) | 1 | 12 | Under left side of dash | | |
| C512 (Junction connector) | 2 | 12 | Under left side of dash | | |
| C513 (Junction connector) | 12 | 12 | Under left side of dash | | |
| C514 (Junction connector) | 11 | 12 | Under left side of dash | | |
| C515 (Junction connector) | 7 | 12 | Under left side of dash | | |
| C516 (Junction connector) | 8 | 12 | Under left side of dash | | |
| C517 (Junction connector) | 10 | 12 | Under left side of dash | | |
| C518 (Junction connector) | 9 | 12 | Under left side of dash | | |
| C601 | 36 | 20 | Under left side of dash | Floor wire harness (see page 22-34) | |
| G501 | 34 | | Under left side of dash | Body ground, via dashboard wire harness | |
| G502 | 33 | | Under left side of dash | Body ground, via dashboard wire harness | |

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## Connector to Harness Index (cont'd)

### Dashboard Wire Harness (Center Console Branch)

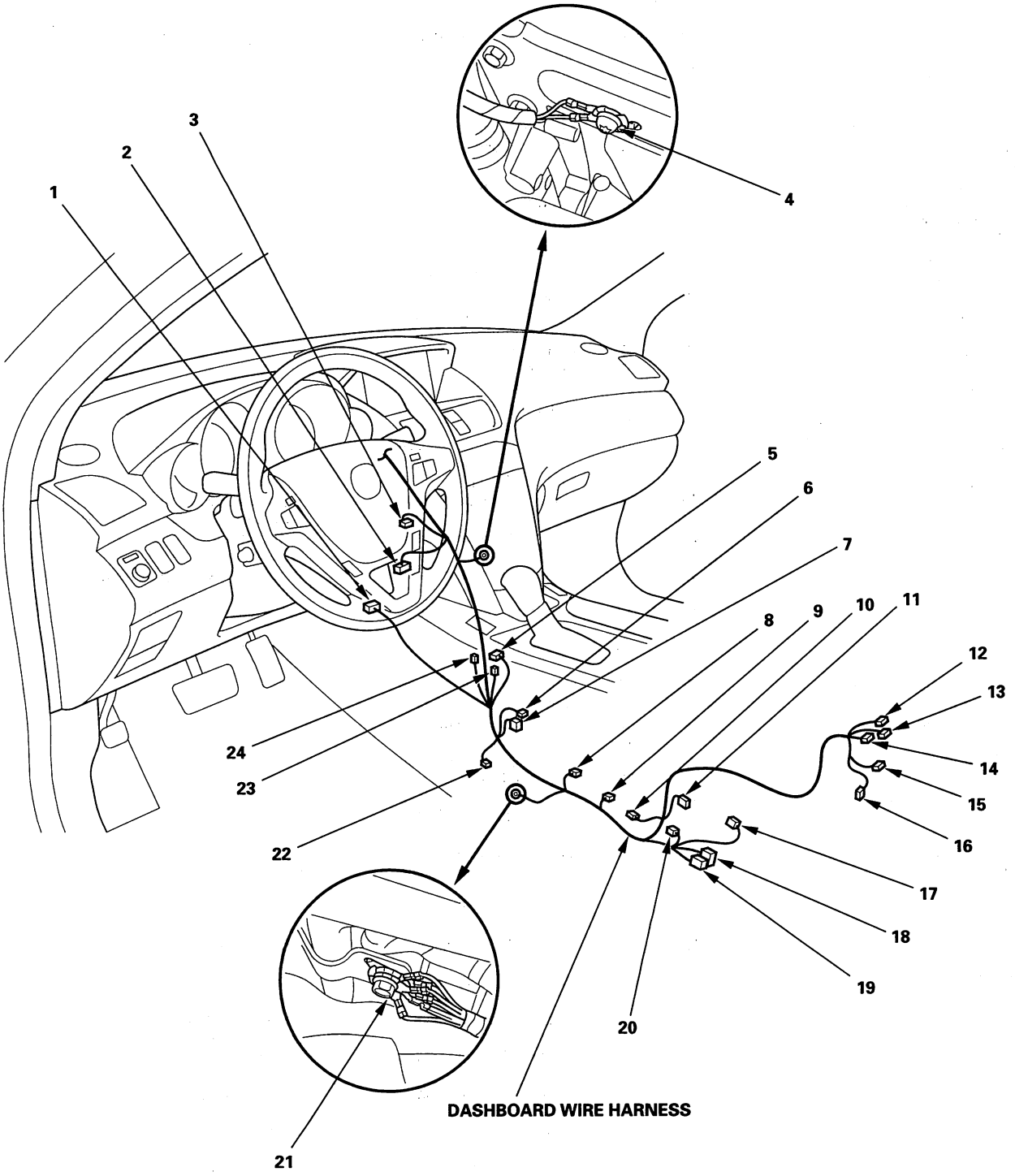
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| A/T shift lock solenoid | 6 | 2 | Under center console | | |
| A/T shift lever console light/park-pin switch | 7 | 8 | Under center console | | |
| Auxiliary jack assembly | 15 | 14 | Rear of center console | | * 1 |
| Data link connector | 2 | 16 | Under middle of dash | | |
| HandsFreeLink control unit | 16 | 28 | Under rear of center console | | |
| In-car temperature sensor | 3 | 4 | Under middle of dash | | |
| Left second row seat heater switch | 14 | 6 | Rear of center console | | * 3 |
| Rear accessory power socket | 15 | 2 | Rear of center console | | * 2 |
| Rear air mix control motor | 11 | 7 | Under center console | | |
| Rear blower motor | 8 | 2 | Under center console | | |
| Rear blower motor relay | 10 | 4 | Under center console | | |
| Rear climate control panel | 13 | 10 | Rear of center console | | |
| Rear evaporator temperature sensor | 20 | 2 | Under center console | | |
| Rear mode control motor | 17 | 7 | Under center console | | |
| Rear power transistor | 9 | 4 | Under center console | | |
| Right second row seat heater switch | 12 | 6 | Rear of center console | | * 3 |
| Second row seat heater relay | 22 | 5 | Under center console | | * 3 |
| SRS unit connector A | 1 | 28 | Under middle of dash | | |
| Yaw rate-lateral/longitudinal acceleration sensor | 5 | 4 | Under middle of dash | | |
| C519 (Junction connector) | 24 | 12 | Under middle of dash | | |
| C520 (Junction connector) | 23 | 12 | Under middle of dash | | |
| C602 | 18 | 20 | Under center console | Floor wire harness (see page 22-34) | |
| C603 | 19 | 5 | Under center console | Floor wire harness (see page 22-34) | * 3 |
| G503 | 21 | | Under console panel | Body ground, via dashboard wire harness | |
| G505 | 4 | | Under middle of dash | Body ground, via dashboard wire harness | |

* 1: With rear entertainment system
* 2: Without rear entertainment system
* 3: With second row seat heaters

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## Connector to Harness Index (cont'd)

### Dashboard Wire Harness (View of Passenger's Side)

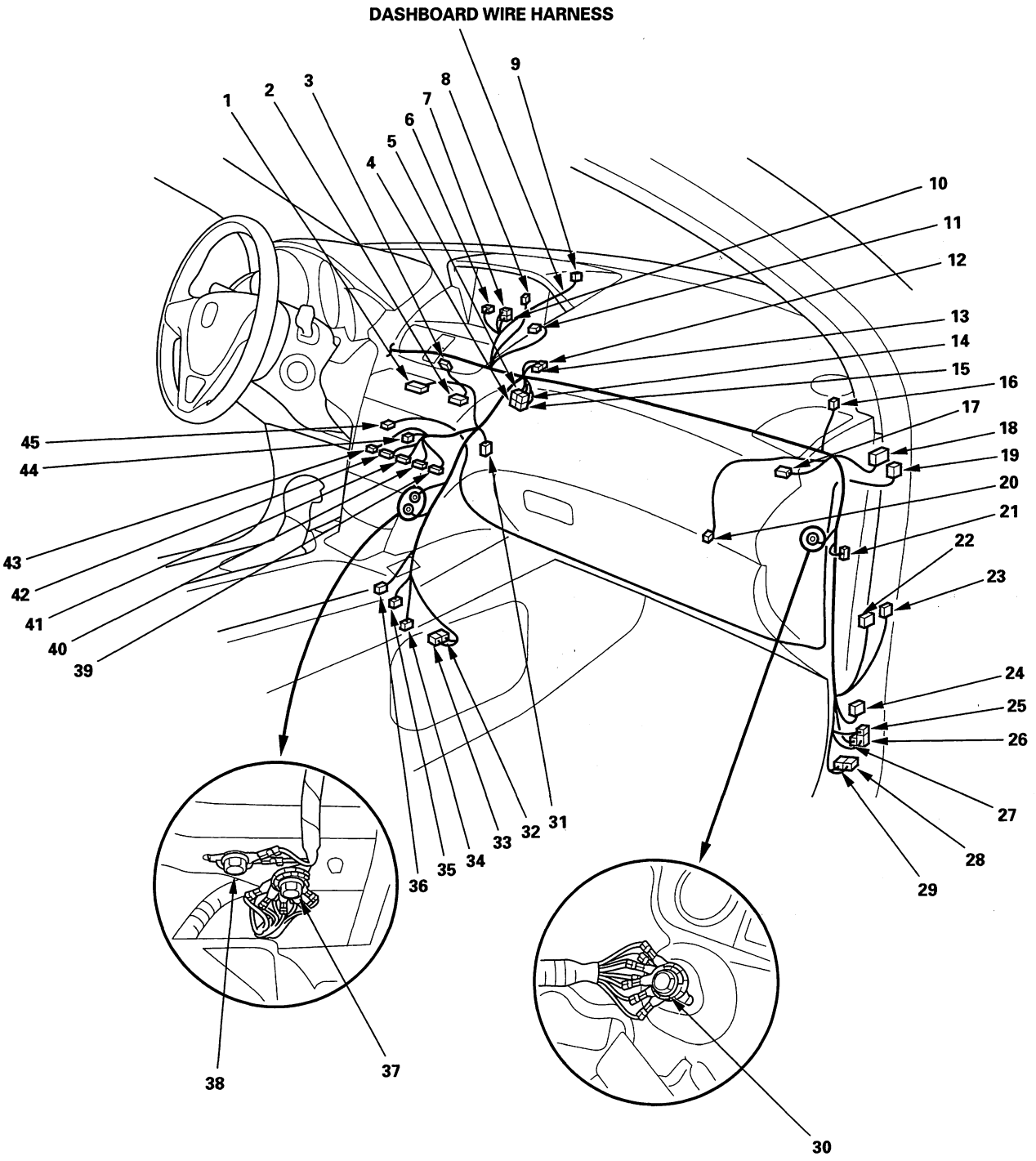
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| AC inverter unit | 36 | 12 | Under center console | | |
| Audio unit connector A | 39 | 17 | Middle of dash | | |
| Audio unit connector B | 40 | 32 | Middle of dash | | |
| Audio unit connector C | 41 | 24 | Middle of dash | | |
| Audio unit connector D | 42 | 16 | Middle of dash | | * 3 |
| Audio unit connector E (for XM receiver) | 43 | 12 | Middle of dash | | * 3 |
| Audio unit connector E | 45 | ——— | Middle of dash | | * 3 |
| Center information display | 11 | 12 | Middle of dash | | * 2 |
| Center speaker | 8 | 2 | Middle of dash | | |
| Climate control unit connector A | 1 | 40 | Middle of dash | | |
| Climate control unit connector B | 2 | 14 | Middle of dash | | |
| Digital audio lead connector | 19 | ——— | Under right side of dash | | * 3 |
| Digital audio lead (audio unit side) | 45 | ——— | Middle of dash | | * 3 |
| Front passenger's airbag inflator | 17 | 4 | Under right side of dash | | |
| Glove box light | 20 | 2 | Under right side of dash | | |
| Hazard warning switch | 3 | 6 | Middle of dash | | |
| Interface dial | 44 | 5 | Middle of dash | | |
| Navigation display unit | 6 | 20 | Middle of dash | | * 1 |
| Right front tweeter | 16 | 2 | Under right side of dash | | |
| Stereo amplifier connector A | 22 | 28 | Under right side of dash | | * 1 |
| Stereo amplifier connector A | 22 | 20 | Under right side of dash | | * 2 |
| Stereo amplifier connector B | 23 | 18 | Under right side of dash | | |
| Sunlight sensor | 9 | 5 | Middle of dash | | |
| C201 | 26 | 34 | Under right side of dash | Right engine compartment wire harness (see page 22-22) | |
| C202 | 25 | 5 | Under right side of dash | Right engine compartment wire harness (see page 22-22) | |
| C203 | 27 | 4 | Under right side of dash | Right engine compartment wire harness (see page 22-22) | |
| C502 | 32 | 12 | Under middle of dash | A/C wire harness (see page 22-56) | |
| C503 | 33 | 16 | Under middle of dash | A/C wire harness (see page 22-56) | |
| C521 (Junction connector) | 7 | 12 | Under right side of dash | | |
| C522 (Junction connector) | 10 | 12 | Under right side of dash | | |
| C523 (Junction connector) | 14 | 12 | Under right side of dash | | |
| C524 (Junction connector) | 5 | 12 | Under right side of dash | | |
| C525 (Junction connector) | 4 | 12 | Under right side of dash | | |
| C526 (Junction connector) | 15 | 12 | Under right side of dash | | |
| C527 (Junction connector) | 12 | 12 | Under right side of dash | | |
| C528 (Junction connector) | 13 | 12 | Under right side of dash | | |
| C529 (Junction connector) | 21 | 12 | Under right side of dash | | |
| C530 (Junction connector) | 31 | 12 | Under right side of dash | | |
| C604 | 29 | 12 | Under right side of dash | Floor wire harness (see page 22-38) | |
| C605 | 28 | 18 | Under right side of dash | Floor wire harness (see page 22-38) | |
| C606 | 35 | 24 | Under middle of dash | Floor wire harness (see page 22-38) | * 1 |
| C771 | 24 | 23 | Under right side of dash | Front passenger's door wire harness (see page 22-50) | |
| C901 | 34 | 16 | Under middle of dash | Console subharness (see page 22-47) | |
| C951 | 18 | 20 | Under right side of dash | RES wire harness (see page 22-46) | * 3 |
| G504 | 37 | | Under middle of dash | Body ground, via dashboard wire harness | |
| G506 | 38 | | Under middle of dash | Body ground, via dashboard wire harness | |
| G507 | 30 | | Under right side of dash | Body ground, via dashboard wire harness | |

* 1: With navigation
* 2: Without navigation
* 3: With rear entertainment system



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## Connector to Harness Index (cont'd)

### Floor Wire Harness (Left Branch)

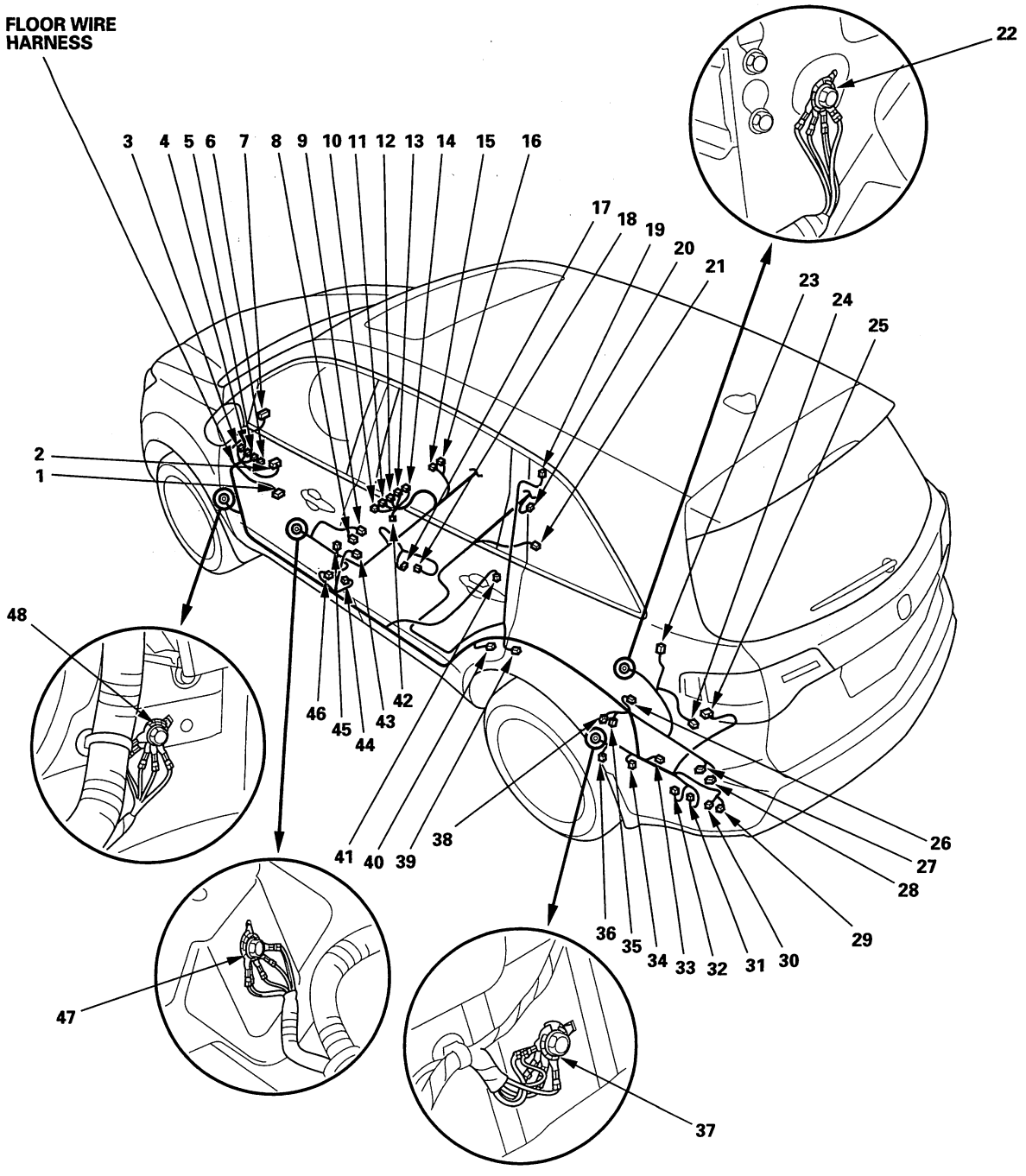
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Active damper control unit connector A | 29 | 14 | Left side of cargo area | | * 4 |
| Active damper control unit connector B | 30 | 20 | Left side of cargo area | | * 4 |
| Cargo area accessory power socket | 26 | 2 | Left side of cargo area | | |
| Driver's door switch | 46 | 1 | Left B-pillar | | |
| Driver's seat belt tensioner | 43 | 4 | Left B-pillar | | |
| Driver's side airbag inflator | 9 | 2 | Under driver's seat | | |
| EVAP canister vent shut valve | 17 | 2 | Fuel tank | | |
| Fuel fill door opener solenoid | 23 | 2 | Left side of cargo area | | |
| Fuel pump control module | 34 | 10 | Left side cargo area | | |
| Fuel pump/fuel gauge sending unit | 41 | 4 | Fuel tank | | |
| Fuel tank pressure (FTP) sensor | 18 | 3 | Fuel tank | | |
| Left rear damper coil | 38 | 2 | Under left rear floor | | * 4 |
| Left rear door switch | 40 | 1 | Left C-pillar | | |
| Left rear initiator | 35 | 3 | Under left rear floor | | TPMS |
| Left rear vertical acceleration sensor | 36 | 3 | Left side of cargo area | | * 4 |
| Left side impact sensor (FIRST) | 45 | 4 | Left B-pillar | | |
| Left side impact sensor (SECOND) | 39 | 2 | Left C-pillar | | |
| Left side curtain airbag inflator | 19 | 2 | Left C-pillar | | |
| Left second row seat heater | 21 | 3 | Under left second row seat | | * 1 |
| Navigation service check connector | 42 | 2 | Under driver's seat | | Navigation |
| Navigation unit connector A | 10 | 20 | Under driver's seat | | Navigation |
| Navigation unit connector B | 11 | 7 | Under driver's seat | | Navigation |
| Navigation unit connector C | 12 | 8 | Under driver's seat | | Navigation |
| Navigation unit connector D | 13 | 14 | Under driver's seat | | Navigation |
| Navigation unit connector E | 14 | 5 | Under driver's seat | | Navigation |
| Rear fuse/relay box connector A (see page 22-60) | 28 | 2 | Left side of cargo area | | |
| Rear fuse/relay box connector B (see page 22-60) | 27 | 34 | Left side of cargo area | | |
| Rear safing sensor | 20 | 4 | Middle of floor | | |
| SH-AWD control unit connector A | 31 | 20 | Left side of cargo area | | |
| SH-AWD control unit connector B | 32 | 8 | Left side of cargo area | | |
| Under-dash fuse/relay box connector E (see page 22-59) | 3 | 16 | Left kick panel | | |
| Under-dash fuse/relay box connector F (see page 22-59) | 4 | 14 | Left kick panel | | |
| Under-dash fuse/relay box connector G (see page 22-59) | 5 | 6 | Left kick panel | | |
| Under-dash fuse/relay box connector H (see page 22-59) | 6 | 14 | Left kick panel | | |
| Under-dash fuse/relay box connector Q (see page 22-59) | 2 | 14 | Left kick panel | | |

* 1: With second row seat heaters
* 2: With navigation or electrical compass
* 3: Without navigation and electrical compass
* 4: With active damper system

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(cont'd)

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## Connector to Harness Index (cont'd)

### Floor Wire Harness (Left Branch) (cont'd)

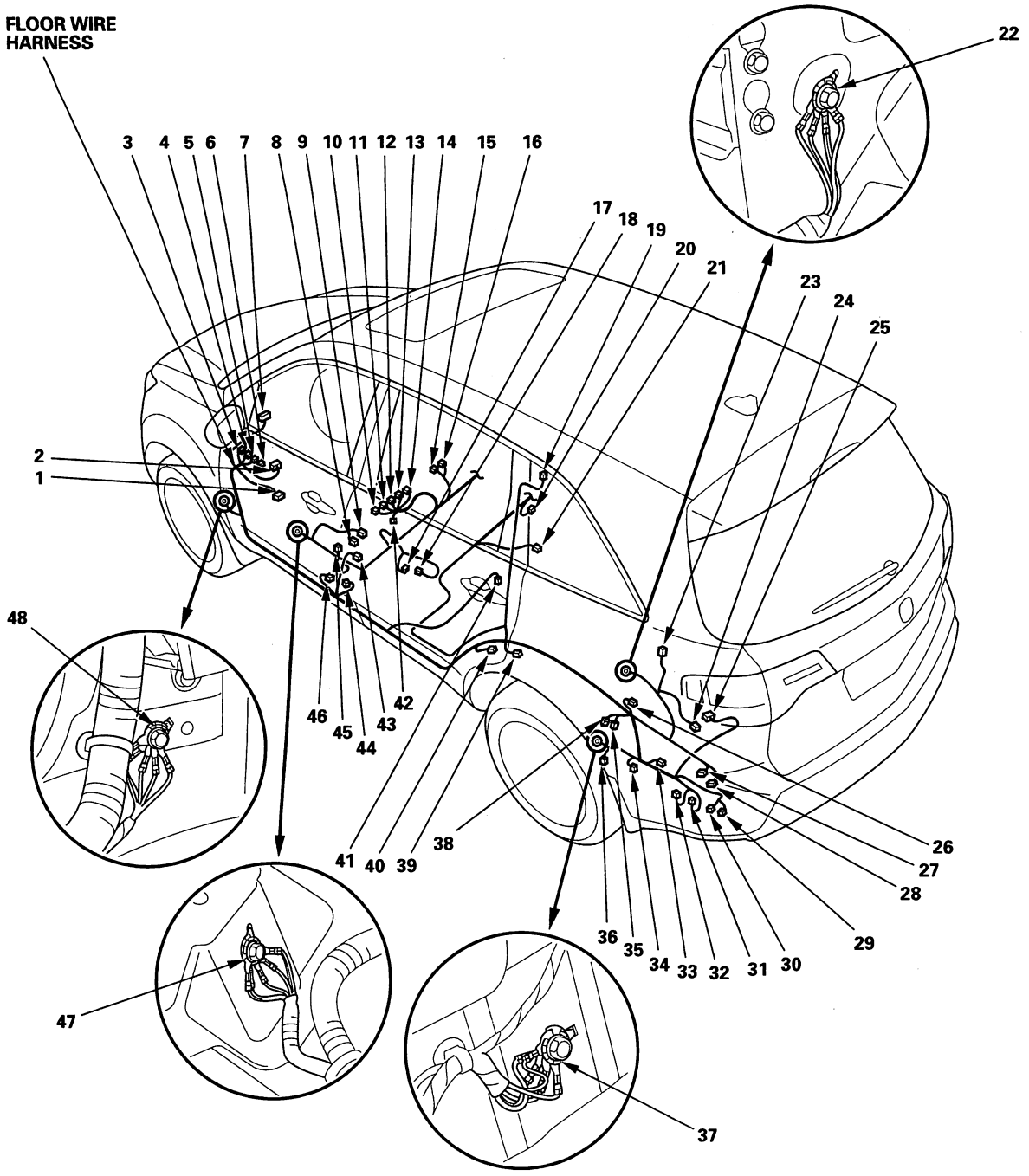
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| C303 | 7 | 7 | Under left side of dash | Left engine compartment wire harness (see page 22-24) | |
| C601 | 1 | 20 | Left kick panel | Dashboard wire harness (see page 22-26) | |
| C602 | 15 | 20 | Under center console | Dashboard wire harness (see page 22-30) | |
| C603 | 16 | 5 | Under center console | Dashboard wire harness (see page 22-30) | * 1 |
| C609 | 8 | 23 | Under driver's seat | Driver's seat wire harness (see page 22-54) | |
| C611 | 24 | 12 | Left side of cargo area | Rear wire harness (see page 22-40) | * 2 |
| C611 | 24 | 4 | Left side of cargo area | Rear wire harness (see page 22-40) | * 3 |
| C612 (Junction connector) | 33 | 12 | Left kick panel | | |
| C613 | 25 | 23 | Under left rear floor | Rear subframe wire harness (see page 22-44) | |
| C781 | 44 | 18 | Left B-pillar | Left rear door wire harness (see page 22-52) | |
| G601 | 48 | | Left kick panel | Body ground, via floor wire harness | |
| G602 | 47 | | Under driver's seat | Body ground, via floor wire harness | |
| G603 | 22 | | Left side of cargo area | Body ground, via floor wire harness | |
| G604 | 37 | | Left side of cargo area | Body ground, via floor wire harness | |

* 1: With second row seat heaters
* 2: With navigation or electrical compass
* 3: Without navigation and electrical compass
* 4: With active damper system

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## Connector to Harness Index (cont'd)

### Floor Wire Harness (Right branch)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| AcuraLink control unit (XM receiver) connector A | 21 | 20 | Right side of cargo area | | USA |
| AcuraLink control unit (XM receiver) connector B | 22 | 16 | Right side of cargo area | | USA |
| Front passenger's door switch | 9 | 1 | Right B-pillar | | |
| Front passenger's seat belt tensioner | 11 | 4 | Right B-pillar | | |
| Front passenger's side airbag inflator | 29 | 2 | Right B-pillar | | |
| Right rear damper coil | 17 | 2 | Under right side of floor | | * 2 |
| Right rear door switch | 14 | 1 | Right C-pillar | | |
| Right rear initiator | 16 | 3 | Under right side of floor | | TPMS |
| Right-rear vertical acceleration sensor | 20 | 3 | Right side of cargo area | | * 2 |
| Right side curtain airbag inflator | 27 | 4 | Right C-pillar | | |
| Right second row seat cushion heater | 25 | 3 | Under right second row seat | | * 1 |
| Right side impact sensor (FIRST) | 10 | 4 | Right B-pillar | | |
| Right side impact sensor (SECOND) | 15 | 2 | Right C-pillar | | |
| Roll rate sensor | 26 | 2 | Middle of floor | | |
| SRS unit connector B | 2 | 16 | Under middle of dash | | |
| SRS unit connector C | 1 | 28 | Under middle of dash | | |
| Subwoofer | 19 | 8 | Under front passenger's seat | | |
| XM receiver | 21 | 14 | Right side of cargo area | | * 4 |
| C204 | 6 | 23 | Right kick panel | Right engine compartment wire harness (see page 22-22) | |
| C604 | 4 | 12 | Right kick panel | Dashboard wire harness (see page 22-32) | |
| C605 | 5 | 18 | Right kick panel | Dashboard wire harness (see page 22-32) | |
| C606 | 3 | 24 | Under middle of dash | Dashboard wire harness (see page 22-32) | Navigation |
| C608 (Junction connector) | 28 | 20 | Under middle of dash | | |
| C610 | 8 | 14 | Under front passenger's seat | Front passenger's seat wire harness (see page 22-55) | |
| C614 | 24 | 13 | Right side of cargo area | Rear wire harness (see page 22-40) | Navigation |
| C614 | 24 | 2 | Right side of cargo area | Rear wire harness (see page 22-40) | Without Navigation |
| C615 (Junction connector) | 18 | 12 | Right side of floor | | |
| C616 | 30 | 4 | Under front passenger's seat | ODS wire harness (see page 22-55) | |
| C617 (Male connector) | 23 | 5 | Right side of cargo area | | * 3 |
| C617 (Female connector) | 23 | 5 | Right side of cargo area | | * 3 |
| C791 | 12 | 18 | Right B-pillar | Right rear door wire harness (see page 22-53) | |
| G605 | 7 | | Under front passenger's seat | Body ground, via front wire harness | |
| G606 | 13 | | Mounted on B-pillar | Body ground, via front wire harness | |

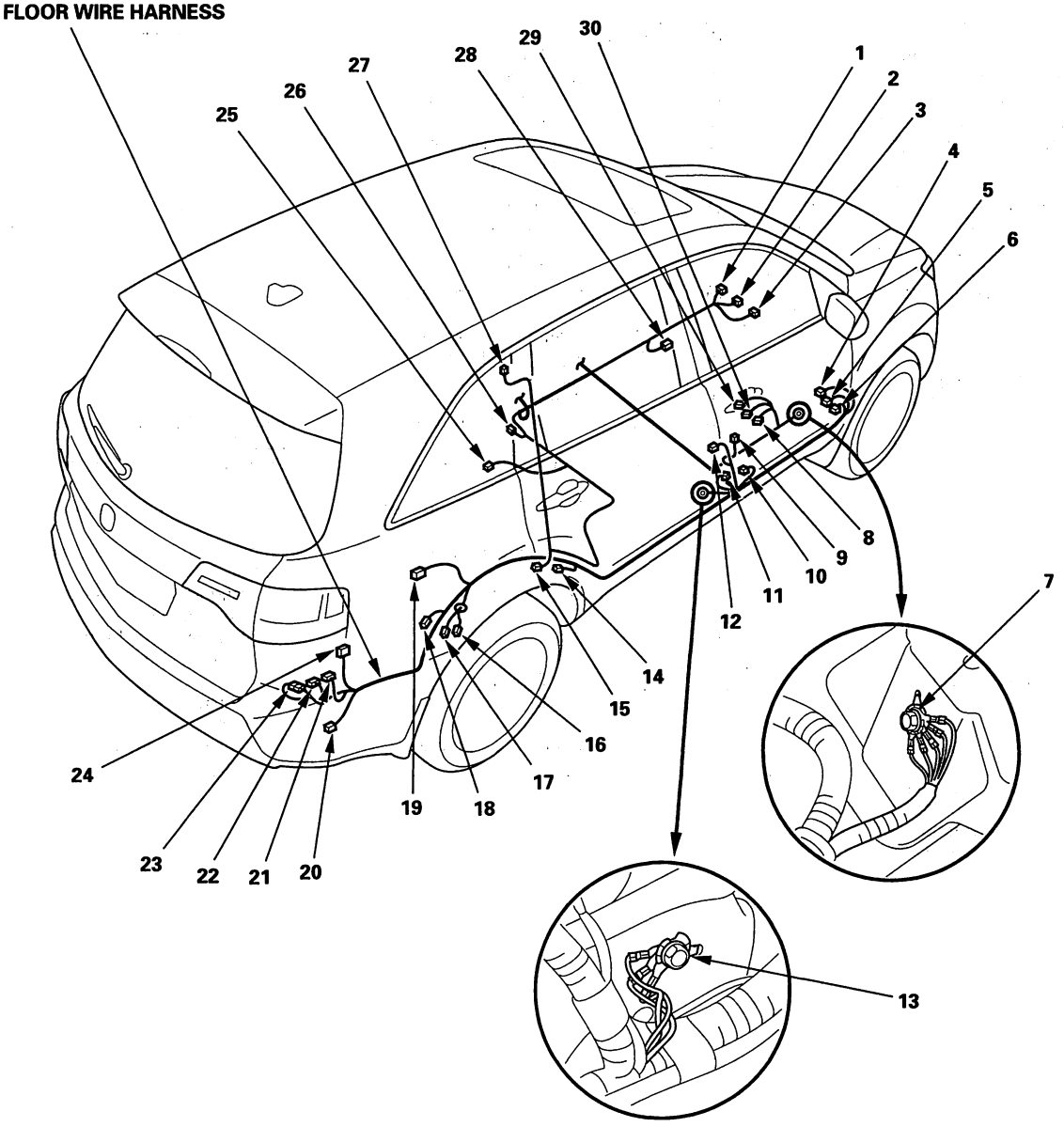
* 1: With second row seat heaters
* 2: With active damper system
* 3: With USA models with AcuraLink
* 4: Without AcuraLink

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FLOOR WIRE HARNESS




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## Connector to Harness Index (cont'd)

### Rear Wire Harness

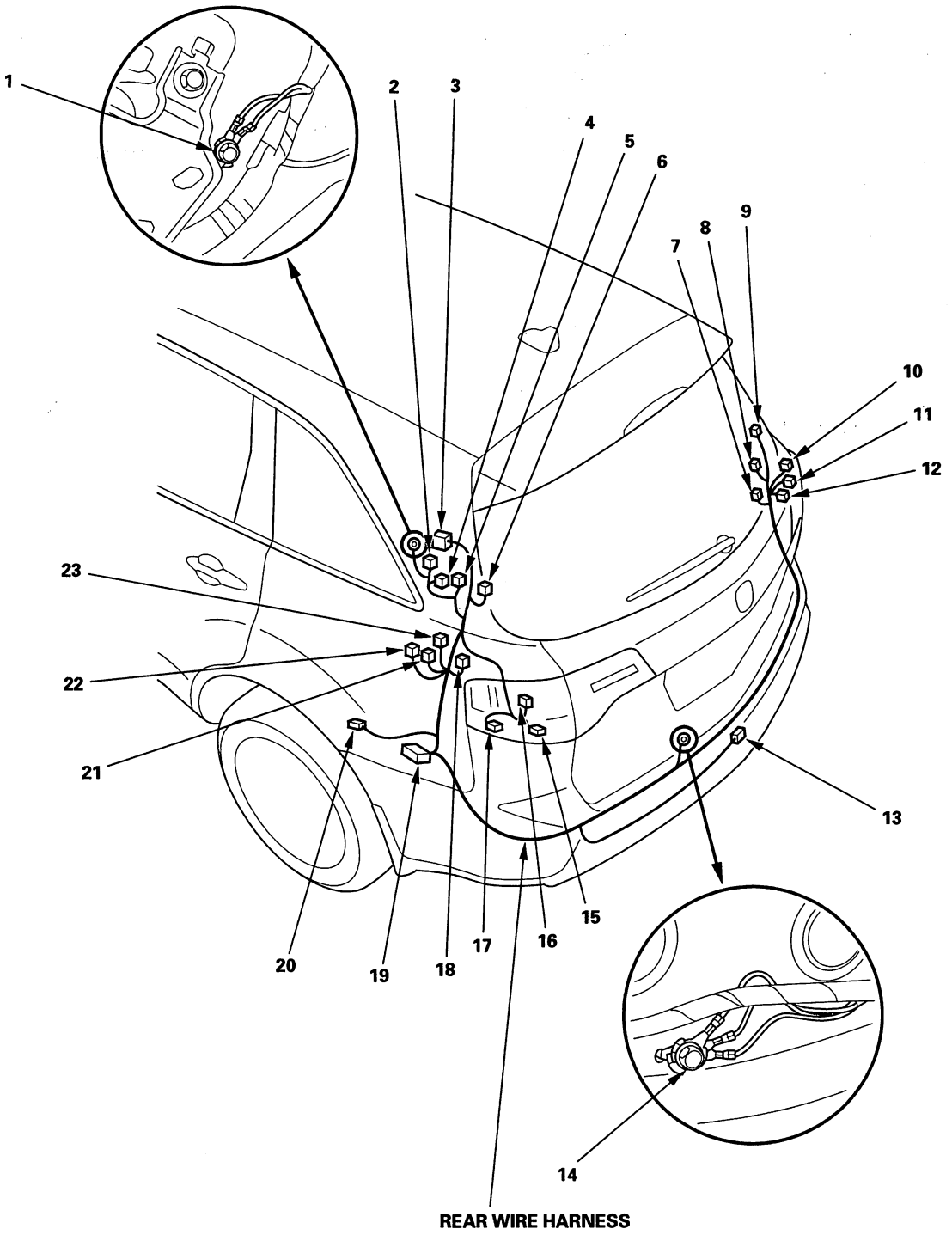
| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Electrical compass unit | 2 | 6 | Left D-pillar | | * 4 |
| Keyless buzzer | 13 | 2 | Behind rear bumper | | |
| Left brake light/taillight | 15 | 3 | Left taillight assembly | | |
| Left rear side marker light | 17 | 2 | Left taillight assembly | | |
| Left rear turn signal light | 16 | 2 | Left taillight assembly | | |
| Left surround speaker | 6 | 2 | Left D-pillar | | Navigation |
| Power tailgate control unit connector A | 23 | 5 | Left D-pillar | | * 1 |
| Power tailgate control unit connector B | 21 | 20 | Left D-pillar | | * 1 |
| Power tailgate control unit connector C | 22 | 14 | Left D-pillar | | * 1 |
| Power tailgate driver unit connector A | 4 | 2 | Left D-pillar | | * 1 |
| Power tailgate driver unit connector B | 5 | 8 | Left D-pillar | | * 1 |
| Rear fuse/relay box connector C (see page 22-60) | 19 | 42 | Left side of cargo area | | |
| Right brake light/taillight | 11 | 3 | Right taillight assembly | | |
| Right rear side marker light | 10 | 2 | Right taillight assembly | | |
| Right rear turn signal light | 12 | 2 | Right taillight assembly | | |
| Right surround speaker | 9 | 2 | Right D-pillar | | Navigation |
| C611 | 20 | 12 | Left side of cargo area | Floor wire harness (see page 22-34) | * 2 |
| C611 | 20 | 4 | Left side of cargo area | Floor wire harness (see page 22-34) | * 3 |
| C614 | 7 | 13 | Right side of cargo area | Floor wire harness (see page 22-38) | Navigation |
| C614 | 7 | 2 | Right side of cargo area | Floor wire harness (see page 22-38) | * 4 |
| C701 | 3 | 18 | Left D-pillar | Left tailgate wire harness (see page 22-42) | |
| C704 | 8 | 12 | Right D-pillar | Right tailgate wire harness (see page 22-43) | * 1 |
| T701 (Welding joint) | 18 | | Left D-pillar | | * 1 |
| G701 | 1 | | Left D-pillar | Body ground, via rear wire harness | |
| G702 | 14 | | Center of cargo area | Body ground, via rear wire harness | |

* 1: With power tailgate
* 2: With navigation or compass
* 3: Without navigation and compass
* 4: Canada models without navigation

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## Connector to Harness Index (cont'd)

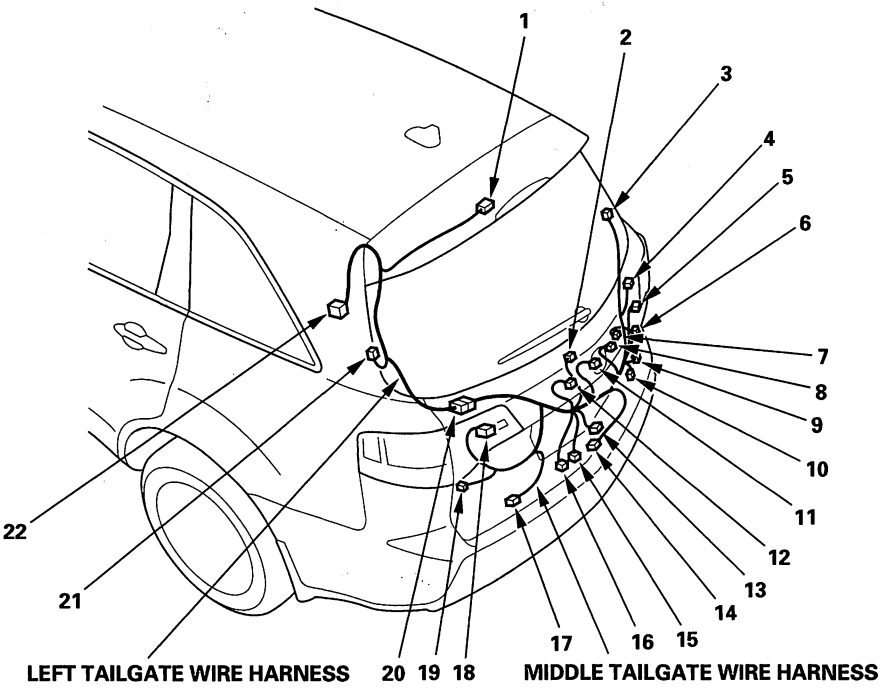
### Left Tailgate Wire Harness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| High mount brake light | 1 | 2 | Roof spoiler | | |
| Rear window defogger connector A (+) | 21 | 1 | Left side of rear window | | |
| C701 | 22 | 23 | Left D-pillar | Rear wire harness (see page 22-40) | |
| C702 | 20 | 18 | Left side of tailgate | Middle tailgate wire harness | |

### Middle Tailgate Wire Harness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Left cargo area light | 17 | 2 | Left side of tailgate | | |
| Left back-up light | 18 | 2 | Left side of tailgate | | |
| Left license plate light | 12 | 2 | Center of tailgate | | |
| Left power tailgate pinch sensor | 19 | 2 | Left side of tailgate | | * 1 |
| Power tailgate closer motor | 15 | 2 | Center of tailgate | | * 1 |
| Power tailgate closer unit/latch and ratchet switch | 16 | 6 | Center of tailgate | | * 1 |
| Power tailgate inside switch | 10 | 5 | Center of tailgate | | * 1 |
| Rearview camera | 7 | 6 | Center of tailgate | | Navigation |
| Rear window defogger connector B (−) | 13 | 1 | Right side of rear window | | * 2 |
| Rear window wiper motor | 2 | 4 | Center of tailgate | | |
| Right cargo area light | 9 | 2 | Right side of rear window | | |
| Right back-up light | 5 | 2 | Right side of tailgate | | |
| Right license plate light | 8 | 2 | Center of tailgate | | |
| Right power tailgate pinch sensor | 6 | 2 | Right side of tailgate | | * 1 |
| Tailgate latch switch | 13 | 2 | Center of tailgate | | * 2 |
| Tailgate outer handle switch | 11 | 3 | Center of tailgate | | |
| Tailgate release actuator | 14 | 2 | Center of tailgate | | * 2 |
| C702 | 20 | 18 | Left side of tailgate | Left tailgate wire harness | |
| C703 | 4 | 18 | Right side of tailgate | Right tailgate wire harness (see page 22-43) | * 1 |

* 1: With power tailgate
* 2: Without power tailgate



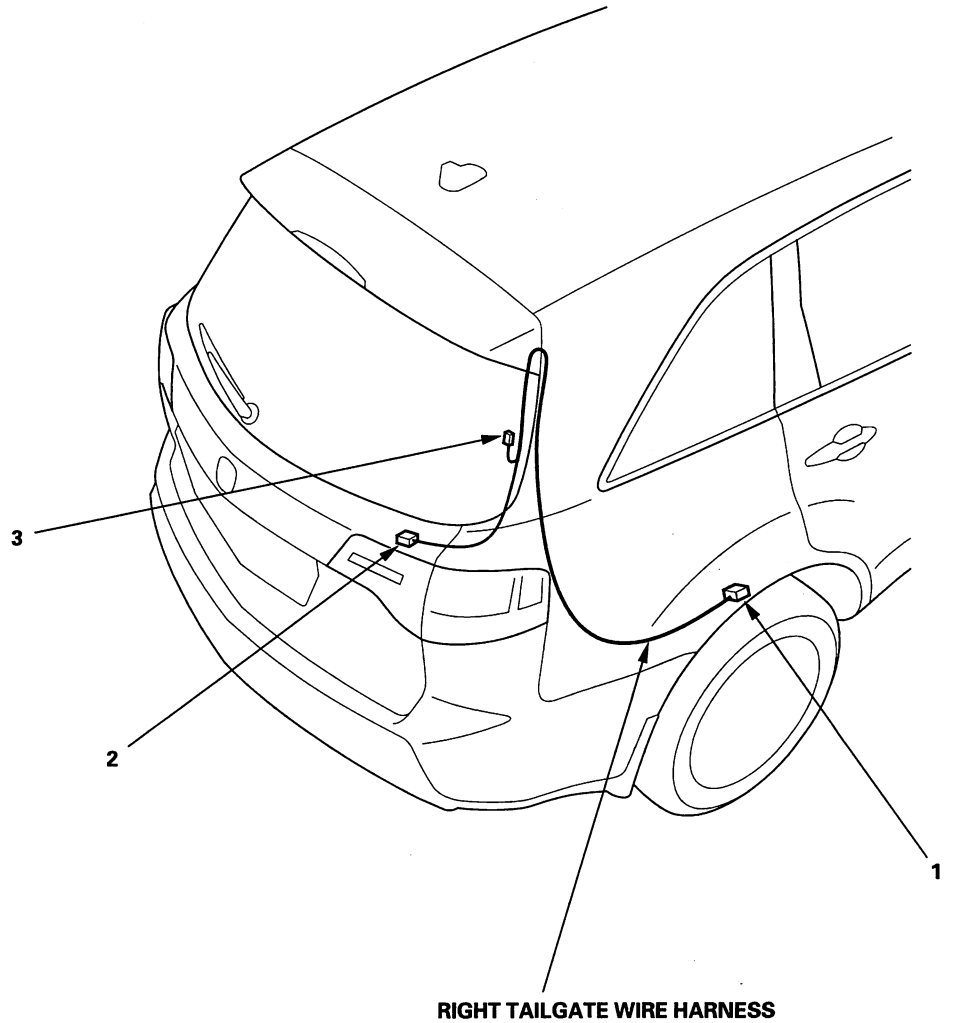

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### Right Tailgate Wire Harness (With Power Tailgate)

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Rear window defogger connector B (—) | 3 | 1 | Right side of rear window | | |
| C703 | 2 | 18 | Right side of tailgate | Middle tailgate wire harness (see page 22-42) | |
| C704 | 1 | 12 | Right side of cargo area | Floor wire harness (see page 22-40) | |




RIGHT TAILGATE WIRE HARNESS

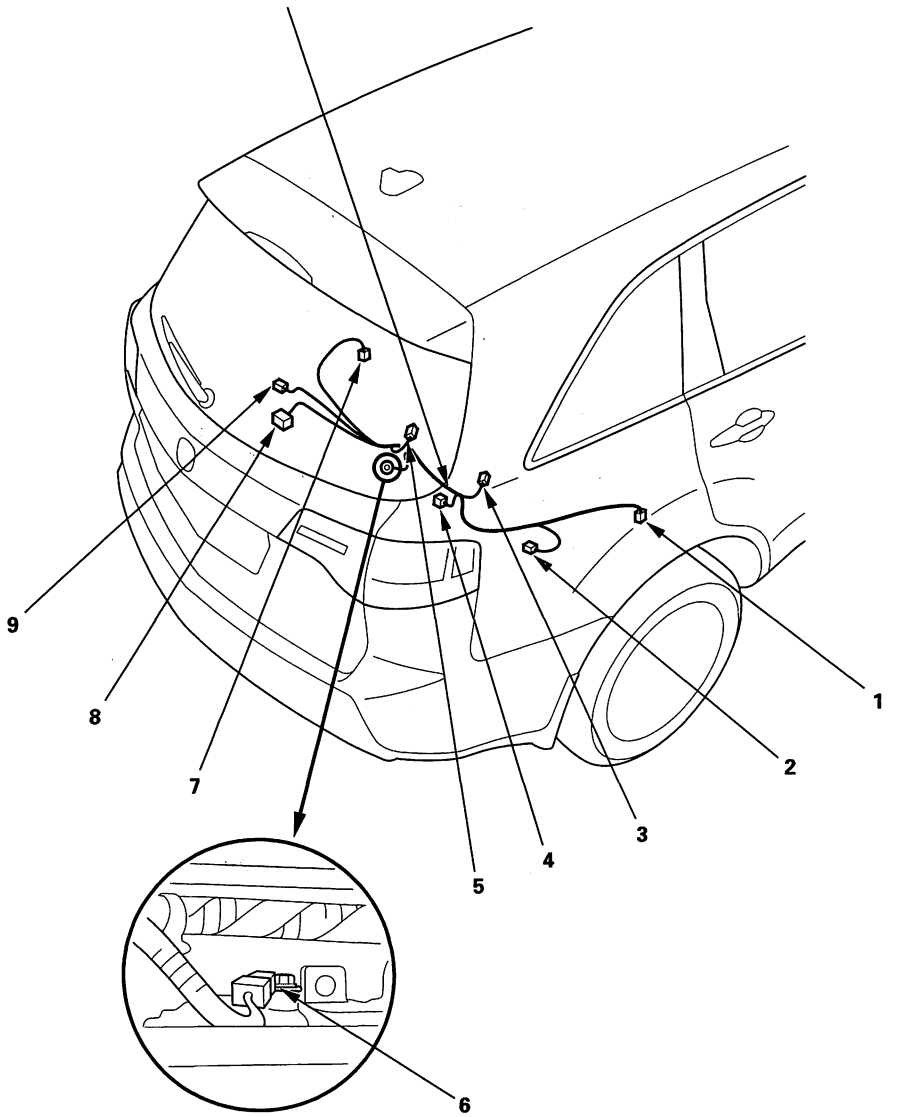
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## Connector to Harness Index (cont'd)

### Rear Subframe Wire Harness

| Connector or Terminal | Ref | Cavities | Location | Connects to | Notes |
|---|---|---|---|---|---|
| Differential temperature sensor | 4 | 2 | Rear differential | | |
| Left clutch electromagnetic coil | 5 | 4 | Rear differential | | |
| Left rear wheel sensor | 7 | 2 | Rear differential | | |
| Left rear suspension stroke sensor | 9 | 3 | Rear differential | | |
| Right clutch electromagnetic coil | 3 | 4 | Rear differential | | |
| Right rear suspension stroke sensor | 2 | 3 | Rear differential | | |
| Right rear wheel sensor | 1 | 2 | Rear differential | | |
| C613 | 8 | 23 | Under rear of floor | Floor wire harness (see page 22-34) | |
| G651 | 6 | | Subframe | Body ground, via rear subframe wire harness | |

**REAR SUBFRAME WIRE HARNESS**



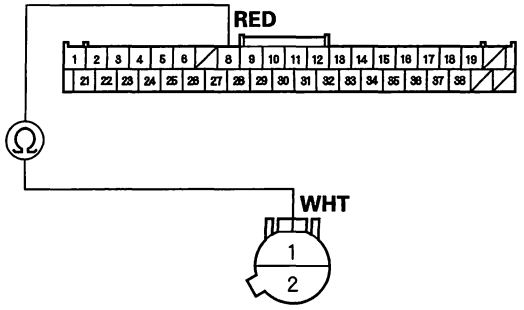

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9. Check for continuity between climate control unit connector A (40P) terminal No. 8 and the outside air temperature sensor 2P connector terminal No. 1.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**OUTSIDE AIR TEMPERATURE SENSOR 2P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Check for loose wires or poor connections at climate control unit connector A (40P) and at the outside air temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

**NO**—Repair open in the wire between the climate control unit and the outside air temperature sensor. ■

## DTC B1228 or DTC indicator D and AUTO: A Short in the Outside Air Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

   *Is DTC B1228 or D and AUTO indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure. ■
5. Turn the ignition switch OFF.
6. Remove the outside air temperature sensor (see page 21-105), and test it (see page 21-105).

   *Is the outside air temperature sensor OK?*

   **YES**—Go to step 7.

   **NO**—Replace the outside air temperature sensor. ■
7. Disconnect climate control unit connector A (40P).

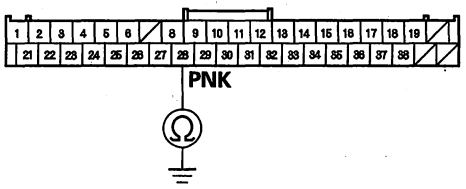
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## DTC Troubleshooting (cont'd)

8. Check for continuity between climate control unit connector A (40P) terminal No. 28 and body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

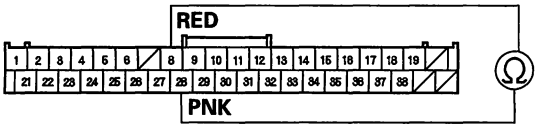
*Is there continuity?*

**YES**—Repair short to body ground in the wire between the climate control unit and the outside air temperature sensor. ■

**NO**—Go to step 9.

9. Check for continuity between climate control unit connector A (40P) terminals No. 8 and No. 28.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wires between the climate control unit and the outside air temperature sensor. ■

**NO**—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

### DTC B1229 or DTC indicator E and AUTO: An Open in the Sunlight Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

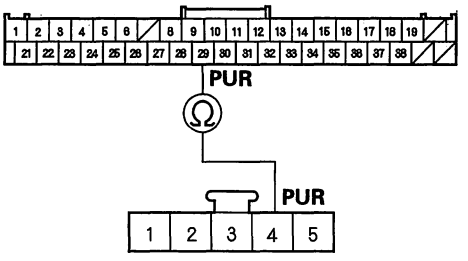
*Is DTC B1229 or E and AUTO indicated?*

**YES**—Go to step 5.

**NO**—Intermittent failure, check for loose wires or poor connections on the sunlight sensor circuit. ■

5. Turn the ignition switch OFF.
6. Disconnect the sunlight sensor 5P connector.
7. Disconnect climate control unit connector A (40P).
8. Check for continuity between climate control unit connector A (40P) terminal No. 29 and the sunlight sensor 5P connector terminal No. 4.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**SUNLIGHT SENSOR 5P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair open in the wire between the climate control unit and the sunlight sensor. ■

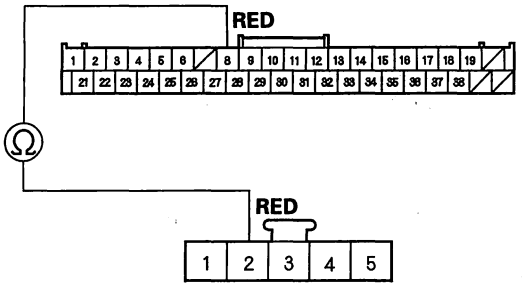
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BACK

9. Check for continuity between climate control unit connector A (40P) terminal No. 8 and the sunlight sensor 5P connector terminal No. 2.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**SUNLIGHT SENSOR 5P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 10.

**NO**—Repair open in the wire between the climate control unit and the sunlight sensor. ■

10. Reconnect the sunlight sensor 5P connector.

11. Reconnect climate control unit connector A (40P).

12. Test the sunlight sensor (see page 21-106).

*Is the sunlight sensor OK?*

**YES**—Check for loose wires or poor connections at climate control unit connector A (40P) and at the sunlight sensor 5P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

**NO**—Replace the sunlight sensor (see page 21-106). ■

## DTC B1230 or DTC indicator F and AUTO: A Short in the Sunlight Sensor Circuit

1. Clear the DTC with the HDS.

2. Turn the ignition switch OFF and then ON (II).

3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).

4. Check for DTCs.

*Is DTC B1230 or F and AUTO indicated?*

**YES**—Go to step 5.

**NO**—Intermittent failure. ■

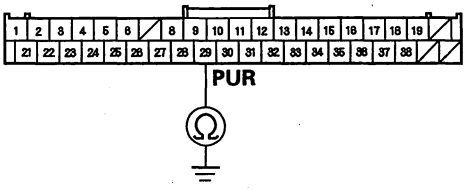
5. Turn the ignition switch OFF.

6. Disconnect the sunlight sensor 5P connector.

7. Disconnect climate control unit connector A (40P).

8. Check for continuity between climate control unit connector A (40P) terminal No. 29 and body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to body ground in the wire between the climate control unit and the sunlight sensor. ■

**NO**—Go to step 9.

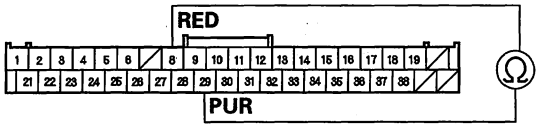
(cont'd)

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## DTC Troubleshooting (cont'd)

9. Check for continuity between climate control unit connector A (40P) terminals No. 8 and No. 29.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wires between the climate control unit and the sunlight sensor. ■

**NO**—Go to step 10.

10. Reconnect the sunlight sensor 5P connector.
11. Reconnect climate control unit connector A (40P).
12. Test the sunlight sensor (see page 21-106).

*Is the sunlight sensor OK?*

**YES**—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

**NO**—Replace the sunlight sensor (see page 21-106). ■

**DTC B1231 or DTC indicator G and AUTO:** An Open in the Front Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

*Is DTC B1231 or G and AUTO indicated?*

**YES**—Go to step 5.

**NO**—Intermittent failure, check for loose wires or poor connections on the front evaporator temperature sensor circuit. ■

5. Turn the ignition switch OFF.
6. Remove the front evaporator temperature sensor (see page 21-107), and test it (see page 21-107).

*Is the front evaporator temperature sensor OK?*

**YES**—Go to step 7.

**NO**—Replace the front evaporator temperature sensor. ■

7. Disconnect climate control unit connector A (40P).

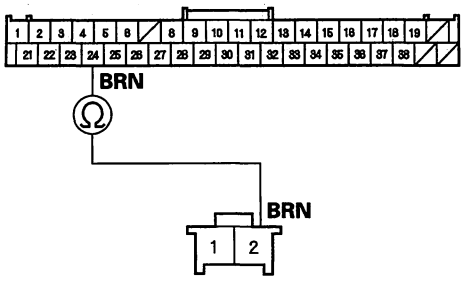
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BACK

8. Check for continuity between climate control unit connector A (40P) terminal No. 24 and the front evaporator temperature sensor 2P connector terminal No. 2.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**FRONT EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR**
Wire side of female terminals

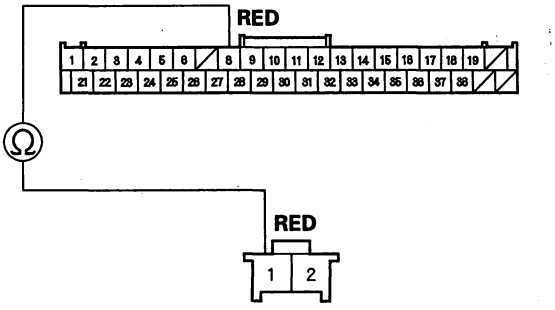
*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair open in the wire between the climate control unit and the front evaporator temperature sensor.■

9. Check for continuity between climate control unit connector A (40P) terminal No. 8 and the front evaporator temperature sensor 2P connector terminal No. 1.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**FRONT EVAPORATOR TEMPERATURE SENSOR 2P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Check for loose wires or poor connections at climate control unit connector A (40P) and at the front evaporator temperature sensor 2P connector. If the connections are good, substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit.■

**NO**—Repair open in the wire between the climate control unit and the front evaporator temperature sensor.■

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## DTC Troubleshooting (cont'd)

### DTC B1232 or DTC indicator H and AUTO: A Short in the Front Evaporator Temperature Sensor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

   *Is DTC B1232 or H and AUTO indicated?*

   **YES**—Go to step 5.

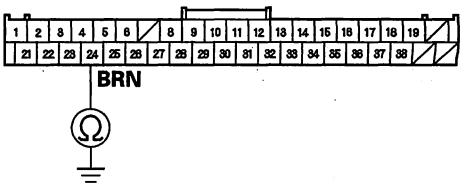
   **NO**—Intermittent failure. ■
5. Turn the ignition switch OFF.
6. Remove the front evaporator temperature sensor (see page 21-107), and test it (see page 21-107).

   *Is the front evaporator temperature sensor OK?*

   **YES**—Go to step 7.

   **NO**—Replace the front evaporator temperature sensor. ■
7. Disconnect climate control unit connector A (40P).
8. Check for continuity between climate control unit connector A (40P) terminal No. 24 and body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

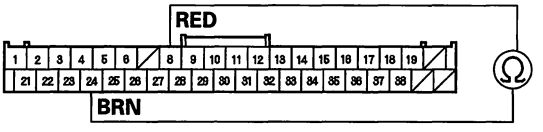
*Is there continuity?*

**YES**—Repair short to body ground in the wire between the climate control unit and the front evaporator temperature sensor. ■

**NO**—Go to step 9.

9. Check for continuity between climate control unit connector A (40P) terminals No. 8 and No. 24.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wires between the climate control unit and the front evaporator temperature sensor. ■

**NO**—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

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BACK

**DTC B1233 or DTC indicator J and AUTO:** An Open in the Driver's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

   *Is DTC B1233 or J and AUTO indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, check for loose wires or poor connections on the driver's air mix control motor circuit. ■
5. Turn the ignition switch OFF.
6. Test the driver's air mix control motor (see page 21-109).

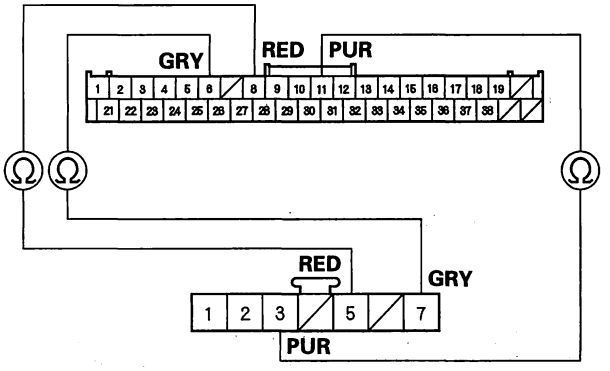
   *Is the driver's air mix control motor OK?*

   **YES**—Go to step 7.

   **NO**—Replace the driver's air mix control motor (see page 21-110). ■
7. Disconnect the driver's air mix control motor 7P connector.
8. Disconnect climate control unit connector A (40P).
9. Check for continuity between the following terminals of climate control unit connector A (40P) and the driver's air mix control motor 7P connector.

| 40P: | 7P: |
|---|---|
| No. 6 | No. 7 |
| No. 8 | No. 5 |
| No. 11 | No. 3 |

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Check for loose wires or poor connections at climate control unit connector A (40P) and at the driver's air mix control motor 7P connector. If the connections are good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

**NO**—Repair open in the wire(s) between the climate control unit and the driver's air mix control motor. ■

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## DTC Troubleshooting (cont'd)

### DTC B1234 or DTC indicator K and AUTO: A Short in the Driver's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

   *Is DTC B1234 or K and AUTO indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure. ■
5. Check for DTCs.

   *Are these DTCs also present; B1237 or N and AUTO, and/or B1245 or G, and/or B2968 or A and WINDSHIELD DEFROST, and/or B2980 or B and WINDSHIELD DEFROST?*

   **YES**—Go to step 13.

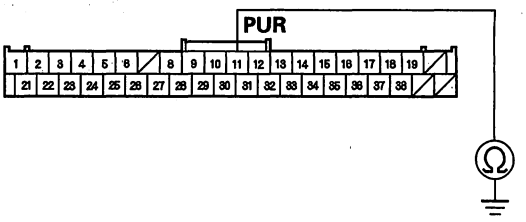
   **NO**—Go to step 6.
6. Turn the ignition switch OFF.
7. Test the driver's air mix control motor (see page 21-109).

   *Is the driver's air mix control motor OK?*

   **YES**—Go to step 8.

   **NO**—Replace the driver's air mix control motor (see page 21-110). ■
8. Disconnect the driver's air mix control motor 7P connector.
9. Disconnect climate control unit connector A (40P).
10. Check for continuity between body ground and climate control unit connector A (40P) terminal No. 11.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

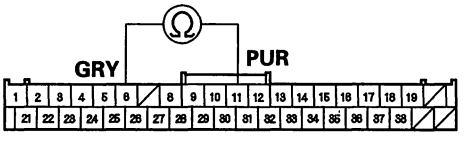
*Is there continuity?*

**YES**—Repair short to body ground in the wire between the climate control unit and the driver's air mix control motor. ■

**NO**—Go to step 11.

11. Check for continuity between climate control unit connector A (40P) terminals No. 6 and No. 11.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair the short in the wires. ■

**NO**—Go to step 12.

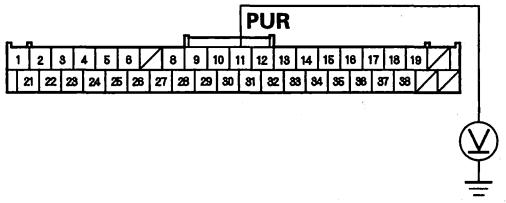
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BACK

12. Turn the ignition switch ON (II), and measure the voltage between climate control unit connector A (40P) terminal No. 11 and body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there any voltage?*

**YES**—Repair short to power in the wire between the climate control unit and the driver's air mix control motor. This short may also damage the climate control unit. Repair the short to power before replacing the climate control unit. ■

**NO**—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

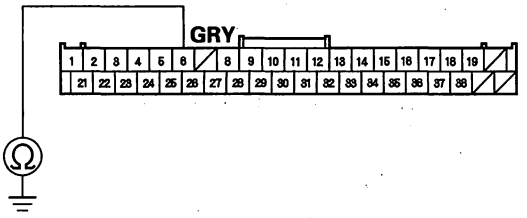
13. Turn the ignition switch OFF, and disconnect the climate control unit.

14. Disconnect these items:

- Driver's air mix control motor
- Passenger's air mix control motor
- Rear air mix control motor
- Humidity/in-car temperature sensor
- A/C pressure sensor

15. Check for continuity between climate control unit connector A (40P) terminal No. 6 and body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

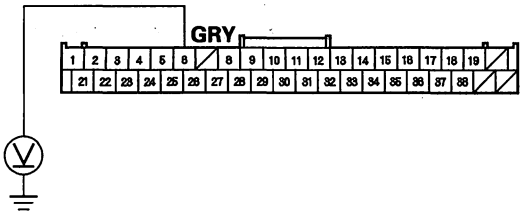
*Is there continuity?*

**YES**—Repair short to body ground in the wire. ■

**NO**—Go to step 16.

16. Turn the ignition switch ON (II), and check the same terminal for voltage to body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there any voltage?*

**YES**—Repair short to power in the wire. This short may have also damaged the climate control unit. Repair the short to power before replacing the climate control unit. ■

**NO**—Go to step 17.

(cont'd)

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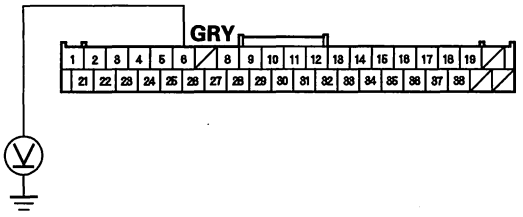
## DTC Troubleshooting (cont'd)

17. Turn the ignition switch OFF.

18. Reconnect climate control unit connector (40P).

19. Turn the ignition switch ON (II), and measure the voltage between climate control unit connector A (40P) terminal No. 6 and body ground.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there about 5 volts?*

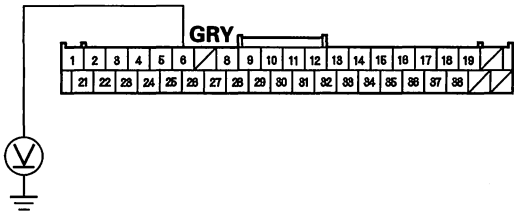
**YES**—Go to step 20.

**NO**—Check for a loose wire or poor connection at climate control unit connector A (40P). If the connection is good, substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

20. While checking the same terminal for voltage to ground, reconnect these items individually and note the voltage reading each time:

- Driver's air mix control motor
- Passenger's air mix control motor
- Rear air mix control motor
- Humidity/in-car temperature sensor
- A/C pressure sensor

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Does the voltage remain at about 5 volts?*

**YES**—Substitute a known-good climate control unit and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

**NO**—Replace the component that caused the voltage drop. ■

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## DTC B1235 or DTC indicator L and AUTO: A Problem in the Driver's Air Mix Control Linkage, Door, or Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

   *Is DTC B1235 or L and AUTO indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, check for loose wires or poor connections on the driver's air mix control motor circuit. ■
5. Turn the ignition switch OFF.
6. Test the driver's air mix control motor (see page 21-109).

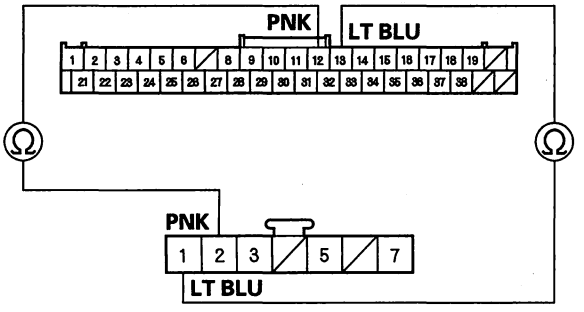
   *Is the driver's air mix control motor OK?*

   **YES**—Go to step 7.

   **NO**—Replace the driver's air mix control motor (see page 21-110), or repair the driver's air mix control linkage or door. ■
7. Disconnect the driver's air mix control motor 7P connector.
8. Disconnect climate control unit connector A (40P).
9. Check for continuity between the following terminals of climate control unit connector A (40P) and the driver's air mix control motor 7P connector.

   | 40P: | 7P: |
   |---|---|
   | No. 12 | No. 2 |
   | No. 13 | No. 1 |

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**DRIVER'S AIR MIX CONTROL MOTOR 7P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 10.

**NO**—Repair open in the wire(s) between the climate control unit and the driver's air mix control motor. ■

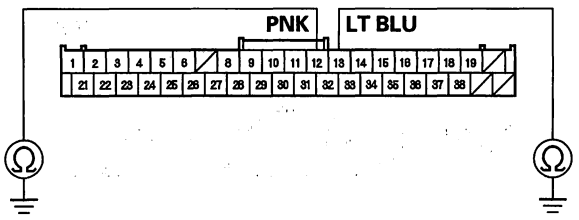
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## DTC Troubleshooting (cont'd)

10. Check for continuity between body ground and climate control unit connector A (40P) terminals No. 12 and No. 13 individually.

**CLIMATE CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to body ground in the wire(s) between the climate control unit and the driver's air mix control motor. ■

**NO**—Substitute a known-good climate control unit, and recheck. If the symptom/indication goes away, replace the original climate control unit. ■

**DTC B1236 or DTC indicator M and AUTO:** An Open in the Passenger's Air Mix Control Motor Circuit

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then ON (II).
3. Do the self-diagnostic with the HDS (see page 21-9) or climate control unit (see page 21-10).
4. Check for DTCs.

   *Is DTC B1236 or M and AUTO indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, check for loose wires or poor connections on the passenger's air mix control motor circuit. ■
5. Turn the ignition switch OFF.
6. Test the passenger's air mix control motor (see page 21-110).

   *Is the passenger's air mix control motor OK?*

   **YES**—Go to step 7.

   **NO**—Replace the passenger's air mix control motor (see page 21-111). ■
7. Disconnect the passenger's air mix control motor 7P connector.
8. Disconnect climate control unit connector A (40P).

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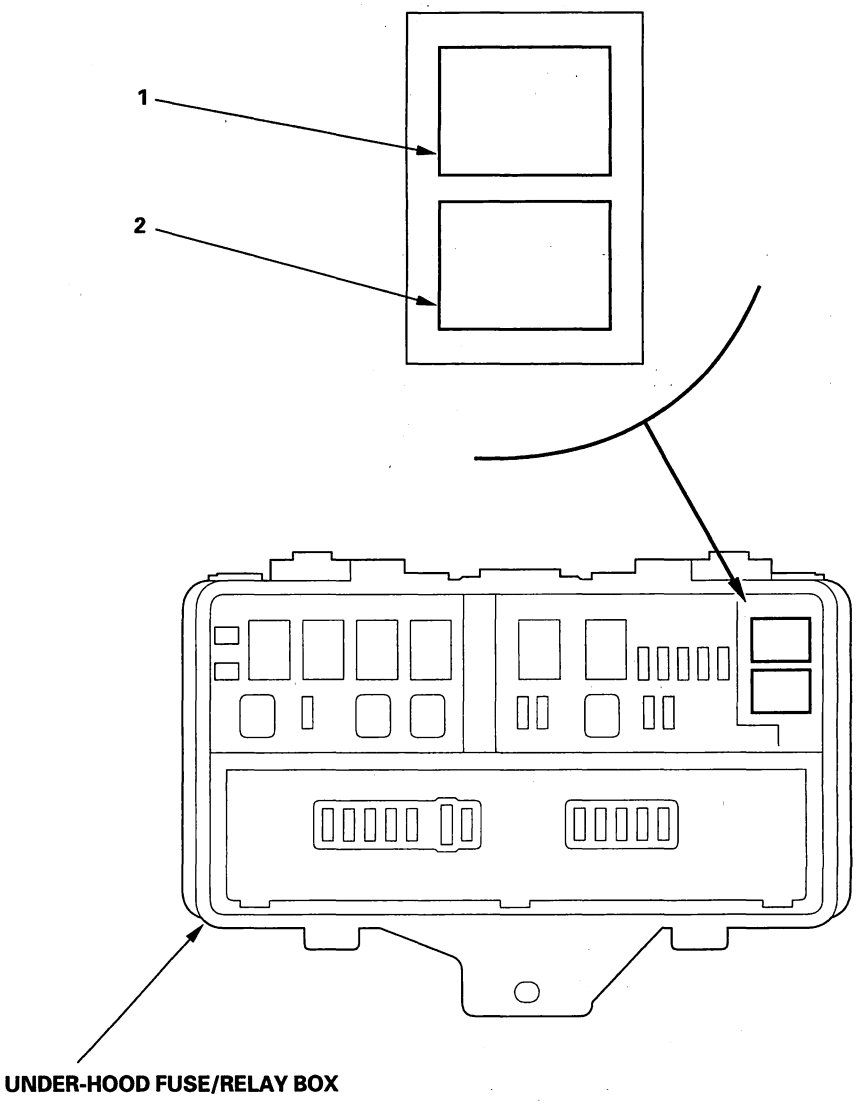


BACK

## Connector to Fuse/Relay Box Index

### Under-hood Fuse/Relay Box (Auxiliary Under-hood Relay Box part)

| Socket | Ref | Terminal | Connects to |
|---|---|---|---|
| Fog light relay | 1 | 4 | Right engine compartment wire harness (see page 22-22) |
| Interior light relay | 2 | 4 | Right engine compartment wire harness (see page 22-22) |




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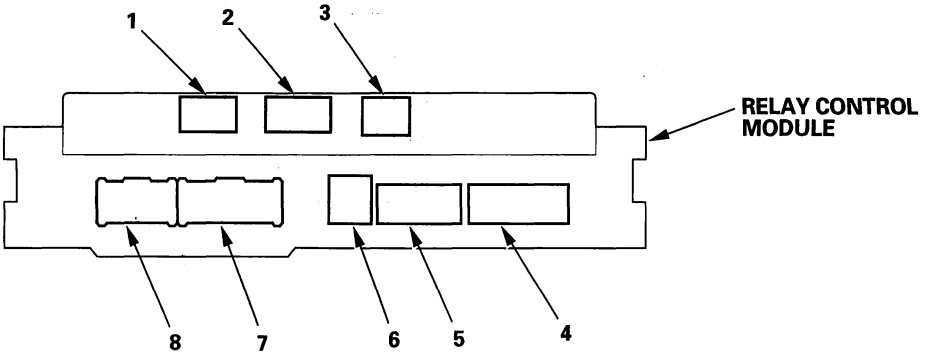
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BACK

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

### Under-hood Fuse/Relay Box (Relay Control Module part)

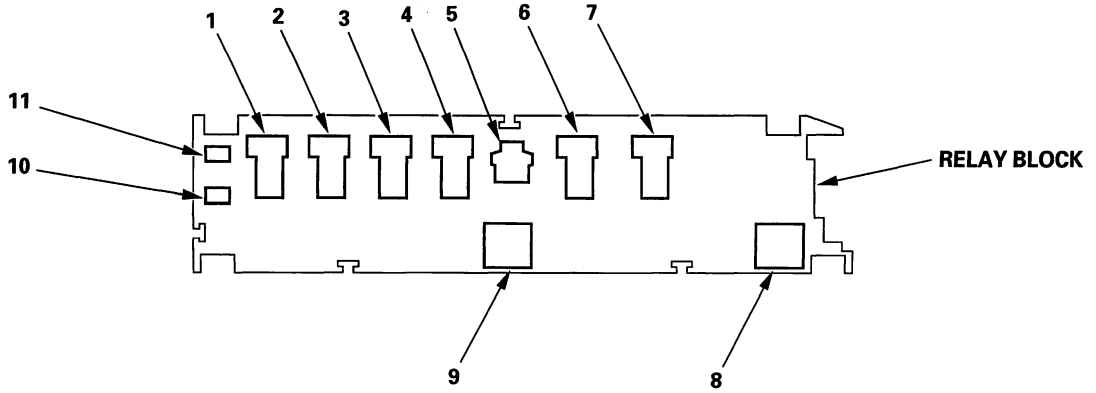
| Socket | Ref | Terminal | Connects to |
|---|---|---|---|
| A | 5 | 4 | Right engine compartment wire harness (see page 22-22) |
| B | 2 | 5 | Right engine compartment wire harness (see page 22-22) |
| C | 3 | 2 | Right engine compartment wire harness (see page 22-22) |
| D | 8 | 10 | Right engine compartment wire harness (see page 22-22) |
| E | 7 | 14 | Right engine compartment wire harness (see page 22-22) |
| F | 6 | 1 | Right engine compartment wire harness (see page 22-22) |
| G | 1 | 4 | Right engine compartment wire harness (see page 22-22) |
| H | 4 | 9 | Right engine compartment wire harness (see page 22-22) |




(Viewed from bottom)

### Under-hood Fuse/Relay Box (Relay Block part)

| Socket | Ref | Terminal | Connects to |
|---|---|---|---|
| A | 9 | 1 | Right engine compartment wire harness (see page 22-22) |
| A/C compressor clutch relay | 2 | 4 | |
| A/C condenser fan relay | 3 | 4 | |
| B | 8 | 1 | Right engine compartment wire harness (see page 22-22) |
| C | 5 | 1 | Right engine compartment wire harness (see page 22-22) |
| Diode (for A/C condenser fan relay and fan control relay) | 11 | —— | |
| Diode (for radiator fan relay) | 10 | —— | |
| Fan control relay | 1 | 5 | |
| Front blower motor relay | 7 | 4 | |
| Headlight low beam relay | 6 | 4 | |
| Radiator fan relay | 4 | 4 | |

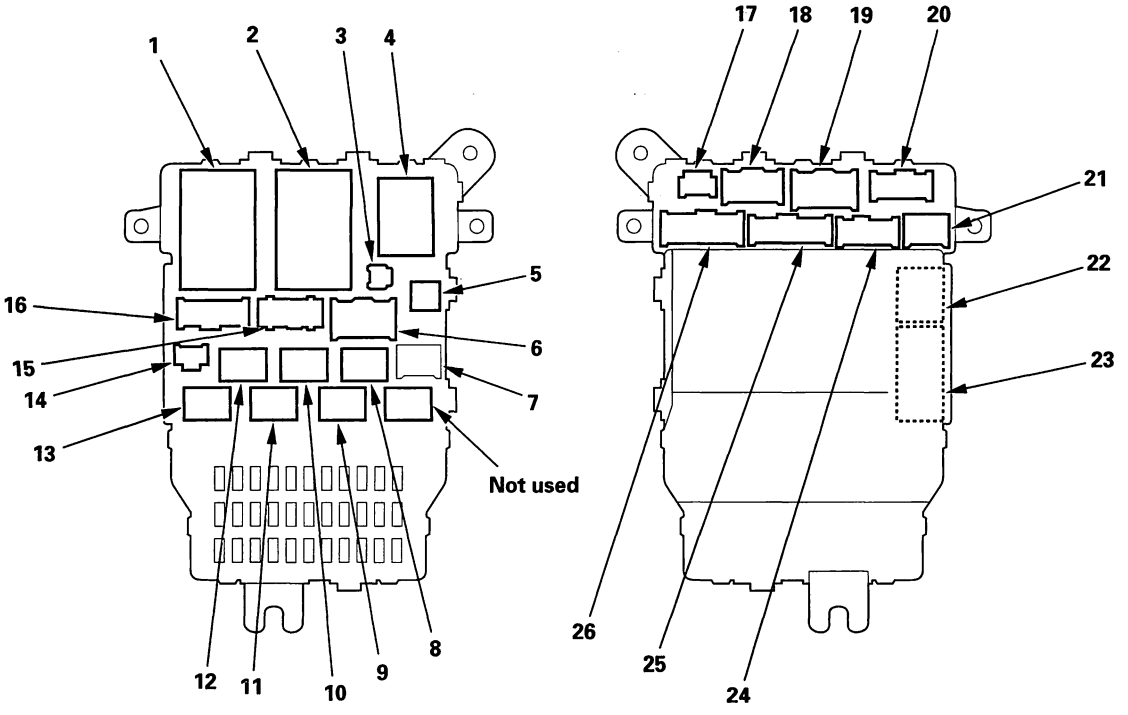



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### Under-dash Fuse/Relay Box

| Socket | Ref | Terminal | Connects to |
|---|---|---|---|
| A | 6 | 6 | Dashboard wire harness (see page 22-26) |
| Accessory power socket relay | 8 | 4 | |
| B | 19 | 6 | Left engine compartment wire harness (see page 22-24) |
| C | 18 | 12 | Left engine compartment wire harness (see page 22-24) |
| D | 20 | 17 | Left engine compartment wire harness (see page 22-24) |
| E | 25 | 16 | Floor wire harness (see page 22-34) |
| F | 26 | 14 | Floor wire harness (see page 22-34) |
| Front seat heater relay | 9 | 4 | |
| G | 21 | 6 | Floor wire harness (see page 22-34) |
| H | 24 | 14 | Floor wire harness (see page 22-34) |
| J | 16 | 21 | Driver's door subharness (see page 22-48) |
| K | 15 | 12 | Driver's door subharness (see page 22-48) |
| M | 14 | 3 | MICU service check connector |
| N | 2 | 45 | Dashboard wire harness (see page 22-26) |
| P | 23 | 30 | Dashboard wire harness (see page 22-26) |
| PGM-FI main relay 2 (FUEL PUMP) | 13 | 4 | |
| Power window relay | 11 | 4 | |
| Q | 22 | 14 | Floor wire harness (see page 22-34) |
| R (for MES connector) | 3 | 2 | Dashboard wire harness (see page 22-26) |
| S (for SRS) | 5 | 2 | Dashboard wire harness (see page 22-26) |
| Short pin (for fuel pump) | 10 | ——— | |
| Short pin (for lumber support) | 12 | ——— | |
| T | 7 | 6 | Not used |
| Turn signal/hazard relay | 4 | 6 | |
| W | 17 | 5 | Left engine compartment wire harness (see page 22-24) |
| X | 1 | 39 | Dashboard wire harness (see page 22-26) |



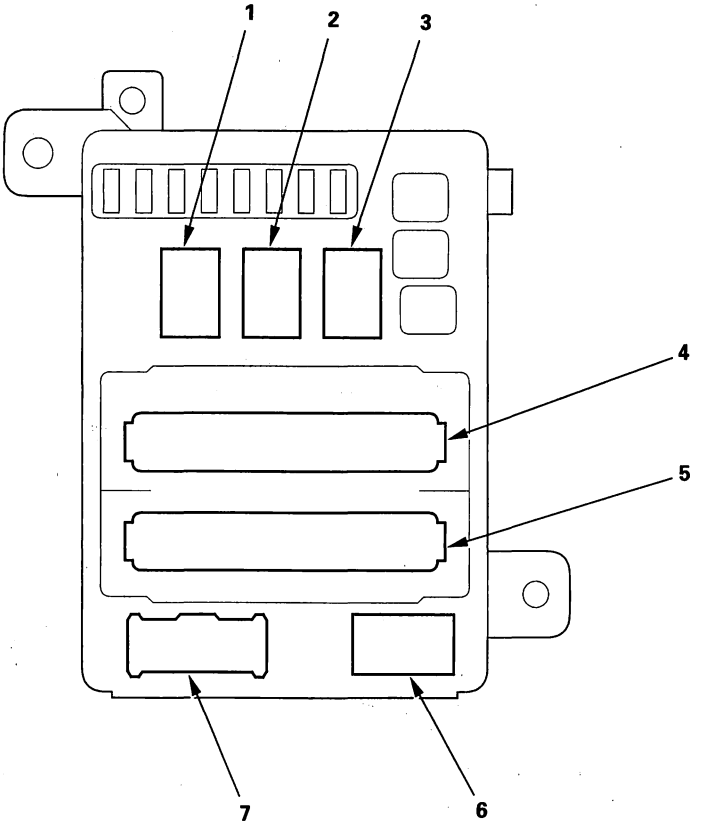

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## Connector to Fuse/Relay Box Index (cont'd)

### Rear Fuse/Relay Box

| Socket | Ref | Terminal | Connects to |
|---|---|---|---|
| A | 6 | 2 | Floor wire harness (see page 22-34) |
| B | 5 | 34 | Floor wire harness (see page 22-34) |
| C | 4 | 42 | Rear wire harness (see page 22-40) |
| Cargo area accessory power socket relay | 1 | 4 | Not used |
| D (for trailer) | 7 | 14 | |
| Rear window defogger relay | 3 | 4 | |
| SH-AWD relay | 2 | 4 | |




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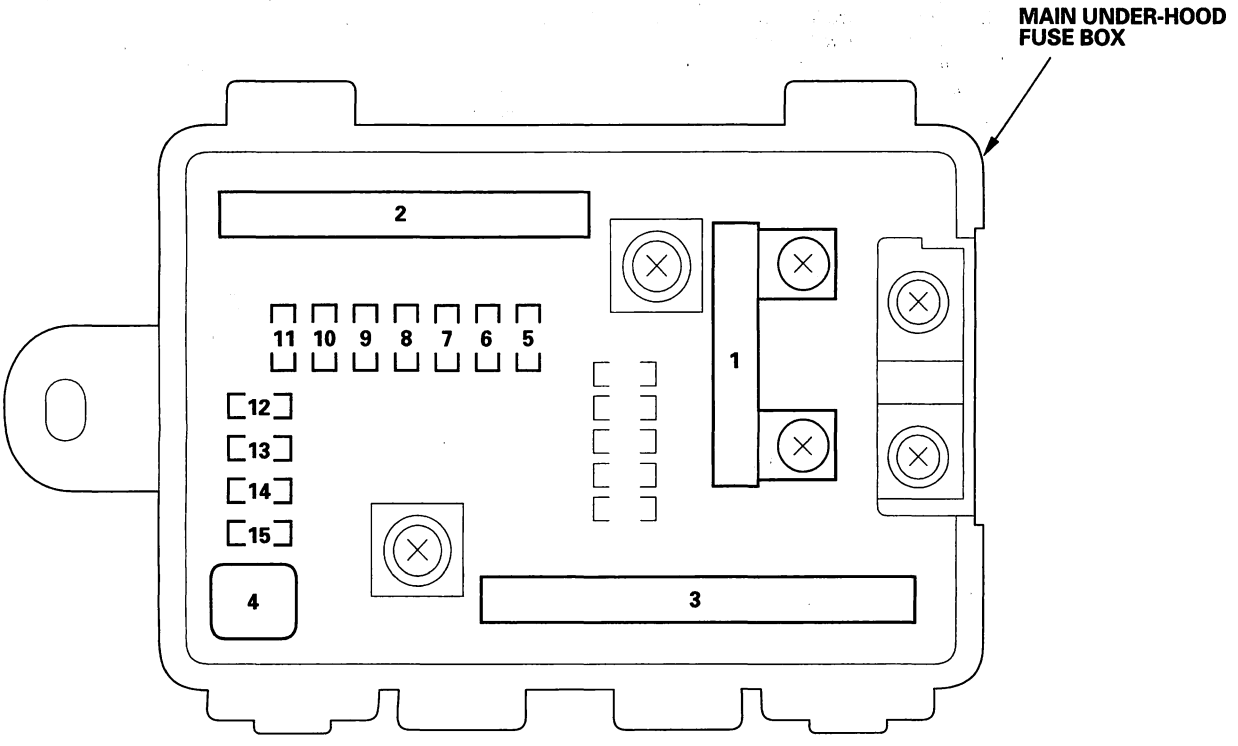


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## Fuse to Components Index

### Main Under-hood Fuse Box

| Fuse Number | | Amps | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|---|
| 1 | (BAT) | 120 A | Battery, Power supply |
| | ——— | ——— | Not used |
| 2 | (OP1) | 40 A | No. 1, No. 2, No. 3, and No. 4 fuses in the under-dash fuse/relay box |
| | (OP1) | 40 A | No. 12, No. 13, No. 14, No. 15, No. 16, and No. 17 fuses in the under-dash fuse/relay box |
| | (TRAILER) | 40 A | No. 1, No. 2, No. 3, and No. 4 fuses in the rear fuse/relay box (Optional trailer connectors) |
| | (VSA MTR) | 40 A | VSA modulator-control unit (MTR) |
| | (RR BLOWER) | 30 A | Rear blower motor |
| 3 | (IG) | 50 A | Ignition switch (BAT) |
| | (P/W) | 50 A | No. 24, No. 25, No. 26, No. 27, and No. 28 fuses in the under-dash fuse/relay box, Power window relay in the under-dash fuse/relay box |
| | (RR F/B) | 60 A | No. 5, No. 6, No. 7, No. 8, No. 9, No. 10, and No. 11 fuses (in the rear fuse/relay box) |
| | (RB1) | 30 A | No. 7, No. 8, No. 9, No. 10, and No. 11 fuses (in the under-hood fuse/relay box) |
| | (RB2) | 40 A | No. 1, No. 2, No. 3, No. 4, No. 5, and No. 6 fuses (in the under-hood fuse/relay box) |
| | (RB3) | 60 A | No. 14, No. 15, No. 16, and No. 17 fuses (in the under-hood fuse/relay box) |
| | (RB4) | 60 A | No. 12, No. 13, and No. 22 fuses (in the under-hood fuse/relay box) |
| 4 | | 40 A | Under-dash fuse/relay box (BACK-UP/ACC) |
| 5 | | 30 A | Active damper control unit |
| 6 | | ——— | Not used |
| 7 | | ——— | Not used |
| 8 | | 30 A | Audio amplifier |
| 9 | | 7.5 A | Under-dash fuse/relay box (RES) |
| 10 | | 15 A | Under-dash fuse/relay box (HAZARD) |
| 11 | | 15 A | Brake light relay, Brake pedal position switch, Relay control module (Horn relay circuit) |
| 12 | | 20 A | VSA modulator-control unit (FSR) |
| 13 | | 20 A | Optional (for trailer) |
| 14 | | 20 A | Second row seat heaters |
| 15 | | 20 A | AC inverter unit |




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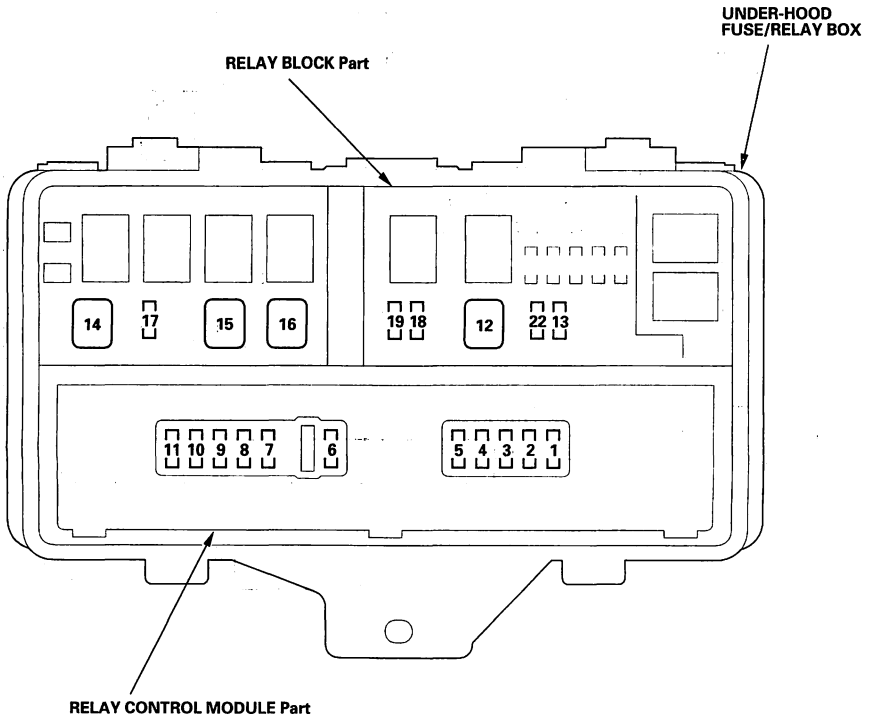
## Fuse to Components Index (cont'd)

### Under-hood Fuse/Relay Box (Relay Control Module part)

| Fuse Number | Amps | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|
| 1 | 10 A | Left daytime running light |
| 2 | 10 A | Right daytime running light |
| 3 | 10 A | Headlight leveling control unit, Left headlight (high beam) |
| 4 | 10 A | Right headlight (high beam) |
| 5 | 7.5 A | Front parking lights, Front side marker lights |
| 6 | 30 A | Headlight low beam relay, No. 18 and No. 19 fuses (in the under-hood fuse/relay box) |
| 7 | 7.5 A | A/F sensor relay, Radiator fan relay |
| 8 | 15 A | CKP sensor A/B, CMP sensor, ETCS control relay, Ignition coil relay, Injectors, No. 7 (7.5 A) fuse in the under-hood fuse/relay box, PCM (IGP), PCM (MRLY), PGM-FI main relay 1 (FI MAIN), PGM-FI main relay 2 (FUEL PUMP) |
| 9 | 15 A | Ignition coils |
| 10 | 15 A | PCM (ETCSRLYOUT) |
| 11 | 15 A | EVAP canister vent shut valve, Front A/F sensor (bank2, sensor 1), Front SHO2S (bank2, sensor 2), Rear A/F sensor (bank1, sensor 1), Rear SHO2S (bank1, sensor 2) |

### Under-hood Fuse/Relay Box (Relay Block part)

| Fuse Number | Amps | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|
| 12 | 40 A | Blower motor |
| 13 | 20 A | Fog lights, Fog light relay |
| 14 | 30 A | Headlight washer motor |
| 15 | 30 A | A/C condenser fan motor |
| 16 | 30 A | Radiator fan motor |
| 17 | 7.5 A | A/C compressor clutch |
| 18 | 15 A | Left HID unit |
| 19 | 15 A | Headlight washer motor relay, Right HID unit |
| 22 | 7.5 A | Active damper system switch light, A/T gear position indicator panel light, Climate control unit light, Dash lights brightness controller light, Driver's ambient light, Driver's seat heater switch light, Front passenger's seat heater switch light, Glove box light, Hazard warning switch light, Headlight washer switch light, Headphone jack, Interior light relay, Left second row seat heater switch light, Moonroof switch light, Power mirror switch light, Rear climate control panel light, Rear controller and screen, Right second row seat heater switch light, Roof console, Steering wheel switches lights, VSA OFF switch light |




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## Under-dash Fuse/Relay Box

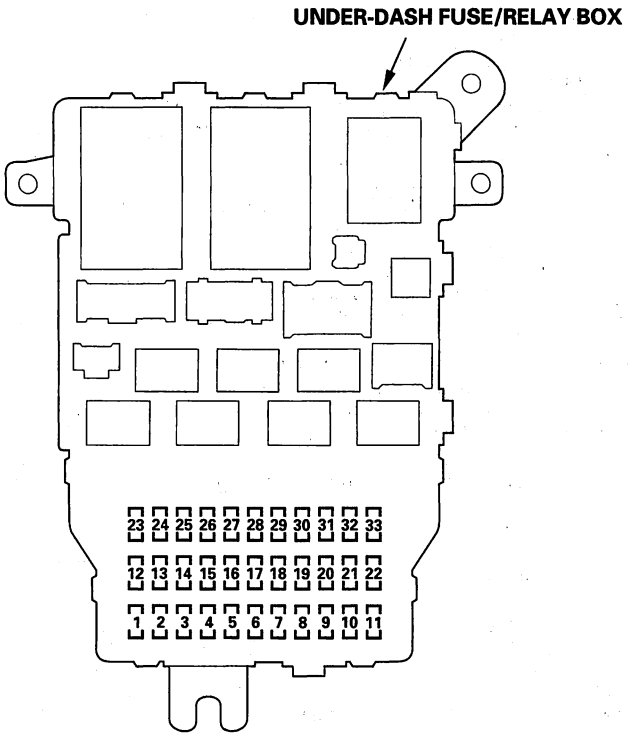
| Fuse Number | Amps | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|
| 1 | 7.5 A | TPMS control unit |
| 2 | 10 A | Driver's lumbar support motor |
| 3 | 10 A | Moonroof control unit/motor |
| 4 | 20 A | Driver's seat heater, Front passenger's seat heater |
| 5 | 10 A | AcuraLink control unit (XM receiver), Audio unit, Navigation unit, XM receiver |
| 6 | 7.5 A | Driver's footwell light, Driver's vanity mirror light, Front individual map light, Front passenger's footwell light, Front passenger's vanity mirror light, Ignition key light, Left rear door courtesy light, Rear ceiling light, Rear individual map light, Right rear door courtesy light, Roof console |
| 7 | 10 A | Climate control unit, Combination switch control unit, Data link connector, Center information display Driver's MPCS unit, Gauge control module, Immobilizer-keyless control unit, MICU (VBU), Navigation display unit, Passenger's MPCS unit, Power tilt/telescopic steering control unit |
| 8 | 20 A | MICU (+B DOOR LOCK) |
| 9 | 15 A | Front accessory power socket, Rear accessory power socket |
| 10 | 15 A | PCM (VBSOL) |
| 11 | 30 A | EVAP canister vent shut valve, Front A/F sensor (bank2, sensor 1), Front SHO2S (bank2, sensor 2), Rear A/F sensor (bank1, sensor 1), Rear SHO2S (bank1, sensor 2), Windshield wiper motor, Wiper/washer control circuit (in the relay control module) |
| 12 | 10 A | Subwoofer |
| 13 | 20 A | Front passenger's power seat motor (Recline, Rear up-down) |
| 14 | 20 A | Driver's power seat motor (Slide, Front up-down) |
| 15 | 20 A | Power tilt/telescopic steering control unit |
| 16 | 20 A | Driver's power seat motor (Recline, Rear up-down) |
| 17 | 20 A | Front passenger's power seat motor (Slide, Front up-down) |
| 18 | 10 A | A/F sensor, Alternator, Brake pedal position switch, ELD unit, Engine mount control solenoid, EVAP canister purge valve, PCM |
| 19 | 20 A | Fuel pump, Immobilizer-keyless control unit, PCM, PGM-FI main relay 2 (FUEL PUMP) |
| 20 | 7.5 A | Active damper control unit, Brake light relay, Hazard warning switch, ODS unit, SH-AWD control unit, SRS unit |
| 21 | 7.5 A | AcuraLink control unit (XM receiver), Active damper system switch, Automatic dimming inside mirror, Center information display, Combination switch control unit, Driver's MPCS unit, Electrical compass unit, Gauge control module, MICU, Power seat control unit, Power tailgate control unit, Power tilt/telescopic steering control unit, Rear MICU (Rear fuse/relay box), Relay control module, Shift lock solenoid, TPMS control unit, XM receiver |
| 22 | 10 A | SRS unit |
| 24 | 20 A | Left rear power window motor |
| 25 | 20 A | Right rear power window motor |
| 26 | 30 A | Passenger's MPCS unit |
| 27 | 30 A | Driver's MPCS unit |
| 28 | 20 A | Power tilt/telescopic steering control unit |
| 29 | 10 A | Steering angle sensor, VSA modulator-control unit, Yaw rate-lateral/longitudinal acceleration sensor |
| 30 | 10 A | AC inverter unit, Climate control unit, Front seat heater relay MICU, Rear climate control panel, Rear mode control motor, Rear window defogger relay (in the rear fuse/relay box), Relay block (A/C compressor relay, A/C condenser fan relay, Blower motor relay, Fan control relay), Second row seat heaters, Second row seat heater relay |
| 31 | 15 A | Headlight leveling control unit, Wiper/washer control circuit (in the relay control module), Rear MICU (Rear fuse/relay box), Windshield wiper motor, Windshield/rear window washer motor |
| 32 | 15 A | Accessory power socket relay, AcuraLink control unit (XM receiver), Audio unit, Climate control unit, Ignition key switch, Center information display unit, Interface dial, MICU, Navigation unit, XM receiver |

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## Fuse to Components Index (cont'd)



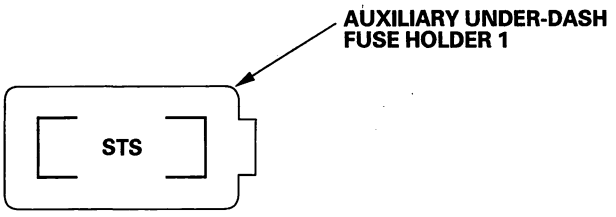

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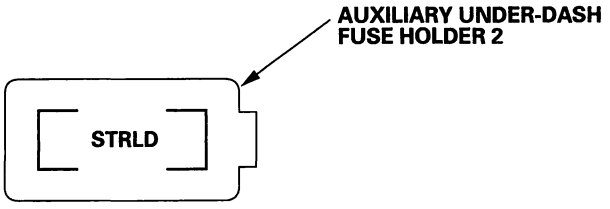
### Auxiliary Under-dash Fuse Holder 1

| Fuse Number | Amps | Wire Color | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|---|
| STS | 7.5 A | YEL | Ignition switch (ST) |
| | | LT BLU | PCM (STS) |




### Auxiliary Under-dash Fuse Holder 2

| Fuse Number | Amps | Wire Color | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|---|
| STRLD | 7.5 A | PNK | PCM (STRLD) |
| | | BRN | Starter cut relay 1, Starter cut relay 2 |



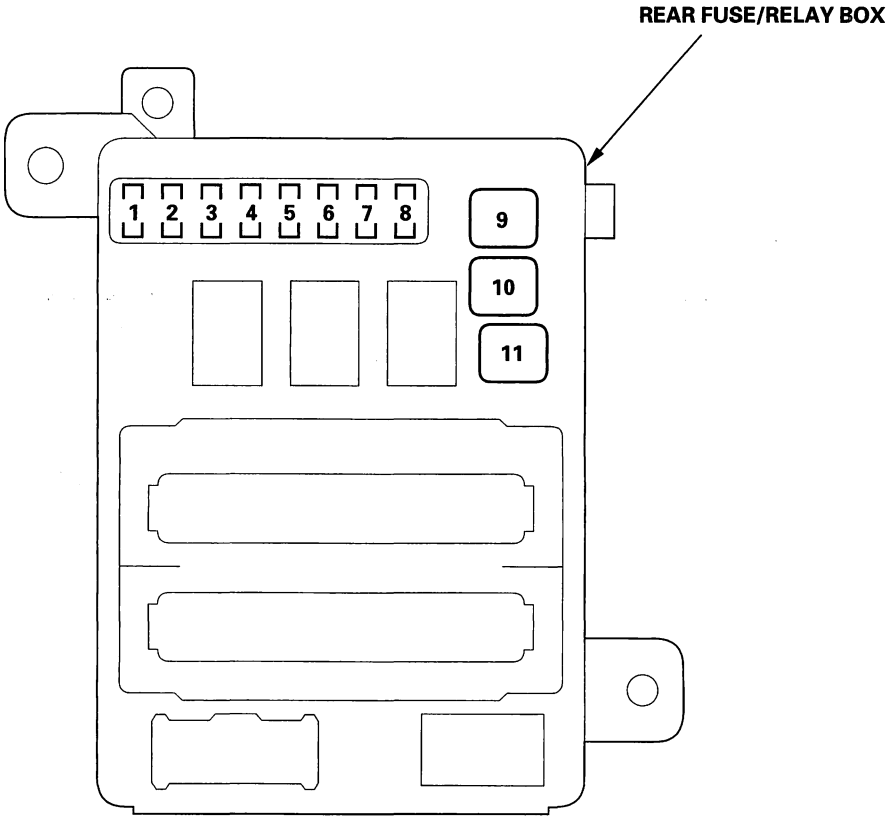

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## Fuse to Components Index (cont'd)

### Rear Fuse/Relay Box

| Fuse Number | Amps | Amps Wire Color Component(s) or Circuit(s) Protected |
|---|---|---|
| 1 | 7.5 A | Optional (for trailer lighting connector) |
| 2 | 20 A | |
| 3 | 20 A | |
| 4 | 7.5 A | |
| 5 | 10 A | Cargo area accessory power socket relay, Cargo area accessory power socket |
| 6 | 20 A | Power tailgate control unit |
| 7 | 15 A | Rear MICU |
| 8 | 7.5 A | Cargo area lights, Rear MICU, Tailgate inside switch (With power tailgate) |
| 9 | 30 A | SH-AWD control unit |
| 10 | 30 A | Rear window defogger |
| 11 | 40 A | Power tailgate control unit |




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# Ground Distribution

## Ground to Components Index

| Ground | Component or Circuit Grounded |
|---|---|
| G1 | Battery |
| G2 | Engine mount |
| G3 | Transmission housing |
| G101 | A/T clutch pressure control solenoid valves A, B, and C, CKP sensor A/B, CMP sensor, EGR valve, Ignition coils, PCM (PG, LG), Rocker arm oil pressure switch, Transmission range switch |
| G201 | Hood switch, Right daytime running light, Right fog light, Right front parking light, Right front side marker light, Right front turn signal light, Right headlight (high beam), Right HID unit, Washer fluid level switch |
| G202 | Fan control relay, Front blower motor relay, Headlight washer motor, Power steering pressure (PSP) switch, Relay control module, Windshield wiper motor |
| G301 | Left daytime running light, Left fog light, Left front parking light, Left front side marker light, Left front turn signal light, Left headlight (high beam), Left HID unit, Radiator fan motor |
| G302 | Active damper control unit, Brake fluid level switch, ELD unit |
| G303 | VSA modulator-control unit (2 wires) |
| G401 | Active damper control unit, Headlight leveling control unit, Relay control module, TPMS control unit |
| G501 | Dash lights brightness controller, Gauge control module (2 wires), Headlight washer switch, Memory erase signal (MES) connector, Moonroof control unit/motor, Power mirror switch, VSA OFF switch |
| G502 | MICU (BRN wire) |
| G503 | AC inverter unit, A/T gear position indicator panel light, Data link connector (DLC) (2 wires), Left second row seat heater switch, Park-pin switch, Power tilt/telescopic steering control unit, Rear blower motor relay, Rear power transistor, Rear accessory power socket, Right second row seat heater switch, Second row seat heater relay |
| G504 | Audio amplifier, Audio unit |
| G505 | SRS unit (2 wires) |
| G506 | Center information display/Navigation display unit, Climate control unit, Front passenger's door lock knob switch, HandsFreeLink control unit, Interface dial, Power tilt/telescopic steering control unit, Passenger's MPCS unit, Rear climate control panel, Rear controller and screen, Right power mirror, Steering angle sensor, Steering wheel switches, Yaw rate-lateral /longitudinal acceleration sensor |
| G507 | Driver's seat heater switch, Front accessory power socket, Front passenger's seat heater switch, Front power transistor, Glove box light, Passenger's MPCS unit, Right power mirror (2 wires) |
| G601 | Accessory power socket relay, Automatic inside dimming mirror, Combination switch control unit and combination light switch, Driver's door lock knob switch, Driver's MPCS unit (2 wires), Driver's door power tailgate switch, Driver's vanity mirror light, Driving position memory switch, Front passenger's vanity mirror light, Fuel fill door opener switch, Ignition key switch, Left rear door lock knob switch, Left power mirror (3 wires), MICU (PG), MICU (SG), Multiplex control inspection connector, Roof console, Turn signal/hazard relay |
| G602 | Driver's lumbar support switch (2 wires), Driver's seat belt buckle switch, Left second row seat heater, Power seat control unit (4 wires), Right second row seat heater |
| G603 | Rear fuse/relay box, SH-AWD relay (via rear fuse/relay box), SH-AWD control unit (3 wires) |
| G604 | Cargo area accessory power socket, Fuel fill door opener solenoid, Fuel pump control module, Rear differential, Rear fuse/relay box (Rear MICU) |
| G605 | Front passenger's seat belt buckle switch, Front passenger's seat heater, Front passenger's power seat switch (2 wires), Navigation unit, ODS unit |
| G606 | AcuraLink control unit (XM receiver) (2 wires), AcuraLink inspection connector 5P connector, Right rear door lock knob switch, Subwoofer, XM receiver (2 wires) |
| G701 | High mount brake light, Left back-up light, Left brake light, Left taillights, Left license plate light, Left rear side marker light, Left rear turn signal light, Power tailgate control unit (2 wires), Power tailgate drive unit, Rear window defogger, Right back-up light, Right license plate light, Tailgate release actuator |
| G702 | Electrical compass unit (Without navigation), Power tailgate control unit, Keyless buzzer, Right brake light, Right taillights, Right rear side marker light, Right rear turn signal light, Tailgate latch switch, Tailgate outer handle switch (Without power tailgate) |

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## DTC Troubleshooting

**DTC B1051:** Relay Control Module Internal (CPU) Error
**DTC B1052:** Relay Control Module Internal (EEPROM) Error

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1051 or B1052 indicated?*

   **YES**—Faulty relay control module, replace the under-hood fuse/relay box. ■

   **NO**—Intermittent failure, the system is OK at this time. ■

**DTC B1055:** Relay Control Module Lost Communication with MICU (MICU Message)
**DTC B1056:** Relay Control Module Lost Communication with MICU (ALARM Message)
**DTC B1057:** Relay Control Module Lost Communication with MICU (DOORSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1055, B1056, or B1057 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the relay control module and the MICU. ■

5. Check for DTCs with the HDS.

   *Are DTCs B1055, B1056, B1057, B1157, B1159, B 1180, B1255, B1955, B2155, B2156, and B2161 all indicated?*

   **YES**—Do the MICU input test (see page 22-132). ■

   **NO**—Do the relay control module input test (see page 22-136). ■

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## **DTC B1060:** Relay Control Module Lost Communication with Gauge Control Module (VPS/NE Message)
## **DTC B1061:** Relay Control Module Lost Communication with Gauge Control Module (A/T Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1060 and/or B1061 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the relay control module and the gauge control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1011, B1032, B1060, B1061, B1205, B 1206, B1207, B1906, B1956, B2157, and B2160 all indicated?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Do the relay control module input test (see page 22-136). ■

## **DTC B1062:** Relay Control Module Lost Communication with Combination Switch Control Unit (HLSW Message)
## **DTC B1063:** Relay Control Module Lost Communication with Combination Switch Control Unit (WIPSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1062 and/or B1063 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the relay control module and the combination switch control unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1007, B1062, B1063, B1155, B1156, B 1957, B1958, and B2969 all indicated?*

   **YES**—Do the combination switch control unit input test (see page 22-300). ■

   **NO**—Do the relay control module input test (see page 22-136). ■

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## DTC Troubleshooting (cont'd)

### **DTC B1065:** Relay Control Module Lost Communication with Driver's MPCS Unit (DRLOCKSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTCs B1065 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the relay control module and the driver's MPCS unit.■
5. Check for DTCs with the HDS.

   *Are DTCs B1013, B1015, B1065, B1182, and B 1905 all indicated?*

   **YES**—Do the driver's MPCS unit input test (see page 22-137).■

   **NO**—Do the relay control module input test (see page 22-136).■

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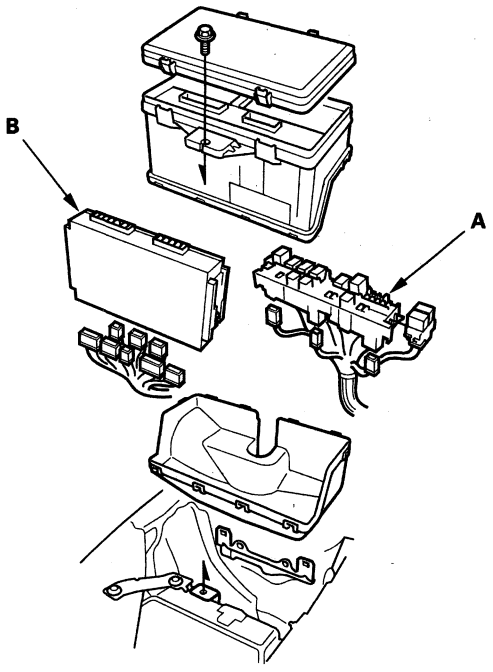
BACK

# Removal and Installation

## Removal

1. Make sure you have anti-theft codes for the audio and navigation system (if equipped).
2. Make sure the ignition switch is OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable, and wait at least 3 minutes.
4. Remove the cover of the under-hood fuse/relay box, and carefully remove the relays by prying under the base of the relay.

   NOTE: Do not use pliers. Pliers will damage the relays, which could cause the engine to stall or not start.




5. Remove the under-hood fuse/relay box from the bracket.
6. Remove the relay block part (A) from the under-hood fuse/relay box.
7. Remove the relay control module part (B) from the under-hood fuse/relay box, then disconnect the connectors from the relay control module.

## Installation

1. Install the relay control module and relays, then connect the connectors to the under-hood fuse/relay box.
2. Install the cover to the bottom of the under-hood fuse/relay box.
3. Install the under-hood fuse/relay box and the removed parts in the reverse order of removal.
4. Connect the positive cable to the battery, then connect the negative cable to the battery.
5. Enter the audio and navigation system anti-theft codes, and set the clock (if equipped).
6. Confirm that all systems work properly.

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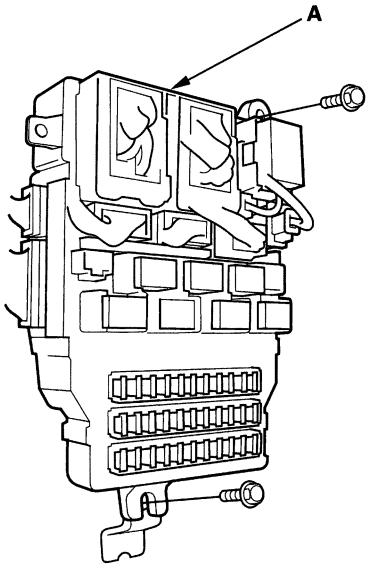
# Under-dash Fuse/Relay Box

## Removal and Installation

SRS components are located in this area. Review the SRS component locations (see page 24-18). and precautions and procedures (see page 24-20) before performing repairs or servicing.

### Removal

1. Make sure you have anti-theft codes for the audio and navigation system (if equipped).
2. Make sure the ignition switch is OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable, and wait at least 3 minutes.
4. Remove the left kick panel (see page 20-76).
5. Disconnect the connectors from the fuse side of the under-dash fuse/relay box (A).




6. Remove the mounting bolts, and pull the fuse/relay box away from the body.
7. Disconnect the connectors from the back side of the under-dash fuse/relay box, then remove the under-dash fuse/relay box.
8. Carefully remove the relays by prying under the base of the relay.

   NOTE: Do not use pliers. Pliers will damage the relays, which could cause the engine to stall or not start.

### Installation

NOTE: The MICU which is part of the under-dash fuse/relay box is a component of the immobilizer system. Because of this construction, the MICU must be registered when the under-dash fuse/relay box is replaced, or the vehicle will not start.

1. Install the relays and connect the connectors to the under-dash fuse/relay box, then install the under-dash fuse/relay box in the reverse order of removal.
2. Install the removed parts in the reverse order of removal.
3. Connect the positive cable to battery, then connect the negative cable to the battery.
4. If the under-dash fuse/relay box is replaced, go to step 5. If the original under-dash fuse/relay box is installed, go to step 10.
5. Connect the HDS to the data link connector.
6. Turn the ignition switch ON (II).
7. Select the BODY ELECTRICAL, then enter the IMMOBILIZER SETUP.
8. Select the REPLACE MPCS/MICU/IMOES, then select the suitable menu from the HDS indications.
9. After registration, confirm that the vehicle will start.
10. Enter the audio and navigation system anti-theft codes, and set the clock.
11. Confirm that all systems work properly.

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## DTC Troubleshooting

### **DTC B1955:** Rear MICU Lost Communication with MICU (MICU Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1955 indicated?*

   **YES**—Go to step 5.■

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the rear fuse/relay box and the MICU.■
5. Check for DTCs with the HDS.

   *Are DTCs B1055, B1056, B1057, B1157, B1159, B 1180, B1255, B1955, B2155, B2156, and/or B2161 indicated?*

   **YES**—Do the MICU input test (see page 22-132).■

   **NO**—Do the rear MICU input test (see page 22-139).■

### **DTC B1956:** Rear MICU Lost Communication with Gauge Control Module (A/T Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1956 indicated?*

   **YES**—Go to step 5.■

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the rear MICU and the gauge control module.■
5. Check for DTCs with the HDS.

   *Are DTCs B1011, B1061, and B1906 also indicated?*

   **YES**—Do the gauge control module input test (see page 22-334).■

   **NO**—Do the rear MICU input test (see page 22-139).■

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## DTC Troubleshooting (cont'd)

### **DTC B1957:** Rear MICU Lost Communication with Combination Switch Control Unit (HLSW Message)
### **DTC B1958:** Rear MICU Lost Communication with Combination Switch Control Unit (WIPSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1957 and/or B1958 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the rear MICU and the combination switch control unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1007, B1062, B1063, B1155, B1156, B 1957, B1958, and/or B2969 all indicated?*

   **YES**—Do the combination switch control unit input test (see page 22-300). ■

   **NO**—Do the rear MICU input test (see page 22-139). ■

### **DTC B1959:** Rear MICU Lost Communication with Relay Control Module (RM Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1959 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the rear MICU and the relay control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1005, B1058, B1959, B2162, and/or B 2970 all indicated?*

   **YES**—Do the relay control module input test (see page 22-136). ■

   **NO**—Do the rear MICU input test (see page 22-139). ■

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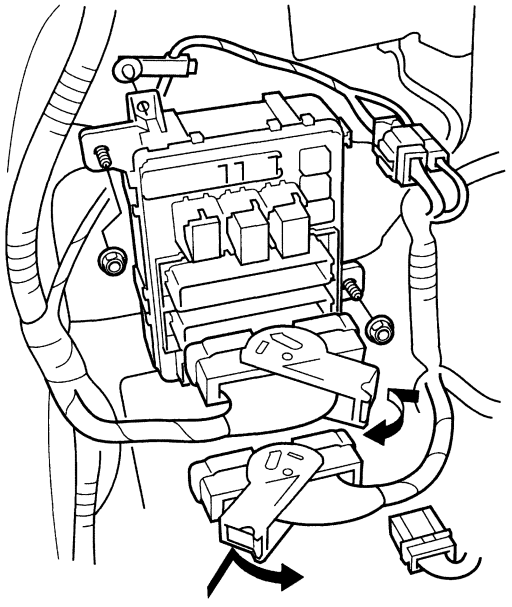
BACK

## Removal and Installation

SRS components are located in this area. Review the SRS component locations (see page 24-18). and precautions and procedures (see page 24-20) before performing repairs or servicing.

### Removal

1. Make sure you have anti-theft codes for the audio and navigation system (if equipped).
2. Make sure the ignition switch is OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable, and wait at least 3 minutes.
4. Remove the left rear side trim panel (see page 20-92).
5. Disconnect the connectors from the rear fuse/relay box (A).



6. Remove the mounting nuts and the rear fuse/relay box.
7. Carefully remove the relays by prying under the base of the relay.

   NOTE: Do not use pliers. Pliers will damage the relays, which could cause the engine to stall or not start.

### Installation

1. Install the relays and connect the connectors to the rear fuse/relay box, then install the rear fuse/relay box in the reverse order of removal.
2. Install the removed parts in the reverse order of removal.
3. Connect the positive cable to the battery, then connect the negative cable to the battery.
4. Enter the audio and navigation system anti-theft codes, and set the clock.
5. Confirm that all systems work properly.

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## 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.

Use an ED-18™ Battery Tester, and follow the manufacturer's procedures. If you don't have one of these computerized testers, follow this conventional test procedure:

1. Be sure the temperature of the electrolyte is between 70 °F (21 °C) and 100 °F (38 °C).
2. Inspect the battery case for cracks or leaks.
   - If the case is damaged, replace the battery. ■
   - If the case looks OK, go to step 3.
3. Check the test indicator window.
   - If the test indicator window indicates the battery is charged, go to step 4.
   - If the test indicator window indicates a low charge, go to step 7.
4. Apply a 300 amp load for 15 seconds to remove the surface charge.
5. Wait 15 seconds, then apply a test load of 280 amps for 15 seconds.
6. Record battery voltage.
   - If voltage is above 9.6 V, the battery is OK. ■
   - If voltage is below 9.6 V, go to step 7.
7. Charge the battery on High (40 amps) until the test indicator window shows the battery is charged, plus an additional 30 minutes. If the battery charge is very low, it may be necessary to bypass the charger's polarity protection circuitry.
   - If the test indicator window indicates the battery is charged within three hours, repeat steps 4 through 6. If the battery is still below 9.6 V, replace the battery. ■
   - If the test indicator window indicates the battery is not charged within three hours, replace the battery. ■

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BACK

## Power Relay Test

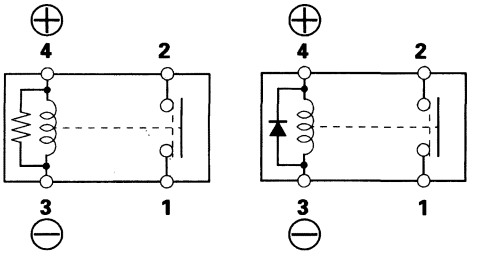
Use this chart to identify the type of relay, then do the test listed for it.

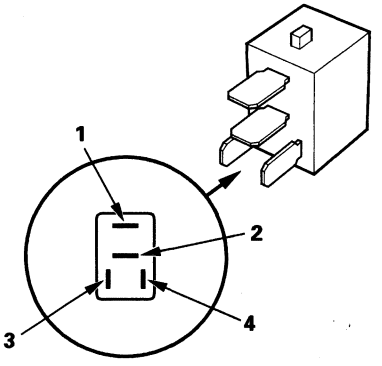
| Relay | Test |
|---|---|
| ACC cut relay | Normally-open type |
| A/C compressor clutch relay | |
| A/C condenser fan relay | |
| Accessory power socket relay | |
| Brake light relay | |
| Cargo area accessory power socket relay | |
| Front blower motor relay | |
| Front seat heater relay | |
| Fog light relay | |
| IG2 cut relay | |
| Interior light relay | |
| Headlight low beam relay | |
| Headlight washer relay | |
| PGM-FI main relay 2 | |
| Power window relay | |
| Radiator fan relay | |
| Rear blower motor relay | |
| Rear window defogger relay | |
| SH-AWD relay | |
| Starter cut relay 1, 2 | |
| Fan control relay | Five-terminal type |
| Second row seat heater relay | |

### Normally-open type

Check for continuity between the terminals.

- There should be continuity between the No. 1 and No. 2 terminals when battery positive terminal is connected to the No. 4 terminal, and battery negative terminal is connected to the No. 3 terminal.
- There should be no continuity between the No. 1 and No. 2 terminals when power is disconnected.




(cont'd)

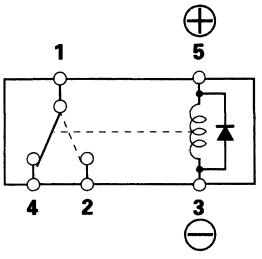
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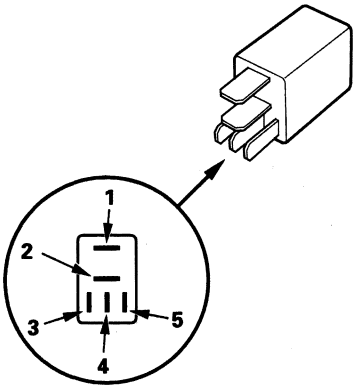
## Power Relay Test (cont'd)

### Five-terminal type

Check for continuity between the terminals.

- There should be continuity between the No. 1 and No. 2 terminals when battery positive terminal is connected to the No. 5 terminal, and battery negative terminal is connected to the No. 3 terminal.
- There should be continuity between the No. 1 and No. 4 terminals when power is disconnected.



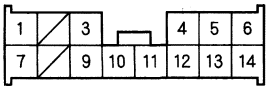

### PGM-FI main relay 1, Ignition coil relay, A/F sensor Relay, ETCS relay

1. Disconnect the negative battery cable, then disconnect the under-hood fuse/relay box connectors C (2P), E (14P), and H (9P).

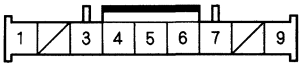
UNDER-HOOD FUSE/RELAY BOX CONNECTOR C (2P)




UNDER-HOOD FUSE/RELAY BOX CONNECTOR E (14P)




UNDER-HOOD FUSE/RELAY BOX CONNECTOR H (9P)




2. Connect battery power to the C2 terminal.

PGM-FI main relay 1:
- Connect the E5 terminal to body ground. There should be battery voltage between the H1 terminal and body ground.
- Disconnect the E5 terminal from the body ground. There should be no voltage between the H1 terminal and the body ground.

Ignition coil relay:
- Connect the E5 terminal to body ground. There should be battery voltage between the H6 terminal and body ground.
- Disconnect the E5 terminal from the body ground. There should be no voltage between the H6 terminal and the body ground.

A/F sensor relay:
- Connect the E5 and E13 terminals to body ground. There should be battery voltage between the H9 terminal and body ground.
- Disconnect the E5 terminal from the body ground. There should be no voltage between the H9 terminal and the body ground.

ETCS relay:
- Connect the E5 and E14 terminals to body ground. There should be battery voltage between the H7 terminal and body ground.
- Disconnect the E5 terminal from the body ground. There should be no voltage between the H7 terminal and the body ground.

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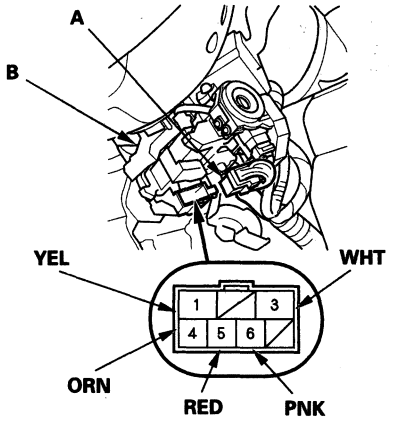
BACK

# Ignition Switch

## Test

SRS components are located in the area. Review the SRS component locations (see page 24-18) and precautions and procedures (see page 24-20) before performing repairs or servicing.

1. Make sure you have the anti-theft code for the audio and navigation system (if equipped).
2. Disconnect the negative battery cable.
3. Remove the steering column covers (see page 20-129).
4. Disconnect the 7P connector (A) from the ignition switch (B).




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

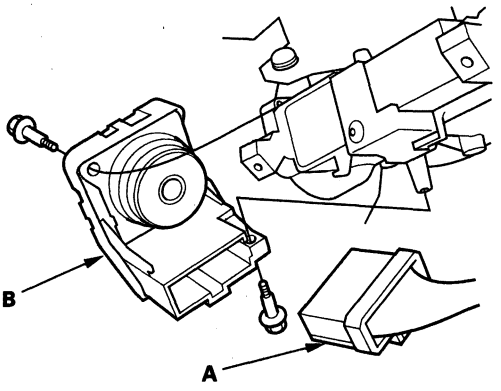
| Position \ Terminal | RED (ACC) | WHT (BAT) | PNK (IG1) | ORN (IG2) | YEL (ST) |
|---|---|---|---|---|---|
| 0 (LOCK) | | | | | |
| I (ACC) | ○ | ○ | | | |
| II (ON) | ○ | ○ | ○ | ○ | |
| III (START) | | ○ | ○ | | ○ |

6. If the continuity does not agree with the table, replace the ignition switch (see page 22-79).
7. After reconnecting the battery, enter the audio and navigation system anti-theft codes, and set the clock.

## Replacement

SRS components are located in the area. Review the SRS component locations (see page 24-18) and precautions and procedures (see page 24-20) before performing repairs or servicing.

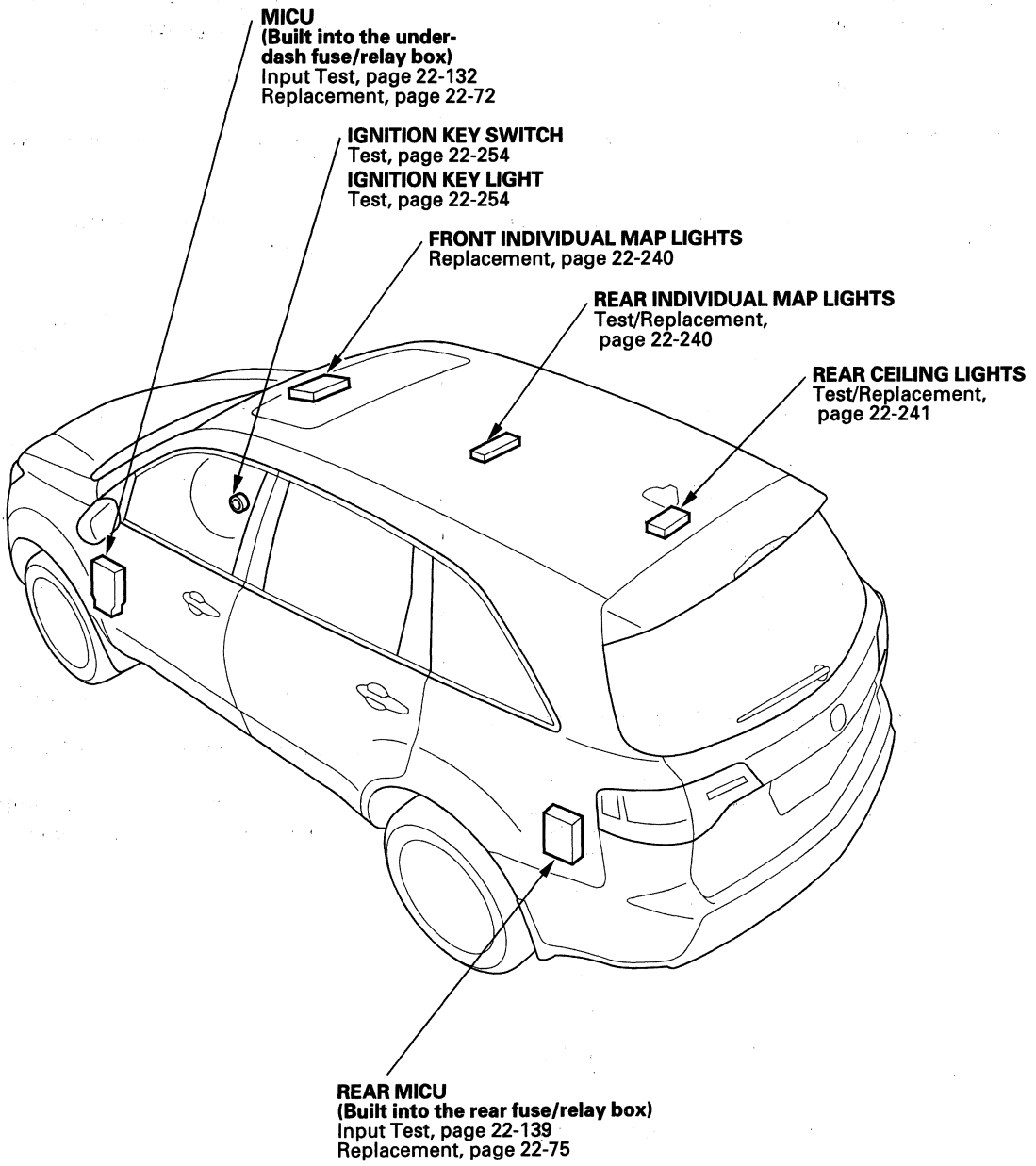
1. Make sure you have the anti-theft code for the audio and navigation system (if equipped).
2. Disconnect the negative battery cable.
3. Remove the steering column covers (see page 20-129).
4. Disconnect the 7P connector (A) from the ignition switch (B).




5. Remove the two screws and the ignition switch.
6. Install in the reverse order of removal.
7. After reconnecting the battery, enter the audio and navigation system anti-theft codes, and set the clock.

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## Component Location Index




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# General Troubleshooting Information

## Troubleshooting CAN Circuit Related Problems

NOTE: Check the powertrain control module (PCM) for DTCs and troubleshoot PCM (see page 11-3) or F-CAN loss of communication errors first.

### Using the HDS (Preferred method)

1. Go to B-CAN System Diagnosis Test Mode A to check for "Connected units" and DTCs (see page 22-112).
2. If no DTCs are retrieved, go to B-CAN System Diagnosis Test Mode C (see page 22-114) or D (see page 22-115).

### Without HDS (Use only if the HDS is unavailable)

1. Check for communication circuit problems using B-CAN System Diagnostic Test (see page 22-112).
2. Check for DTCs.
3. Sort, and then troubleshoot the DTCs in this order:
   - -1 Battery voltage DTCs
   - -2 Internal error DTCs
   - -3 Loss of communication DTCs (beginning with the lowest number first; for example, if B1008 and B1011 are retrieved, troubleshoot B1008 first). Refer to loss of communication cross reference chart (see page 22-83).
   - -4 Signal error DTCs
4. If no DTCs are retrieved, use B-CAN System Diagnostic Test Mode 2 to check all inputs related to failure (see step 10 on page 22-116).

(cont'd)

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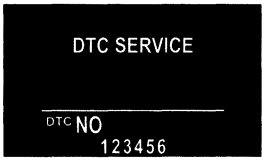
## General Troubleshooting Information (cont'd)

### How to display DTCs on the gauge control module

1. Set the multiplex in Test Mode 1 (see page 22-116).
2. While in Test Mode 1, the DTCs which have been detected and stored individually by various B-CAN units, will be shown one by one on the multi-information display on the gauge control module when the communication between the MICU and the gauge control module is normal. To scroll through the DTCs, press the select/reset button.




**DTC detected (the lower four digits are a decimal number representing the DTC.)**




**No DTCs detected**




**ALL DTCs have been displayed**

3. The unit that has stored the code can be identified by the number shown on the multi-information display (MID).

| Unit | Code (Control Unit I.D. Number) |
|---|---|
| MICU | 10 |
| Relay control module | 11 |
| Rear MICU | 12 |
| Power tailgate control unit | 31 |
| Driver's MPCS unit | 35 |
| Gauge control module | 50 |
| Climate control unit | 51 |
| Combination switch control unit | 70 |
| HANDSFREELINK control unit | 94 |
| Power seat control unit | 95 |
| Immobilizer-keyless control unit | 96 |
| AcuraLink control unit (XM receiver) | 97 |

### How to clear the DTC

While in DTC indication status, press and hold down the select/reset button for more than 10 seconds.

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## Loss of Communication DTC cross-reference chart

When an engine control unit (ECU) is unable to communicate with the other ECUs on the CAN circuit, the other control units will set loss of communication DTCs. Use this chart to find the control unit that is not communicating.

1. Find the Transmitting Control Unit that is in the same row as all of the loss of communication DTCs retrieved.
2. Do the input test for the transmitting control unit.

**BUS OFF and Internal Error Codes**

| DTC type | Related Unit | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MICU | Rear MICU | Relay Control Module | Driver's MPCS Unit | Combination Switch Control Unit | Gauge Control Module | Climate Control Unit | Immobilizer-Keyless Control unit | Power Tailgate Control Unit | Power Seat Control Unit | Hands FreeLink Control Unit | AcuraLink Control Unit (XM Receiver) |
| BUS OFF | B1000 | B1950 | B1050 | B2150 | B1250 | B1150 | B1200 | B1900 | B1350 | B1800 | B1750 | B2200 |
| ECU (CPU) Error | B1001 | | B1051 | | | | | | | | | B2209 |
| ECU (EEPROM) Error | B1002 | | B1052 | B2152 | B1252 | B1152 | B1202 | | B1352 | B1802 | B1792 | |

| Transmitting Control Unit | Message | Receiving Unit/Loss of Communication DTC | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MICU | Rear MICU | Relay Control Module | Driver's MPCS Unit | Combination Switch Control Unit | Gauge Control Unit | Climate Control Unit | Immobilizer-Keyless Control Unit | Power Tailgate Control Unit | Power Seat Control Unit | Hands FreeLink Control Unit | AcuraLink Control Unit (XM Receiver) | Navigation Unit |
| MICU | ALARM | | | B1056 | | | | | | | | | | |
| | MICU | | B1955 | B1055 | B2155 | B1255 | B1157 | | | B1355 | B1806 | | | |
| | DOORSW | | | B1057 | B2161 | | B1159 | | | | B1811 | | | |
| | MIRRORSW | | | | B2156 | | | | | | B1810 | | | |
| | AUTOLT | | | | | | B1180 | | | | | | | |
| Rear MICU | RJC | B1012 | | | | | | | | | | | | |
| Relay Control Module | RM | B1005 | B1959 | | B2162 | | B1158 | B2970 | | | | | | |
| Driver's MPCS Unit | DRLOCKSW | B1015 | | B1065 | | | B1182 | | B1905 | B1356 | | | | |
| | ASLOCKSW | B1013 | | | | | | | | B1358 | | | | |
| | MENSW | | | | | | | | | | B1812 | | | |
| Combination Switch Control Unit | HLSW | B1007 | B1957 | B1062 | | | B1155 | | | | | | | |
| | WIPSW | | B1958 | B1063 | | | B1156 | B2969 | | | | | | |
| Gauge Control Module | VSP/NE | B1011 | | B1060 | B2160 | | | B1205 | | B1357 | B1805 | B1408 | | |
| | AT | | B1956 | B1061 | | | | | B1906 | B1359 | B1808 | | | |
| | ENGTEMP | | | | | | | B1206 | | | | | | |
| | ILLUMI | | | | B2157 | | | B1207 | | | | | | |
| | SRS | B1032 | | | | | | | | | | | | |
| | VEHINFO | | | | | | | | | | | B1786 | | |
| Power Tailgate Control Unit | PTG | | | | | | B1162 | | | | | | | |
| PCM | ENG | | | | | | B1168 | | | | | | | |
| | AT | | | | | | B1169 | | | | | | | |
| VSA Modulator-Control Unit | VSA | | | | | | B1170 | | | | | | | |
| TPMS Control Unit | TPMS | | | | | | B1173 | | | | | | | |
| SRS Control | SRS | | | | | | B1187 | | | | | | | |
| Active Damper Control Unit | ACTIVE DAMPER SYSTEM | | | | | | B1188 | | | | | | | |
| Navigation Unit | | | | | | | | B2981 | | | | | | |
| AcuraLink Control Unit | | | | | | | | | | | | B2208 | | B2207 |
| HandsFreeLink Control Unit | | | | | | | | | | | | | | |
| Audio Unit | | | | | | | | B2991 | | | | | | |

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## DTC Troubleshooting Index

NOTE: Record all DTCs, and sort them by DTC type using the DTC troubleshooting index, then troubleshoot the DTC(s) in this order:

- Battery voltage DTCs
- Internal error DTCs
- Loss of communication DTCs (beginning with the lowest number first; for example, if B1005 and B1016 are retrieved, troubleshoot B1005 first).
- Signal error DTCs

**MICU**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1000 | Communication bus line error | Loss of communication | (see page 22-122) |
| B1001 | MICU internal error (CPU error) | Internal error | (see page 22-124) |
| B1002 | MICU internal error (EEPROM error) | Internal error | (see page 22-124) |
| B1005 | MICU lost communication with relay control module (RM message) | Loss of communication | (see page 22-124) |
| B1007 | MICU lost communication with combination switch control unit (HLSW message) | Loss of communication | (see page 22-125) |
| B1011 | MICU lost communication with gauge control module (VSP/NE message) | Loss of communication | (see page 22-125) |
| B1012 | MICU lost communication with the rear fuse/relay box (RJC message) | Loss of communication | (see page 22-126) |
| B1013 | MICU lost communication with driver's MPCS unit (ASLOCKSW message) | Loss of communication | (see page 22-126) |
| B1015 | MICU lost communication with driver's MPCS unit (DRLOCKSW message) | Loss of communication | (see page 22-126) |
| B1032 | MICU lost communication with the SRS unit (CDS message) | Signal error | (see page 22-127) |
| B1575 | Automatic lighting sensor circuit malfunction | Signal error | (see page 22-198) |

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**Relay Control Module**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1050 | Communication bus line error (BUS-OFF) | Loss of communication | (see page 22-129) |
| B1051 | Relay control module internal (CPU) error | Internal error | (see page 22-68) |
| B1052 | Relay control module internal (EEPROM) error | Internal error | (see page 22-68) |
| B1055 | Relay control module lost communication with MICU (MICU message) | Loss of communication | (see page 22-68) |
| B1056 | Relay control module lost communication with MICU (ALARM message) | Loss of communication | (see page 22-69) |
| B1057 | Relay control module lost communication with MICU (DOORSW message) | Loss of communication | (see page 22-68) |
| B1060 | Relay control module lost communication with gauge control module (VSP/NE message) | Loss of communication | (see page 22-69) |
| B1061 | Relay control module lost communication with gauge control module (A/T message) | Loss of communication | (see page 22-69) |
| B1062 | Relay control module lost communication with combination switch control unit (HLSW message) | Loss of communication | (see page 22-69) |
| B1063 | Relay control module lost communication with combination switch control unit (WIPSW message) | Loss of communication | (see page 22-69) |
| B1065 | Relay control module lost communication with driver's MPCS unit (DRLOCKSW message) | Loss of communication | (see page 22-70) |
| B1075 | Headlight switch back-up circuit malfunction | Signal error | (see page 22-193) |
| B1076 | Windshield wiper switch back-up circuit malfunction | Signal error | (see page 22-296) |
| B1077 | Windshield wiper (As) auto switch circuit malfunction | Signal error | (see page 22-297) |
| B1078 | Daytime running lights system error (Canada) | Loss of communication | (see page 22-194) |
| B1079 | Daytime running lights system error (USA) | Loss of communication | (see page 22-194) |
| B1080 | Power supply circuit (IG1 line) input error for relay control module and MICU | Signal error | (see page 22-127) |

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## DTC Troubleshooting Index (cont'd)

**Gauge Control Module**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1150 | Communication bus line error | Loss of communication | (see page 22-129) |
| B1152 | Gauge control module internal (EEPROM) error | Internal error | (see page 22-322) |
| B1155 | Gauge control module lost communication with combination switch control unit (HLSW message) | Loss of communication | (see page 22-322) |
| B1156 | Gauge control module lost communication with combination switch control unit (WIPSW message) | Loss of communication | (see page 22-322) |
| B1157 | Gauge control module lost communication with MICU (MICU message) | Loss of communication | (see page 22-323) |
| B1158 | Gauge control module lost communication with relay control module (RM message) | Loss of communication | (see page 22-323) |
| B1159 | Gauge control module lost communication with MICU (DOORSW message) | Loss of communication | (see page 22-323) |
| B1162 | Gauge control module lost communication with Power tailgate control unit(PTG message) | Loss of communication | (see page 22-324) |
| B1168 | Gauge control module lost communication with PCM (ENG messages) | Loss of communication | (see page 22-325) |
| B1169 | Gauge control module lost communication with PCM (A/T messages) | Loss of communication | (see page 22-325) |
| B1170 | Gauge control module lost communication with VSA modulator-control unit (VSA message) | Loss of communication | (see page 22-326) |
| B1173 | Gauge control module lost communication with TPMS control unit (TPMS message) | Loss of communication | (see page 22-327) |
| B1175 | Fuel level sensor (fuel gauge sending unit) circuit open | Signal error | (see page 22-328) |
| B1176 | Fuel level sensor (fuel gauge sending unit) circuit short | Signal error | (see page 22-329) |
| B1177 | Abnormal battery voltage | Battery voltage | (see page 22-330) |
| B1178 | F-CAN communication line error | Loss of communication | (see page 22-325) |
| B1180 | Gauge control module lost communication with MICU (AUTOLT message) | Loss of communication | (see page 22-323) |
| B1182 | Gauge control module lost communication with driver's MPCS unit (DRLOCKSW message) | Loss of communication | (see page 22-331) |
| B1187 | Gauge control module lost communication with SRS unit (SRS message) | Loss of communication | (see page 22-332) |
| B1188 | Gauge control module lost communication with active damper system control unit (active damper system message) | Loss of communication | (see page 22-333) |

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BACK

**Climate Control Unit**

| DTC | Description | DTC type | Page |
|---|---|---|---|
| B1200 | Communication bus line error | Loss of communication | (see page 22-129) |
| B1202 | Climate control unit internal error | Internal error | (see page 21-32) |
| B1205 | Climate control unit lost communication with gauge control module (VSP/NE massage) | Loss of communication | (see page 21-32) |
| B1206 | Climate control unit lost communication with gauge control (ECT message) | Loss of communication | (see page 21-32) |
| B1207 | Climate control unit lost communication with gauge control module (ILLUMI message) | Loss of communication | (see page 21-32) |
| B1213 | An open in the rear evaporator temperature sensor circuit | Signal error | (see page 21-33) |
| B1214 | A short in the rear evaporator temperature sensor circuit | Signal error | (see page 21-34) |
| B1215 | An open or short in the recirculation control motor circuit | Signal error | (see page 21-36) |
| B1223 | A problem in the rear blower motor circuit | Signal error | (see page 21-38) |
| B1225 | An open in the in-car temperature circuit | Signal error | (see page 21-41) |
| B1226 | A short in the in-car temperature sensor circuit | Signal error | (see page 21-43) |
| B1227 | An open in the outside air temperature sensor circuit | Signal error | (see page 21-44) |
| B1228 | A short in the outside air temperature sensor circuit | Signal error | (see page 21-45) |
| B1229 | An open in the sunlight sensor circuit | Signal error | (see page 21-46) |
| B1230 | A short in the sunlight sensor circuit | Signal error | (see page 21-47) |
| B1231 | An open in the evaporator temperature sensor circuit | Signal error | (see page 21-48) |
| B1232 | A short in the evaporator temperature sensor circuit | Signal error | (see page 21-50) |
| B1233 | An open in the driver's air mix control motor circuit | Signal error | (see page 21-51) |
| B1234 | A short in the driver's air mix control motor circuit | Signal error | (see page 21-52) |
| B1235 | A problem in the driver's air mix control linkage, door, motor or motor circuit | Signal error | (see page 21-55) |
| B1236 | An open in the passenger's air mix control motor circuit | Signal error | (see page 21-56) |
| B1237 | A short in the passenger's air mix control motor circuit | Signal error | (see page 21-57) |
| B1238 | A problem in the passenger's air mix control linkage, door, motor or motor circuit | Signal error | (see page 21-60) |
| B1239 | An open or short in the mode control motor circuit | Signal error | (see page 21-62) |
| B1240 | A problem in the mode control linkage, doors, motor, or motor circuit | Signal error | (see page 21-64) |
| B1241 | A problem in the blower motor circuit | Signal error | (see page 21-65) |

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## DTC Troubleshooting Index (cont'd)

**Climate Control Unit**

| DTC | Description | DTC type | Page |
|---|---|---|---|
| B1244 | An open in the rear air mix control motor circuit | Signal error | (see page 21-69) |
| B1245 | An short in the rear air mix control motor circuit | Signal error | (see page 21-70) |
| B1246 | A problem in the rear air mix control linkage, door, motor, or motor circuit | Signal error | (see page 21-73) |
| B2965 | Climate control unit lost communication with rear climate control panel | Loss of communication | (see page 21-74) |
| B2967 | An open in the humidity sensor circuit | Signal error | (see page 21-76) |
| B2968 | A short in the humidity sensor circuit | Signal error | (see page 21-77) |
| B2969 | Climate control unit lost communication with gauge control module (WIPSW message) | Loss of communication | (see page 21-80) |
| B2970 | Climate control unit lost communication with gauge control module (RM message) | Loss of communication | (see page 21-81) |
| B2979 | An open in the A/C pressure sensor circuit | Signal error | (see page 21-81) |
| B2980 | A short in the A/C pressure sensor circuit | Signal error | (see page 21-83) |
| B2981 | Climate control unit lost communication with navigation unit | Loss of communication | (see page 21-86) |
| B2983 | A problem in the recirculation control linkage, door, motor, or motor circuit | Signal error | (see page 21-88) |
| B2991 | Climate control unit lost communication with audio unit | Loss of communication | (see page 21-89) |

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**Combination Switch Control Unit**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1250 | Communication bus line error | Loss of communication | (see page 22-129) |
| B1252 | Combination switch control unit internal (EEPROM) error | Internal error | (see page 22-195) |
| B1255 | Combination switch control unit lost communication with MICU | Loss of communication | (see page 22-196) |
| B1275 | Combination light switch OFF position circuit malfunction | Signal error | (see page 22-196) |
| B1276 | Combination light switch parking (SMALL) position circuit malfunction | Signal error | (see page 22-196) |
| B1277 | Headlight switch AUTO position circuit malfunction | Signal error | (see page 22-196) |
| B1278 | Headlight switch ON position circuit malfunction | Signal error | (see page 22-196) |
| B1279 | Headlight switch DIMMER position circuit malfunction | Signal error | (see page 22-197) |
| B1280 | Turn signal switch circuit malfunction | Signal error | (see page 22-197) |
| B1281 | Windshield wiper switch MIST position circuit malfunction | Signal error | (see page 22-299) |
| B1282 | Windshield wiper switch INT position circuit malfunction | Signal error | (see page 22-299) |
| B1283 | Windshield wiper switch LOW position circuit malfunction | Signal error | (see page 22-299) |
| B1284 | Windshield wiper switch HIGH position circuit malfunction | Signal error | (see page 22-299) |

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## DTC Troubleshooting Index (cont'd)

**Power Tailgate Control Unit**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1350 | Communication bus line error | Loss of communication | (see page 22-129) |
| B1352 | Power tailgate control unit internal (EEPROM) error | Internal error | (see page 22-496) |
| B1355 | Power tailgate control unit lost communication with MICU (MICU message) | Loss of communication | (see page 22-496) |
| B1356 | Power tailgate control unit lost communication with driver's MPCS unit (DRLOCKSW message) | Loss of communication | (see page 22-497) |
| B1357 | Power tailgate control unit lost communication with gauge control module (VSP/NE message) | Loss of communication | (see page 22-497) |
| B1358 | Power tailgate control unit lost communication with driver's MPCS unit (ASLOCKSW message) | Loss of communication | (see page 22-497) |
| B1359 | Power tailgate control unit lost communication with gauge control module (A/T message) | Loss of communication | (see page 22-497) |
| B1375 | Driver's door power tailgate switch circuit malfunction | Signal error | (see page 22-498) |
| B1376 | Power tailgate outside handle switch circuit malfunction | Signal error | (see page 22-499) |
| B1377 | Inside tailgate lid switch circuit malfunction | Signal error | (see page 22-500) |
| B1378 | Power tailgate right pinch sensor circuit malfunction | Signal error | (see page 22-501) |
| B1379 | Power tailgate left pinch sensor circuit malfunction | Signal error | (see page 22-502) |
| B1380 | Tailgate closer unit open switch circuit malfunction | Signal error | (see page 22-503) |
| B1381 | Tailgate closer unit close switch circuit malfunction | Signal error | (see page 22-505) |
| B1382 | Tailgate closer unit full latch switch circuit malfunction | Signal error | (see page 22-507) |
| B1383 | Tailgate closer unit ratchet switch circuit malfunction | Signal error | (see page 22-509) |
| B1384 | Tailgate closer unit half latch switch circuit malfunction | Signal error | (see page 22-511) |
| B1386 | Power tailgate sensor pulse A circuit malfunction | Signal error | (see page 22-513) |
| B1387 | Power tailgate sensor pulse B circuit malfunction | Signal error | (see page 22-514) |
| B1388 | Power tailgate motor circuit malfunction | Signal error | (see page 22-515) |
| B1389 | Power tailgate motor clutch circuit malfunction | Signal error | (see page 22-518) |
| B1390 | Power tailgate closer function error | Signal error | (see page 22-519) |

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**HandsFreeLink Control Unit**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1750 | Communication bus line error (BUS-OFF) | Loss of communication | (see page 22-129) |
| B1775 | Microphone input/output short to power/open | Signal error | (see page 23-262) |
| B1776 | Microphone input/output short to ground/open | Signal error | (see page 23-263) |
| B1779 | HFL switch or HFL-voice control switch (HFL talk/ HFL back buttons) circuit open/short | Signal error | (see page 23-265) |
| B1780 | HFL-voice control switch (HFL talk/HFL back buttons) circuit short | Signal error | (see page 23-266) |
| B1785 | Incorrect configuration (VEHINFO Frame) | Signal error | (see page 23-267) |
| B1786 | HandsFreeLink control unit lost communication with gauge control module (VEHINFO Frame) | Signal error | (see page 23-268) |
| B1792 | HandsFreeLink control unit internal error | Internal error | (see page 23-270) |

**Immobilizer-Keyless Control Unit**

| DTC | Description | DTC type | Page |
|---|---|---|---|
| B1900 | Communication bus line error (BUS-OFF) | Signal error | (see page 22-129) |
| B1905 | Immobilizer-keyless control unit lost communication with driver's MPCS unit (DRLOCKSW message) | Signal error | (see page 22-401) |
| B1906 | Immobilizer-keyless control unit lost communication with gauge control module (A/T message) | Signal error | (see page 22-402) |

**Rear MICU**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1950 | Communication bus line error (BUS-OFF) | Loss of communication | (see page 22-129) |
| B1955 | Rear MICU lost communication with MICU (MICU message) | Loss of communication | (see page 22-73) |
| B1956 | Rear MICU lost communication with gauge control module (A/T message) | Loss of communication | (see page 22-73) |
| B1957 | Rear MICU lost communication with combination switch control unit (HLSW message) | Loss of communication | (see page 22-74) |
| B1958 | Rear MICU lost communication with combination switch control unit (WIPSW message) | Loss of communication | (see page 22-74) |
| B1959 | Rear MICU lost communication with relay control module (RM message) | Loss of communication | (see page 22-74) |

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## DTC Troubleshooting Index (cont'd)

**Power Seat Control Unit**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B1800 | Communication bus line error | Loss of communication | (see page 22-129) |
| B1802 | Power seat control unit internal (EEPROM) error | Internal error | (see page 22-424) |
| B1805 | Power seat control unit lost communication with gauge control module (VSP/NE message) | Loss of communication | (see page 22-424) |
| B1806 | Power seat control unit lost communication with MICU (MICU message) | Loss of communication | (see page 22-425) |
| B1808 | Power seat control unit lost communication with gauge control module (A/T message) | Loss of communication | (see page 22-424) |
| B1810 | Power seat control unit lost communication with MICU (MIRRORSW message) | Loss of communication | (see page 22-425) |
| B1811 | Power seat control unit lost communication with MICU (DOORSW message) | Loss of communication | (see page 22-425) |
| B1812 | Power seat control unit lost communication with driver's MPCS unit (MEMSW message) | Loss of communication | (see page 22-425) |
| B1825 | Power seat slide motor pulse error | Signal error | (see page 22-426) |
| B1826 | Power seat front up-down motor pulse error | Signal error | (see page 22-430) |
| B1827 | Power seat rear up-down motor pulse error | Signal error | (see page 22-434) |
| B1828 | Power seat recline motor pulse error | Signal error | (see page 22-438) |
| B1829 | A/T P signal and VSS signal mismatch | Signal error | (see page 22-442) |
| B1835 | Tilt/telescopic switch signal input error | Signal error | (see page 22-443) |
| B1836 | Power seat position sensor circuit short | Signal error | (see page 22-445) |
| B1837 | Driving position memory recall timeout | Signal error | (see page 22-447) |
| B1840 | Tilt motor pulse error | Signal error | (see page 22-448) |
| B1841 | Telescopic motor pulse error | Signal error | (see page 22-451) |
| B1842 | Power tilt/telescopic position sensor power supply circuit (SVCC line) short | Signal error | (see page 22-455) |
| B1843 | Power seat control unit lost communication with power tilt/telescopic steering control unit (UART line) | Signal error | (see page 22-457) |
| B1844 | Power seat slide switch circuit malfunction | Signal error | (see page 22-459) |
| B1845 | Power seat recline switch circuit malfunction | Signal error | (see page 22-460) |
| B1846 | Power seat front up-down switch circuit malfunction | Signal error | (see page 22-461) |
| B1847 | Power seat rear up-down switch circuit malfunction | Signal error | (see page 22-462) |

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BACK

**Driver's MPCS Unit**

| DTC | Description | DTC type | Page |
|---|---|---|---|
| B2150 | Communication bus line error | Loss of communication | (see page 22-129) |
| B2152 | Driver's MPCS unit internal (EEPROM) error | Internal error | (see page 22-130) |
| B2155 | Driver's MPCS unit lost communication with MICU (MICU message) | Loss of communication | (see page 22-130) |
| B2156 | Driver's MPCS unit lost communication with MICU (MIRRORSW message) | Loss of communication | (see page 22-130) |
| B2157 | Driver's MPCS unit lost communication with gauge control module (ILLUMI message) | Loss of communication | (see page 22-131) |
| B2160 | Driver's MPCS unit lost communication with gauge control module (VSP/NE message) | Loss of communication | (see page 22-131) |
| B2161 | Driver's MPCS unit lost communication with MICU (DOORSW message) | Loss of communication | (see page 22-130) |
| B2162 | Driver's MPCS unit lost communication with Relay control module (RM message) | Loss of communication | (see page 22-131) |
| B2175 | Driver's window motor pulse A error | Signal error | (see page 22-264) |
| B2176 | Driver's window motor pulse B error | Signal error | (see page 22-266) |
| B2177 | Front passenger's window motor pulse A error | Signal error | (see page 22-268) |
| B2178 | Front passenger's window motor pulse B error | Signal error | (see page 22-270) |
| B2179 | Driver's door key cylinder switch LOCK/UNLOCK signal error | Signal error | (see page 22-152) |
| B2180 | Driver's door lock switch LOCK/UNLOCK signal error | Signal error | (see page 22-153) |
| B2181 | Driver's door lock knob switch LOCK/UNLOCK signal error | Signal error | (see page 22-154) |
| B2182 | Left power mirror horizontal sensor signal error | Signal error | (see page 22-463) |
| B2183 | Left power mirror vertical sensor signal error | Signal error | (see page 22-465) |
| B2184 | Right power mirror horizontal sensor signal error | Signal error | (see page 22-467) |
| B2185 | Right power mirror vertical sensor signal error | Signal error | (see page 22-469) |
| B2186 | Front passenger's door lock switch LOCK/UNLOCK signal error | Signal error | (see page 22-155) |
| B2187 | Communication line (UART line) communication error (Driver's MPCS unit from Driver's MPCS unit) | Signal error | (see page 22-272) |
| B2188 | Communication line (UART line) circuit open | Signal error | (see page 22-274) |
| B2189 | Driver's window position detect circuit error | Signal error | (see page 22-275) |
| B2190 | Front passenger's window position detect circuit error | Signal error | (see page 22-276) |
| B2191 | Passenger's MPCS unit internal (EEPROM) error | Internal error | (see page 22-277) |

**AcuraLink Control Unit**

| DTC | Description | DTC Type | Page |
|---|---|---|---|
| B2200 | Communication bus line error | Loss of communication | (see page 22-129) |
| B2202 | AcuraLink control unit EEPROM error | Loss of communication | (see page 23-241) |
| B2204 | B-CAN communication line error | Loss of communication | (see page 23-241) |
| B2205 | F-CAN communication line error | Loss of communication | (see page 23-242) |
| B2207 | Navigation unit control unit lost communication with AcuraLink control unit | Loss of communication | (see page 23-243) |
| B2208 | HandsFreeLink control unit lost communication with AcuraLink control unit | Loss of communication | (see page 23-246) |
| B2209 | AcuraLink control unit internal error | Loss of communication | (see page 23-249) |
| B2240 | XM antenna error | Signal error | (see page 23-250) |

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## System Description

### MICU Control Functions

The MICU (built into the under-dash fuse/relay box) is one of the B-CAN system components. The MICU controls many systems related to the body controller area and a security system, and also works as a gateway to diagnose the other B-CAN connected ECUs with the HDS.

The MICU also controls the function of these circuits:
Refer to each system circuit diagram for details.

- Entry lights control (individual map lights and ceiling light)
- Exterior lights control (including the daytime running lights control and back-up lights)
- Interlock system
- Keyless entry
- Power door locks
- Security alarm
- Turn signal/hazard flasher
- Tailgate actuator
- Automatic lighting
- Impact sensing door lock release
- Door mirror switch
- S-NET (IMOCD)

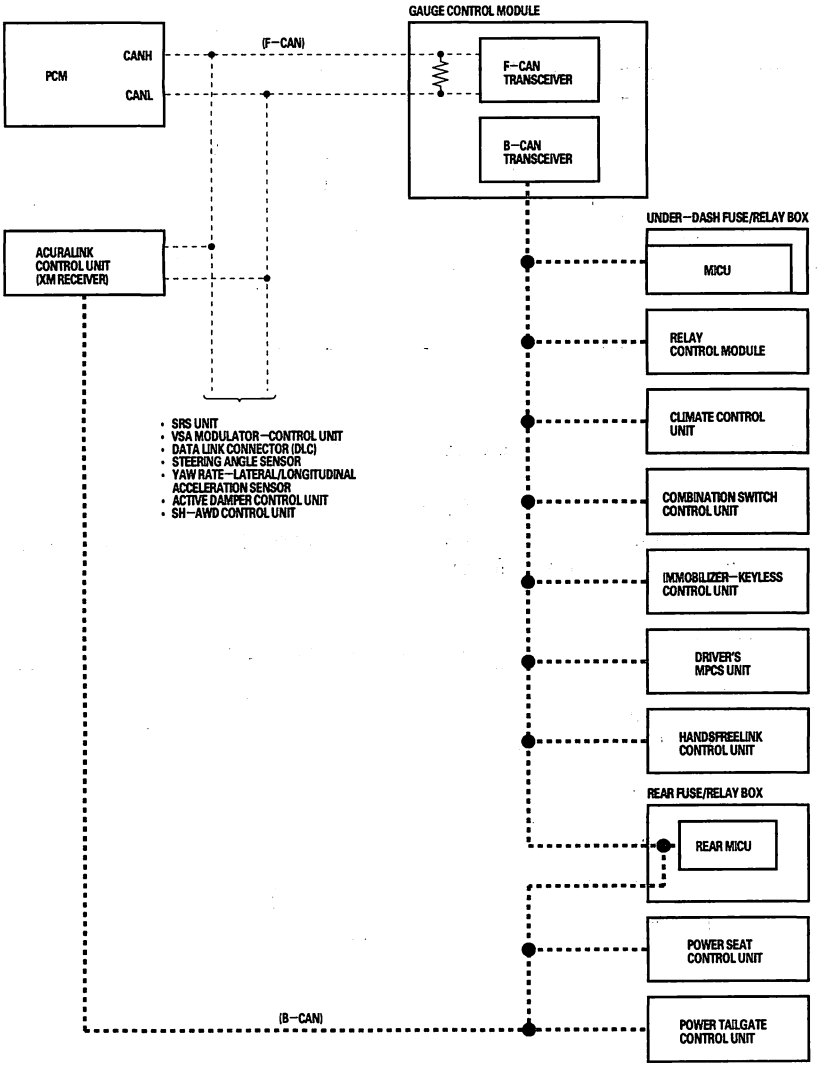
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BACK

## Body Controller Area Network (B-CAN) and Fast Controller Area Network (F-CAN)

The body controller area network (B-CAN) and the fast controller area network (F-CAN) share information between multiple electronic control units (ECUs). B-CAN communication moves at a slower speed (33.33 kbps) for convenience related items and for other functions. F-CAN information moves at a faster speed (500 kbps) for "real time" functions such as fuel and emissions data. To allow both systems to share information, the gauge control module translates information from B-CAN to F-CAN and from F-CAN to B-CAN.




- The single wire method is used between the units not requiring the communication to move at a fast speed.
- Using a single wire method reduces the number of the wires used on the body controller area network.

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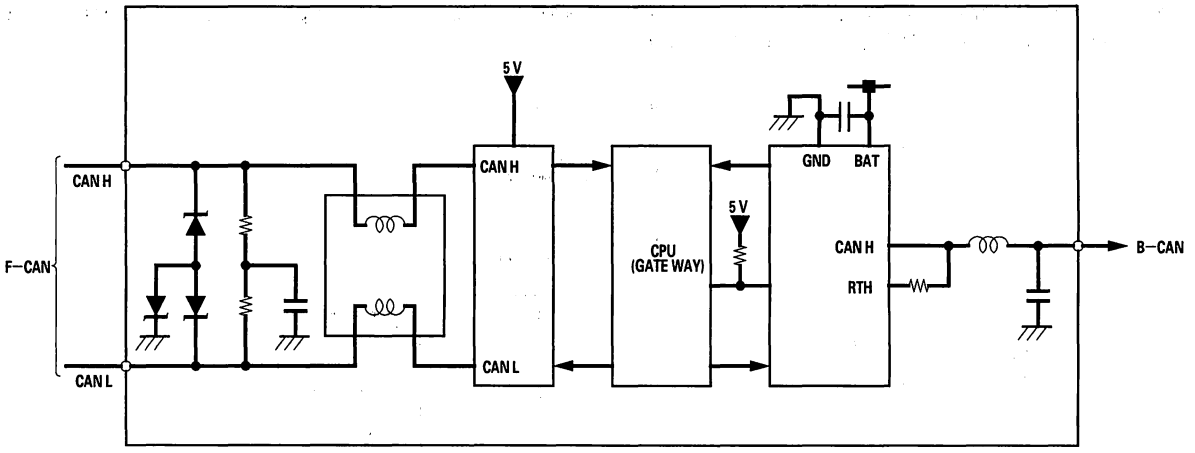


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## System Description (cont'd)

### Gateway Function

The gauge control module acts as a gateway to allow both systems to share information, the gauge control module translates information from B-CAN to F-CAN and from F-CAN to B-CAN.




### Network "Loss of Communication" Error Checking Function

The ECUs on the CAN circuit send messages to each other. If there are any malfunctions on the network, the odo/trip display on the gauge control module can indicate the error messages by entering the gauge self-diagnostic function (see page 22-315). There are three types of messages as follows:

**Error Code List**

| Error code | Type of communication line(s) error |
|---|---|
| Error 1 | F-CAN communication |
| Error 2 | B-CAN communication |
| Error 12 | F-CAN and B-CAN communication |

**Example: Error 1**



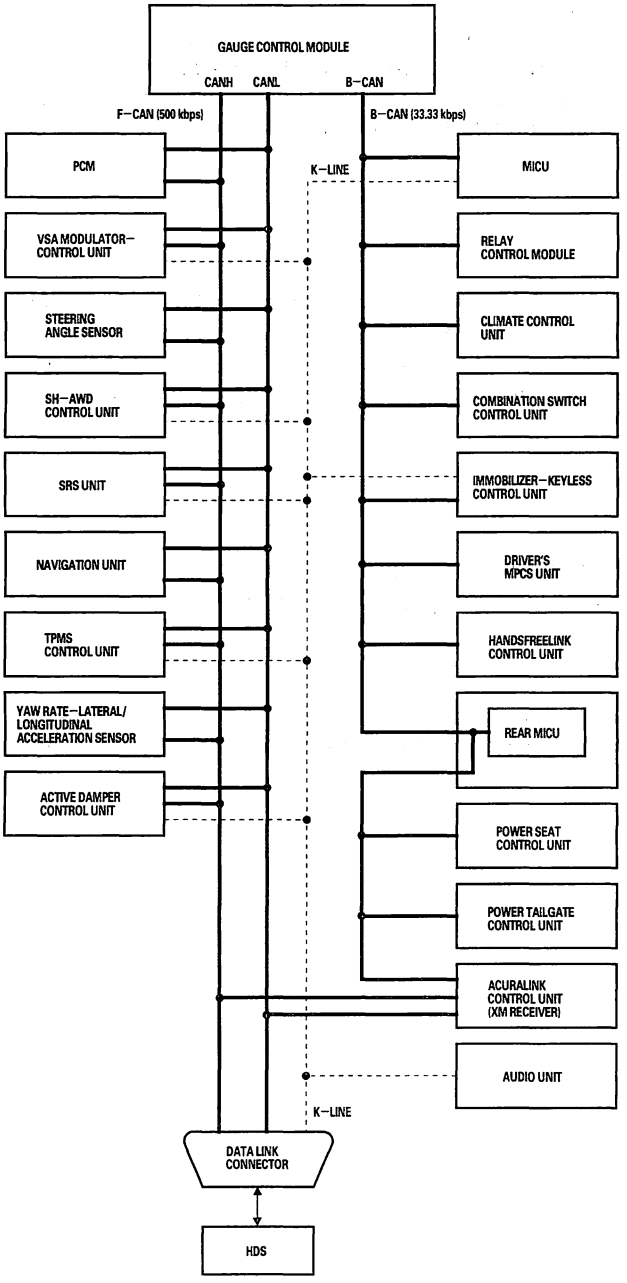

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BACK

## Self-diagnostic Function

By connecting the HDS to the data link connector (DLC), the HDS can retrieve the diagnostic results from the MICU via a diagnostic BUS called the K-LINE. The K-LINE is different from the CAN line, and connected to the CAN related ECUs. The MICU is a gateway between the HDS and B-CAN related ECUs, and sends B-CAN diagnostic results to the HDS. When performing a function test with the HDS, the HDS sends an output signal through the K-LINE to the MICU. The MICU either relays the request to another ECU, or commands the function itself.




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## System Description (cont'd)

### Wake-up and Sleep Function

The multiplex integrated 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 MICU 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 door is opened, then closed, there is a delay about 40 seconds before the control unit goes from the wake-up mode to the sleep mode.
- The sleep mode will not function if any door is opened or if the ignition switch is turned ON (II).
- The draw is reduced from 200 mA to less than 35 mA when in the sleep mode.

NOTE: Sleep and Wake-up Mode Test (see page 22-119).

### Fail-safe Function

To prevent improper operation, the MICU 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 a CPU malfunction, and a software fail-safe function that ignores the signal from a malfunctioning control unit , which allows the system to operate normally.

### Hardware Fail-safe Control

**Fail-safe function**
When a CPU problem or a abnormal power supply voltage is detected, the MICU moves to the hardware fail-safe mode, and each system output load is set to the pre-programmed fail-safe value.

### Software Fail-safe Control

When any of the data from the B-CAN circuit cannot be received within a specified time, or an unusual combination of the data is recognized, the MICU moves to the software fail-safe mode. The data that cannot be received is forced to a pre-programmed value.

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## Power Supply Voltage Monitoring Function

The MICU monitors the power supply voltage (back-up voltage). If the voltage goes below 10 V, the MICU sends a MICU message and will not store DTCs.

| | Input | Output |
|---|---|---|
| MICU | Battery voltage | |
| B-CAN | | MICU message |

## Entry Lights Control System (Ceiling Lights, Ignition Key Light)

The MICU controls the ceiling light and ignition key light ON/OFF based upon the input signals from each switch.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Interior lights<br>Ignition key light |
| B-CAN | Driver's door lock knob switch (LOCK)<br>Keyless LOCK/UNLOCK signal<br>Tailgate latch switch | |

## Back-up Lights

The MICU controls the back-up lights based upon the ignition switch (IG1) and the transmission range switch (R) signals.

| | Input | Output |
|---|---|---|
| MICU | Ignition switch (ACC)<br>Transmission range switch (R) | Back-up lights |

## Turn Signal/Hazard Flasher

The MICU controls the turn signal/hazard flasher lights based upon the input signals from the turn signal switch and the hazard warning switch.

| | Input | Output |
|---|---|---|
| MICU | Hazard warning switch | Turn signal lights (left)<br>Turn signal lights (right) |
| B-CAN | Turn signal switch (left)<br>Turn signal switch (right) | |

## Collision Detection Signal (CDS)

The MICU controls the door lock actuators based upon the IG1 and the SRS signals.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply | Door lock actuators (LOCK/UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Front impact sensor<br>Side impact sensor (first)<br>Side impact sensor (second)<br>SRS unit rollover signal | |

## Automatic Lighting System

The MICU controls the automatic lighting system based upon the IG1, IG2, automatic lighting sensor signals, and B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | Ignition switch (IG1)<br>Ignition switch (IG2)<br>Automatic lighting sensor signal | Headlight back-up signal |
| B-CAN | Headlight switch (AUTO)<br>Vehicle speed pulse signal<br>Engine speed signal | AUTOLT messages |

(cont'd)



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## System Description (cont'd)

### Headlight Washer Operation

The MICU controls the headlight washer system based upon the headlight switch and washer switch signals.

| | Input | Output |
|---|---|---|
| MICU | Windshield washer switch | |
| B-CAN | | Headlight washer messages |

### Key Interlock

The MICU controls the key interlock solenoid based upon the ignition switch (ACC), the transmission range switch, and the park-pin switch signals.

| | Input | Output |
|---|---|---|
| MICU | Ignition switch (ACC)<br>Transmission range switch (P)<br>Park-pin switch | Key interlock solenoid |

### Power Door Locks (Unlock all doors and tailgate at the same time)

The MICU controls the door lock actuators based upon the input signals of each switch.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Door lock actuators (LOCK)<br>Door lock actuators (UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock switch (LOCK/UNLOCK)<br>Driver's door key cylinder switch (LOCK/UNLOCK)<br>Driver's door lock knob switch (LOCK)<br>Front passenger's door lock switch (LOCK/UNLOCK)<br>Tailgate latch switch | |

### Power Door Locks (Unlock only the driver's door first)

The MICU controls the door lock actuators based upon the input signals of each switch.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Door lock actuators (LOCK)<br>Door lock actuators (UNLOCK)<br>Driver's door lock actuator (UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock switch (LOCK/UNLOCK)<br>Driver's door key cylinder switch (UNLOCK)<br>Driver's door lock knob switch (LOCK)<br>Front passenger's door lock switch(LOCK/UNLOCK)<br>Tailgate latch switch | |

### Door Lock Response Operation

The MICU controls the door lock actuators based upon the B-CAN signals.

| | Input | Output |
|---|---|---|
| B-CAN | Door lock signal | Door lock actuators (LOCK)<br>Door lock actuators (UNLOCK)<br>Driver's door lock actuator (UNLOCK)<br>Tailgate release actuator (UNLOCK) |

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## Keyless Entry System (Unlock all doors and tailgate at the same time)

The MICU controls the door lock actuators based upon the input signals of each switch and the B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Door lock actuators (LOCK)<br>Door lock actuators (UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock switch (LOCK/UNLOCK)<br>Driver's door key cylinder switch (LOCK/UNLOCK)<br>Driver's door lock knob switch (LOCK)<br>Front passenger's door lock switch (LOCK/UNLOCK)<br>Keyless LOCK/UNLOCK signal<br>Tailgate latch switch | Relock message |

## Keyless Entry System (Unlock only the driver's door first)

The MICU controls the door lock actuators based upon the input signals of each switch and the B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Door lock actuators (LOCK)<br>Door lock actuators (UNLOCK)<br>Driver's door lock actuator (UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock switch (LOCK/UNLOCK)<br>Driver's door key cylinder switch (LOCK/UNLOCK)<br>Driver's door lock knob switch (LOCK)<br>Front passenger's door lock switch(LOCK/UNLOCK)<br>Keyless LOCK/UNLOCK signal<br>Tailgate latch switch | Relock message |

## Answer Back Response Operation

The MICU controls the turn signal lights based upon the B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply | Turn signal lights (left)<br>Turn signal lights (right) |
| B-CAN | Answer back signal (buzzer)<br>Answer back signal (hazard)<br>Vehicle speed pulse signal<br>Engine speed signal | |

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## System Description (cont'd)

### Auto Power Door Locks (LOCK operation)

The MICU controls the door lock actuators based upon the input signals of each switch.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Transmission range switch (P position)<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Door lock actuators (LOCK) |
| B-CAN | Driver's door lock knob switch (UNLOCK)<br>Front passenger's door lock knob switch(UNLOCK)<br>Left rear door lock knob switch (UNLOCK)<br>Right rear door lock knob switch (UNLOCK)<br>Vehicle speed pulse signal<br>Engine speed signal<br>Tailgate latch switch | |

### Auto Power Door Locks (UNLOCK operation)

The MICU controls the door lock actuators based upon the input signals of each switch.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Transmission range switch (P position)<br>Ignition key switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Door lock actuators (UNLOCK)<br>Driver's door lock actuator (UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock knob switch (UNLOCK)<br>Front passenger's door lock knob switch(UNLOCK)<br>Left rear door lock knob switch (UNLOCK)<br>Right rear door lock knob switch (UNLOCK)<br>Tailgate latch switch | |

### Tailgate Outer Handle Switch Operation (Unlock all doors and tailgate at the same time)

The MICU controls the tailgate release actuator based upon the tailgate outer handle switch and the B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | | Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock knob switch (LOCK/UNLOCK)<br>Door lock signal<br>Tailgate outer handle switch | |

### Tailgate Outer Handle Switch Operation (Unlock only the driver's door first)

The MICU controls the tailgate release actuator based upon the tailgate outer handle switch and the B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | | Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock knob switch (LOCK/UNLOCK)<br>Front passenger's door lock knob switch (UNLOCK)<br>Left rear door lock knob switch (UNLOCK)<br>Right rear door lock knob switch (UNLOCK)<br>Tailgate outer handle switch | |

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## Security Alarm System

The MICU controls the lighting system and horn based upon the input signals of each switch and the B-CAN signals.

| | Input | Output |
|---|---|---|
| MICU | IG1 power supply<br>Ignition key switch<br>Audio switch<br>Driver's door switch<br>Front passenger's door switch<br>Left rear door switch<br>Right rear door switch | Inclining sensor |
| B-CAN | Driver's door key cylinder switch (LOCK/UNLOCK)<br>Front passenger's door lock knob switch (UNLOCK)<br>Left rear door lock knob switch (UNLOCK)<br>Right rear door lock knob switch (UNLOCK)<br>Keyless LOCK/UNLOCK signal<br>Door lock signal<br>Relay control module (Hood switch)<br>Tailgate latch switch | MICU (SET 1) message<br>MICU (SET 2) message<br>ALARM (ACTION) message<br>ALARM (HORN) message<br>ALARM (H/L LOW) message<br>ALARM (SMALL LT) message<br>ALARM (CYCLE) message<br>ANSWER BACK (SMALL LT) message<br>ANSWER BACK (BUZZER) message |

## Prevention of Key Locked Inside Vehicle

The MICU controls the door lock actuators based upon the input signals of each switch.

| | Input | Output |
|---|---|---|
| MICU | Ignition key switch<br>Driver's door switch | Door lock actuators (LOCK)<br>Door lock actuators (UNLOCK)<br>Driver's door lock actuator (UNLOCK)<br>Tailgate release actuator (UNLOCK) |
| B-CAN | Driver's door lock knob switch (UNLOCK) | |

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## System Description (cont'd)

### HDS Inputs and Commands

Certain inputs happen so quickly that the HDS can not update fast enough. Hold the switch that is being tested while monitoring the Data List. This should give the HDS time to update the signal on the Data List.
Because the HDS software is updated to support the release for newer vehicles it is not uncommon to see system function tests that are not supported.
Make sure that the most current software is loaded.

**Input:**

| System Menu | Data List | Data List Indication |
|---|---|---|
| Gauge | Cruise Control Main Switch (ACC Switch) | ON/OFF |
| | Cruise Control Set Switch | ON/OFF |
| | Cruise Control Resume Switch | ON/OFF |
| | Washer Fluid Level Switch | ON/OFF |
| | VSA/TCS Off Switch | ON/OFF |
| | Parking Brake Switch | ON/OFF |
| | Illumination Plus Switch | ON/OFF |
| | Illumination Minus Switch | ON/OFF |
| | Select/Reset Switch | ON/OFF |
| | INFO Previous Switch | ON/OFF |
| | INFO Next Switch | ON/OFF |
| | ACC Distance Switch | ON/OFF |
| | CMBS Cancel Switch | ON/OFF |
| | Fuel Sending Unit Input 1 | deg |
| | Fuel Sending Unit Input 2 | V |
| | VSA/TCS Active Indicator | ON/OFF |
| | VSA/TCS Indicator (Warning) | ON/OFF |
| | ABS Indicator | ON/OFF |
| | EBD Indicator (Electronic Brake Distribution) | ON/OFF |
| | Cruise Control Main Switch Indicator | ON/OFF |
| | MIL Indicator | ON/OFF |
| | Washer Fluid Level Indicator (Canada) | ON/OFF |
| | DRL Indicator | ON/OFF |
| | CMBS Indicator | ON/OFF |
| | ACC Indicator | ON/OFF |
| | Low Oil Pressure Indicator | ON/OFF |
| | Charging System Indicator | ON/OFF |
| | Cruise Main Switch ON Indicator | ON/OFF |
| | Maintenance Minder Indicator | ON/OFF |
| | High Beam Indicator | ON/OFF |
| | Parking Light ON Indicator | ON/OFF |
| | Low Fuel Warning Indicator | ON/OFF |
| | Security Indicator | ON/OFF |
| | Fog Light Indicator | ON/OFF |
| | Master Warning Indicator | ON/OFF |
| | Seatbelt Indicator | ON/OFF |
| | Low Tire Pressure Indicator | ON/OFF |
| | TPMS Indicator | ON/OFF |
| | Power Tailgate Indicator | ON/OFF |
| | SH-AWD Indicator | ON/OFF |
| | Door Open Indicator | ON/OFF |
| | Differential Oil Temp Indicator | ON/OFF |
| | Maintenance Minder Change Oil Indicator | ON/OFF |
| | Fuel Fill Cap Caution | ON/OFF |
| | A/T Indicator | ON/OFF |
| | SRS Indicator | ON/OFF |
| | Side Airbag Cutoff Indicator | ON/OFF |
| | CMBS Radar Become Dirty | ON/OFF |
| | Outside Temperarure Indicator | ON/OFF |
| | Radiator Fan Indicator | ON/OFF |
| | Starter Relay Indicator | ON/OFF |
| | A/T Gear Position Switch (R) | ON/OFF |
| | A/T Gear Position Switch (P) | ON/OFF |

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## HDS Inputs and Commands

**Input:**

| System Menu | Data List | Data List Indication |
|---|---|---|
| Lighting | Headlight Switch (OFF) | OFF/ON |
| | Headlight Switch (PARKING) | OFF/ON |
| | Headlight Switch (HEADLIGHT) | OFF/ON |
| | Headlight Switch (AUTO) | OFF/ON |
| | Headlight Switch (High Beam) | OFF/ON |
| | Headlight Switch (PASSING) | OFF/ON |
| | Turn Signal Switch (LEFT) | OFF/ON |
| | Turn Signal Switch (RIGHT) | OFF/ON |
| | Fog Light Switch | OFF/ON |
| | Driver's Door Switch | OFF/ON |
| | Ignition Key Cylinder Light Command | OFF/ON |
| | Interior Light Command | OFF/ON |
| | Left Turn Signal Command | OFF/ON |
| | Right Turn Signal Command | OFF/ON |
| | Autolight Small Command | OFF/ON |
| | Autolight Headlight Command | OFF/ON |
| | Autolight Warning Command | V |
| | Autolight Headlight Backup line Command | OFF/ON |
| | Headlight Switch (BACK-UP) | OFF/ON |
| | Ignition Switch (IG1) | OFF/ON |
| | Headlight Command | OFF/ON |
| | Headlight High Beam Command | OFF/ON |
| | Parking Light Command | OFF/ON |
| | Fog Light Command | OFF/ON |
| | DRL Command | OFF/ON |
| | Interior Small Light Command | OFF/ON |
| | Inner Taillight Command | OFF/ON |
| | Rear Fog Light Command | OFF/ON |
| Doors | Driver's Door Lock Switch Illumination Command | OFF/ON |
| | Driver's Door Courtesy Light Command | OFF/ON |
| | Front Passenger's Door Courtesy Light Command | OFF/ON |
| | Front Passenger's Door Lock Switch Illumination Command | OFF/ON |
| | Front Passenger's Door Switch | OFF/ON |
| | Driver's Rear Door Switch | OFF/ON |
| | Passenger's Rear Door Switch | OFF/ON |
| | Door LOCK Command | OFF/ON |
| | Door UNLOCK Command | OFF/ON |
| | Driver's Door UNLOCK Command | OFF/ON |
| | Tailgate Switch | OFF/ON |
| | Tailgate Knob Switch (UNLOCK) | OFF/ON |
| | Fuel Fill Door Command | OFF/ON |
| | Driver's Key Cylinder Switch (LOCK) | OFF/ON |
| | Driver's Key Cylinder Switch (UNLOCK) | OFF/ON |
| | Driver's Door Lock Switch (LOCK) | OFF/ON |
| | Driver's Door Lock Switch (UNLOCK) | OFF/ON |
| | Driver's Door Lock Knob Switch (LOCK) | OFF/ON |
| | Driver's Door Lock Knob Switch (UNLOCK) | OFF/ON |
| | Front Passenger's Door Switch (LOCK) | OFF/ON |
| | Front Passenger's Door Switch (UNLOCK) | OFF/ON |
| | Front Passenger's Door Knob Switch (UNLOCK) | OFF/ON |
| | Left Rear Door Knob Switch (UNLOCK) | OFF/ON |
| | Right Rear Door Knob Switch (UNLOCK) | OFF/ON |

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## System Description (cont'd)

### HDS Inputs and Commands

**Input:**

| System Menu | Data List | Data List Indication |
|---|---|---|
| Keyless | Driver's Door Switch | OFF/ON |
| | Front Passenger's Door Switch | OFF/ON |
| | Driver's Rear Door Switch | OFF/ON |
| | Passenger's Rear Door Switch | OFF/ON |
| | Door LOCK Command | OFF/ON |
| | Door UNLOCK Command | OFF/ON |
| | Driver's Door UNLOCK Command | OFF/ON |
| | Trunk Lid Release Command | OFF/ON |
| | Ignition Switch (IG1) | OFF/ON |
| | Tailgate Knob Switch (UNLOCK) | OFF/ON |
| | Keyless Buzzer Command | OFF/ON |
| | Driver's Key Cylinder Switch (LOCK) | OFF/ON |
| | Driver's Key Cylinder Switch (UNLOCK) | OFF/ON |
| | Driver's Door Lock Switch (LOCK) | OFF/ON |
| | Driver's Door Lock Switch (UNLOCK) | OFF/ON |
| | Driver's Door Lock Knob Switch (LOCK) | OFF/ON |
| | Driver's Door Lock Knob Switch (UNLOCK) | OFF/ON |
| | Front Passenger's Door Switch (LOCK) | OFF/ON |
| | Front Passenger's Door Switch (UNLOCK) | OFF/ON |
| | Front Passenger's Door Knob Switch (UNLOCK) | OFF/ON |
| | Left Rear Door Knob Switch (UNLOCK) | OFF/ON |
| | Right Rear Door Knob Switch (UNLOCK) | OFF/ON |
| Power windows | Power Window Main Switch | OFF/ON |
| | Power Window Master, Driver's AUTO Switch | OFF/ON |
| | Power Window Master, Driver's UP Switch | OFF/ON |
| | Power Window Master, Driver's DOWN Switch | OFF/ON |
| | Power Window Master, Front Passenger's UP Switch | OFF/ON |
| | Power Window Master, Front Passenger's DOWN Switch | OFF/ON |
| | Power Window Master, Left Rear UP Switch | OFF/ON |
| | Power Window Master, Left Rear DOWN Switch | OFF/ON |
| | Power Window Master, Right Rear UP Switch | OFF/ON |
| | Power Window Master, Right Rear DOWN Switch | OFF/ON |
| | Power Window Master, Passenger's AUTO Switch | OFF/ON |
| | Front Passenger's Window Switch (UP) | OFF/ON |
| | Front Passenger's Window Switch (DOWN) | OFF/ON |
| | Front Passenger's Window Switch (AUTO) | OFF/ON |
| | Driver's Window Motor A-phase Pulse Signal | NONE/DETECT |
| | Driver's Window Motor B-phase Pulse Signal | NONE/DETECT |
| | Front Passenger's Window Motor A-phase Pulse Signal | NONE/DETECT |
| | Front Passenger's Window Motor B-phase Pulse Signal | NONE/DETECT |
| | Driver's Window Motor Command | OFF/UP/DOWN |
| | Front Passenger's Window Motor Command | OFF/UP/DOWN |

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## HDS Inputs and Commands

**Input:**

| System Menu | Data List | Data List Indication |
|---|---|---|
| Power Seat/Power Mirror | Power Mirror UP Switch | OFF/ON |
| | Power Mirror MOVE LEFT Switch | OFF/ON |
| | Power Mirror DOWN Switch | OFF/ON |
| | Power Mirror MOVE RIGHT Switch | OFF/ON |
| | Power Mirror LEFT Switch | OFF/ON |
| | Power Mirror RIGHT Switch | OFF/ON |
| | Slide Switch Backward | OFF/ON |
| | Slide Switch Forward | OFF/ON |
| | Recline Switch Backward | OFF/ON |
| | Recline Switch Forward | OFF/ON |
| | Front Up-Down Switch Down | OFF/ON |
| | Front Up-Down Switch Up | OFF/ON |
| | Rear Up-Down Switch Down | OFF/ON |
| | Rear Up-Down Switch Up | OFF/ON |
| | Ignition Switch for Power Seat Control | OFF/ON |
| | A/T Gear Position Switch (P) | OFF/ON |
| | Seat MEMO Switch | OFF/ON |
| | Driver 1 Position Switch | OFF/ON |
| | Driver 2 Position Switch | OFF/ON |
| | Headrest Switch | OFF/ON |
| | Column Tilt UP Switch | OFF/ON |
| | Column Tilt DOWN Switch | OFF/ON |
| | Column Telescopic Pull Switch | OFF/ON |
| | Column Telescopic Push Switch | OFF/ON |
| | Column Auto Switch | OFF/ON |
| | Ignition Switch (ETS) | OFF/ON |
| | Slide Sensor | OFF/ON |
| | Front UP-DOWN Sensor | OFF/ON |
| | Recline Sensor | OFF/ON |
| | Rear UP-DOWN Sensor | OFF/ON |
| | Column Tilt Sensor | OFF/ON |
| | Column Telescopic Sensor | OFF/ON |
| | Slide Motor Command | OFF/FWD/RWD |
| | Recline Motor Command | OFF/FWD/RWD |
| | Front Height Motor Command | OFF/UP/DOWN |
| | Rear Height Motor Command | OFF/UP/DOWN |
| | Power Seat Buzzer Command | OFF/ON |
| | Headrest Motor | OFF/ON |
| | Column Tilt Motor | OFF/UP/DOWN |
| | Column Telescopic Motor | OFF/UP/DOWN |
| | DPMS MEM Switch | OFF/ON |
| | DPMS POS1 Switch | OFF/ON |
| | DPMS POS2 Switch | OFF/ON |
| | Left Power Mirror Horizontal Sensor | NORMAL/ABNORMAL |
| | Left Power Mirror Vertical Sensor | NORMAL/ABNORMAL |
| | Right Power Mirror Horizontal Sensor | NORMAL/ABNORMAL |
| | Right Power Mirror Vertical Sensor | NORMAL/ABNORMAL |
| | Left Power Mirror UP-DOWN Motor Command | OFF/UP/DOWN |
| | Left Power Mirror LEFT-RIGHT Motor Command | OFF/LEFT/RIGHT |
| | Right Power Mirror UP-DOWN Motor Command | OFF/UP/DOWN |
| | Right Power Mirror LEFT-RIGHT Motor Command | OFF/LEFT/RIGHT |
| | Memory Switch Position 1 Indicator Command | OFF/ON |
| | Memory Switch Position 2 Indicator Command | OFF/ON |
| | Memory Switch Illumination Command | OFF/ON |

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## System Description (cont'd)

### HDS Inputs and Commands

**Input:**

| System Menu | Data List | Data List Indication |
|---|---|---|
| Wipers | Windshield Wiper Switch (LOW) | OFF/ON |
| | Windshield Wiper Switch (HIGH) | OFF/ON |
| | Windshield Wiper Switch (MIST) | OFF/ON |
| | Rear Wiper Switch | OFF/ON |
| | Windshild Washer Switch | OFF/ON |
| | Rear Washer Switch | OFF/ON |
| | Intermittent Wiper Dwell Timer | 1—255 |
| | Brake Pedal Position Switch | OFF/ON |
| | Windshield Wiper Motor PARK Switch | OFF/ON |
| | Windshield Wiper Switch (BACK-UP) | OFF/ON |
| | Windshield Wiper Motor HI Command | OFF/ON |
| | Windshield Wiper Motor LO Command | OFF/ON |
| | Windshield Washer Motor Command | OFF/ON |
| | Rear Window Washer Motor Command | OFF/ON |
| | Rear Window Wiper Switch | OFF/ON |
| | Rear Window Wiper Command | OFF/ON |
| Security | Ignition Key Cylinder Switch | OFF/ON |
| | Driver's Door Switch | OFF/ON |
| | Front Passenger's Door Switch | OFF/ON |
| | Driver's Rear Door Switch | OFF/ON |
| | Passenger's Rear Door Switch | OFF/ON |
| | Radio Switch | OFF/ON |
| | Door LOCK Command | OFF/ON |
| | Door UNLOCK Command | OFF/ON |
| | Driver's Door UNLOCK Command | OFF/ON |
| | Trunk Lid Release Command | OFF/ON |
| | Hood Switch | OFF/ON |
| | Ignition Switch (IG1) | OFF/ON |
| | Headlight Command | OFF/ON |
| | Headlight High Beam Command | OFF/ON |
| | Parking Light Command | OFF/ON |
| | Horn Command | OFF/ON |
| | Tailgate Switch | OFF/ON |
| | Tailgate Knob Switch (UNLOCK) | OFF/ON |
| | Security Hazard Signal Command | OFF/ON |
| | Driver's Key Cylinder Switch (LOCK) | OFF/ON |
| | Driver's Key Cylinder Switch (UNLOCK) | OFF/ON |
| | Driver's Door Lock Switch (LOCK) | OFF/ON |
| | Driver's Door Lock Switch (UNLOCK) | OFF/ON |
| | Driver's Door Lock Knob Switch (LOCK) | OFF/ON |
| | Driver's Door Lock Knob Switch (UNLOCK) | OFF/ON |

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## HDS Inputs and Commands

**Input:**

| System Menu | Data List | Data List Indication |
|---|---|---|
| Power Tailgate | Power Tailgate Switch | OFF/ON |
| | Power Tailgate Outer Handle Switch | OFF/ON |
| | Power Tailgate Inner Switch | OFF/ON |
| | A/T Shift Position Switch (P) | OFF/ON |
| | Latch Gear Position Switch (Neutral) | OFF/ON |
| | Latch Gear Position Switch (Release) | OFF/ON |
| | Full Latch Switch | OFF/ON |
| | Ratchet Switch | OFF/ON |
| | Half Latch Switch | OFF/ON |
| | Power Tailgate Drive Motor Pulse A | NONE/DETECT |
| | Power Tailgate Drive Motor Pulse B | NONE/DETECT |
| | Right Power Tailgate Upper Pinch Sensor | NONE/DETECT |
| | Left Power Tailgate Upper Pinch Sensor | NONE/DETECT |
| | Power Tailgate Motor Command | OFF/OPEN/CLOSE |
| | Power Tailgate Clutch Command | OFF/ON |
| | Closer Motor Command | OFF/RELEASE/CLOSE |
| | Power Tailgate Buzzer | OFF/ON |

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## System Description (cont'd)

**Output:**

| System Menu | Data List | Data List Indication | Operation Time |
|---|---|---|---|
| Gauge | Speedometer displays value inputted | Speedometer | |
| | Tachometer displays value inputted | Tachometer | |
| | Fuel gauge displays value inputted | Fuel Level Gauge | |
| | Temperature gauge displays value inputted | Engine Temperature Gauge | |
| | Turns VSA activation indicator on/off | VSA/TCS Activation Indicator | Illuminates for 10 sec. |
| | Turns VSA indicator on/off | VSA/TCS Indicator | Illuminates for 10 sec. |
| | Turns ABS indicator on/off | ABS Indicator | Illuminates for 10 sec. |
| | Turns EBD indicator on/off | EBD Indicator (Electronic Brake Display) | Illuminates for 10 sec. |
| | Turns cruise indicator on/off | Cruise Activation Indicator | Illuminates for 10 sec. |
| | Turns MIL on/off | MIL Status | Illuminates for 10 sec. |
| | Turns DRL indicator on/off | Daytime Running Light indicator (Canada) | Illuminates for 10 sec. |
| | Turns low oil pressure indicator on/off | Engine Oil Pressure Indicator | Illuminates for 10 sec. |
| | Turns charging system indicator on/off | Charging System Indicator | Illuminates for 10 sec. |
| | Turns cruise main indicator on/off | Cruise Control Main Switch Indicator | Illuminates for 10 sec. |
| | Turns maintenance required indicator on/off | Maintenance Required Indicator | Illuminates for 10 sec. |
| | Turns high beam indicator on/off | High Beam Indicator | Illuminates for 10 sec. |
| | Turns light-on indicator on/off | Light On Indicator | Illuminates for 10 sec. |
| | Turns low fuel indicator on/off | Low Fuel Level Indicator | Illuminates for 10 sec. |
| | Turns security indicator on/off | Security Indicator | Illuminates for 10 sec. |
| | Display inputted value | Trip Meter | |
| | Turns A/T P position indicator on/off | A/T Gear Position Indicator (P) | Illuminates for 10 sec. |
| | Turns A/T R position indicator on/off | A/T Gear Position Indicator (R) | Illuminates for 10 sec. |
| | Turns A/T N position indicator on/off | A/T Gear Position Indicator (N) | Illuminates for 10 sec. |
| | Turns A/T D position indicator on/off | A/T Gear Position Indicator (D) | Illuminates for 10 sec. |
| | Turns A/T D3 position indicator on/off | A/T Gear Position Indicator (D3) | Illuminates for 10 sec. |
| | Turns A/T 2 position indicator on/off | A/T Gear Position Indicator (2) | Illuminates for 10 sec. |
| | Controls gauge illumination brightness to inputted value | Illumination Brightness Control | |
| | Turns key-in beeper on/off | Key Alarm Chime | Sounds alarm for 10 sec. |
| | Turns light-on beeper on/off | Headlight Alarm Chime | Sounds alarm for 10 sec. |
| | Turns seat belt reminder beeper on/off | Seat belt Reminder Chime | Sounds alarm for 10 sec. |
| Lighting | Turns ignition key cylinder light on/off | Ignition Key Cylinder Light Command | Illuminates for 30 sec. |
| | Turns interior light on/off | Interior Light Command | Illuminates for 30 sec. |
| | Turns left turn signal lights on/off | Left Turn Signal Command | Blinks for 5 sec. |
| | Turns right turn signal lights on/off | Right Turn Signal Command | Blinks for 5 sec. |
| | Turns headlight on/off | Headlight Command | Operates for 15 sec. |
| | Turns headlight high beam on/off | Headlight High Beam Command | Operates for 15 sec. |
| | Turns parking lights on/off | Parking Light Command | Operates for 15 sec. |
| | Turns front fog lights on/off | Front Fog Light | Operates for 15 sec. |
| | Turns daytime running lights on/off | Daytime Running Light Signal (Canada) | Operates for 15 sec. |
| | Turns automatic headlights on/off | Automatic Lighting Headlight | Operates for 15 sec. |
| | Turns cargo area lights on/off | Cargo Area Light | Illuminates for 30 sec. |

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**Output:**

| System Menu | Data List | Data List Indication | Operation Time |
|---|---|---|---|
| Power window | Runs driver's window up | Driver's Window Up | Drives for 3 sec. |
| | Runs driver's window down | Driver's Window Down | Drives for 3 sec. |
| | Runs front passenger's window up | Front Passenger's Window Up | Drives for 3 sec. |
| | Runs front passenger's window down | Front Passenger's Window Down | Drives for 3 sec. |
| | Runs left rear window up | Left Rear Window Up | Drives for 3 sec. |
| | Runs left rear window down | Left Rear Window Down | Drives for 3 sec. |
| | Runs right rear window up | Right Rear Window Up | Drives for 3 sec. |
| | Runs right rear window down | Right Rear Window Down | Drives for 3 sec. |
| | Turns power window relay on/off | Power Window Relay | Drives for 3 sec. |
| Wiper | Turns wiper low speed on/off | Windshield Wiper Motor Low Command | Operates for 5 sec. |
| | Turns wiper high speed on/off | Windshield Wiper Motor High Command | Operates for 5 sec. |
| | Turns windshield washer on/off | Windshield Washer Command | Operates for 5 sec. |
| | Turns rear window washer on/off | Rear Window Washer Motor Command | Operates for 5 sec. |
| | Turns rear window wiper on/off | Rear Wiper Motor | Operates for 5 sec. |
| Security | Turn horns on/off | Horn Command | Operates horn for 1 sec. |
| Power Seat | Turns power seat indicator on/off | Memory Seat Indicator 1 | Illuminates for 3 sec. |
| | | Memory Seat Indicator 2 | Illuminates for 3 sec. |
| | Runs power seat motors | Power Seat: Slide Motor-Full Forward | ——— |
| | | Power Seat: Slide Motor-Full Backward | ——— |
| | | Power Seat: Front UP-DOWN Motor-Full Up | ——— |
| | | Power Seat: Front UP-DOWN Motor-Full Down | ——— |
| | | Power Seat: Rear UP-DOWN Motor-Full Up | ——— |
| | | Power Seat: Front UP-DOWN Motor-Full Down | ——— |
| | | Power Seat: Recline Motor-Full Forward | ——— |
| | | Power Seat: Recline Motor-Full Backward | ——— |
| | | Power Seat: Memory Buzzer-5 seconds | Drives for 5 sec. |
| Power Sliding Door | Operates left power sliding door | Power Slide Door Motor: Open (2 sec.) | Drives for 2 sec. |
| | | Power Slide Door Motor: Close (2 sec.) | Drives for 2 sec. |
| | | Magnet Clutch (2 sec.) | Drives for 2 sec. |
| | | Release Actuator (1.3 sec.) | Drives for 1.3 sec. |
| | | Closer Motor | ——— |
| | | Buzzer | ——— |
| | Operates right power sliding door | Power Slide Door Motor: Open (2 sec.) | Drives for 2 sec. |
| | | Power Slide Door Motor: Close (2 sec.) | Drives for 2 sec. |
| | | Magnet Clutch (2 sec.) | Drives for 2 sec. |
| | | Release Actuator (1.3 sec.) | Drives for 1.3 sec. |
| | | Closer Motor | ——— |
| | | Buzzer | ——— |
| Door | Outputs LOCK signal 1 time to all doors | Lock All Doors | 0.6 sec. |
| | Outputs LOCK signal 1 time to all doors | Unlock All | 0.6 sec. |
| | Outputs UNLOCK signal 1 time to driver's door | Unlock Driver's Side Door | 0.6 sec. |
| | Runs left sliding door lock actuator | Left Sliding Door Lock | Lock signal 1 time |
| | | Left Sliding Door Unlock | Unlock signal 1 time |
| Power Tailgate | Runs power tailgate motor | Full Open Position | ——— |
| | | Full Close Position | ——— |
| | Operates power tailgate electromagnetic clutch | Operates On For 1 sec. | Operates for 1 sec. |
| | Runs power tailgate release actuator | Open | ——— |
| | | Close | ——— |
| A/C | Turn rear window defogger relay on/off | Rear Defogger | Operates a relay for 60 sec. |

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## Troubleshooting - B-CAN System Diagnosis Test Mode A

Check the PCM for DTCs and troubleshooting PCM (see page 11-3) or F-CAN loss of communication errors first, then perform this diagnosis if the symptom is related to the B-CAN system.

Perform this diagnosis first if the symptom is related to the B-CAN system.

NOTE: Always turn the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Check the symptom against this list of B-CAN related systems:

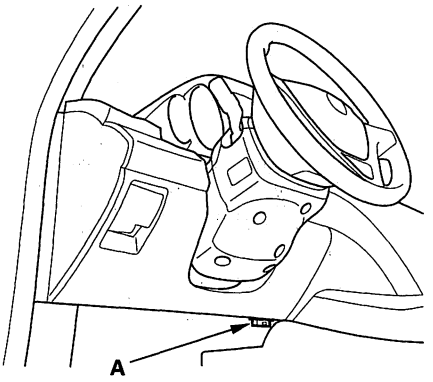
   - Gauge control module
   - Exterior lights
   - Turn signals
   - Entry light control
   - Interior lights
   - Safety indicators
   - Rear window defogger
   - HandsFreeLink
   - Horns (security and panic)
   - Chimes (key-in, seat belt, lights-on and parking brake)
   - Power windows
   - Power window/moonroof timer
   - Wiper/washer
   - Security
   - Keyless entry
   - Power door locks
   - Climate control
   - Key interlock
   - Dash light brightness
   - Driving position memory
   - Power tailgate
   - XM radio
   - Immobilizer

   *Is the symptom related to the B-CAN system?*

   **YES**—Go to step 2.

   **NO**—Go to the system troubleshooting for the system with the symptom. ■

2. Connect the HDS, then turn the ignition switch ON (II).




3. From the BODY ELECTRICAL system select menu, select UNIT INFORMATION, and then select CONNECTED UNIT listed to see if it is communicating with the HDS.

   - MICU
   - Gauge control module
   - Combination switch control unit
   - Relay control module
   - Power seat control unit
   - HandsFreeLink control unit
   - Driver's MPCS unit
   - Rear MICU
   - AcuraLink control unit (XM receiver)
   - Power tailgate control unit
   - Climate control unit
   - Immobilizer-keyless control unit

   NOTE:
   - If the unit is communicating with the HDS, DETECT will be displayed.
   - If the unit is not communicating, "Not Available" will be displayed.

   *Are all control units communicating with the HDS?*

   **YES**—Go to step 4.

   **NO**—If any of the control unit are not communicating, go to B-CAN System Diagnosis Test Mode B (see page 22-113). If all units are not communicating or only the MICU is communicating, go to DTC B1000 troubleshooting (see page 22-122). ■

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4. Select the system that has the problem from BODY ELECTRICAL system select menu, then select DTCs.

   *Are any DTCs indicated?*

   **YES**—Go to step 5.

   **NO**—If the problem is related to one of the following items, go to B-CAN System Diagnosis Test Mode C (see page 22-114), if the system does not stop or turn off. Go to Test Mode D (see page 22-115) if the system does not run or turn on.

   - Exterior lights
   - Turn signals
   - Entry light control
   - Interior lights
   - Horns (security and panic)
   - Power windows
   - Wiper/washer
   - Power door locks

   If the problem is related to one of the following items, go to the troubleshooting for that individual system. ■

   - Gauge control module
   - Safety indicators
   - Chimes (key-in, seat belt and lights-on)
   - Rear window defogger (climate control)
   - Security
   - Keyless entry
   - Climate control
   - Key interlock
   - Dash light brightness
   - Audio system
   - Navigation
   - Driving position memory
   - HandsFreeLink
   - Power tailgate
   - Immobilizer

5. Record all DTCs, and sort them by DTC type.

6. Troubleshoot the DTC(s) in this order:

   - Battery voltage DTCs.
   - Internal error DTCs.
   - Loss of communication DTCs. Begin troubleshooting with the lowest number first (Example: if DTC B1008 and B1011 are retrieved, begin by troubleshooting B1008). Refer to loss of communication DTC cross reference chart (see page 22-83).
   - Signal error DTCs.

## Troubleshooting - B-CAN System Diagnosis Test Mode B

Perform this diagnosis if any of the control units are not communicating (Not Available is displayed in the HDS) as found by the B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Using the HDS, select the system that has the symptom from BODY ELECTRICAL.

2. Select DTCs, and then check for loss of communication DTCs. Refer to loss of communication DTC cross reference chart.

   *Are any loss of communication DTCs indicated?*

   **YES**—Go to step 3.

   **NO**—Replace the MICU. ■

3. Perform the input test for the unit not communicating with the HDS.

   NOTE: Troubleshoot Rear MICU loss of communication DTCs before troubleshooting AcuraLink control unit (XM receiver) the power tailgate control unit, and the power seat control unit DTC.

| Unit not communicating |
|---|
| MICU (see page 22-132) |
| Gauge control module (see page 22-334) |
| Relay control module (see page 22-136) |
| Driver's MPCS unit (see page 22-278) |
| Combination switch control unit (see page 22-300) |
| Immobilizer-keyless control unit (see page 22-411) |
| Rear MICU (see page 22-139) |
| Power seat control unit (see page 22-477) |
| Power tailgate control unit (see page 22-522) |
| Climate control unit troubleshooting (see page 21-93) |

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## Troubleshooting - B-CAN System Diagnosis Test Mode C

Perform this diagnosis if a component that is controlled by the B-CAN system does not stop or turn off.

NOTE:
- If the component does not turn ON, go to B-CAN System Diagnosis Test Mode D (see page 22-115).
- See the B-CAN system unit input/output index for a list of input and output devices and the control units that monitor the input and controls the output devices (see page 22-94).
- Always turn the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Check for DTCs by selecting the TEST MODE menu from the HDS.

   *Are any DTCs indicated?*

   **YES**—Go to B-CAN System Diagnosis Test Mode A (see page 22-112). ■

   **NO**—Go to step 2.

2. Turn OFF the switch that controls the malfunctioning component.

3. Select DATA LIST from the TEST MODE menu, and check the input of the switch that controls the component.

   *Does the HDS indicate the switch is OFF?*

   **YES**—Go to step 4.

   **NO**—Go to step 6.

4. In DATA LIST, check the output signal of the malfunctioning component.

   *Is the output signal OFF?*

   **YES**—Go to step 5.

   **NO**—Replace the control unit that controls the device that will not turn OFF. ■

5. Check the relay if applicable, then check for a short in the wire between the relay and the component, the relay and control unit, or the component and control unit.

   *Are the relay and the wire harness OK?*

   **YES**—Replace the control unit that controls the component that will not turn OFF. ■

   **NO**—Replace the relay or repair the wire harness. ■

6. Check the switch, then check for a short in the wire between the switch and the control unit that monitors the switch.

   *Is the switch and wire harness OK?*

   **YES**—Replace the control unit that monitors the switch. ■

   **NO**—Replace the switch or repair the wire harness. ■

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# Troubleshooting - B-CAN System Diagnosis Test Mode D

Perform this diagnosis if a component that is controlled by the B-CAN system does not run or come on.

NOTE:
- If the component does not turn off or stop, go to B-CAN System Diagnosis Test Mode C (see page 22-114).
- See the B-CAN system unit input/output index for a list of input and output devices and the control units that monitor the input and controls the output devices (see page 22-94).
- Always turn the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures in this section.

1. Check the fuse of the malfunctioning output device.

   *Is the fuse OK?*

   **YES**—Go to step 2.

   **NO**—Replace the fuse and recheck. ■

2. Check for DTCs by selecting the TEST MODE menu from the HDS.

   *Are any DTCs indicated ?*

   **YES**—Go to B-CAN System Diagnosis Test Mode A (see page 22-112). ■

   **NO**—Go to step 3.

3. Turn ON the switch that controls the malfunctioning component.

4. Select DATA LIST from the TEST MODE menu, and check output signal for the malfunctioning component.

   *Is there an output signal?*

   **YES**—Go to step 5.

   **NO**—Go to step 9.

5. Check the relay and ground, then check for an open or a short in the circuit for the malfunctioning component.

   *Are the relay and circuit OK?*

   **YES**—Go to step 6.

   **NO**—Replace the relay or repair the wire circuit. ■

6. Perform the function test for the malfunctioning component.

   *Does the output device pass the function test?*

   **YES**—Go to step 7.

   **NO**—Replace the component. ■

7. With the malfunctioning output device connected, connect a voltmeter between the malfunctioning output device and body ground on the wire that the control unit uses to control the output device circuit.

8. Select MISC. TEST from the TEST MODE menu, and do the forced operation test of the malfunctioning component.

   *Is there a change in voltage (12 V to 0 V or 0 V to 12 V)?*

   **YES**—Replace the component. ■

   **NO**—Replace the control unit that controls the malfunctioning component. ■

9. Select DATA LIST from the TEST MODE menu, and make sure the switch signal input for the malfunctioning system indicates a change when operated.

   *Does the switch input indicated ON when the switch is ON?*

   **YES**—Replace the control unit that controls the malfunctioning component. ■

   **NO**—Go to step 10.

10. Check the switch and its ground (if applicable), then check for an open or a short in the wire between the switch and the control unit that monitors it.

    *Are the switch and the wire harness OK?*

    **YES**—Replace the control unit that monitors the switch. ■

    **NO**—Replace the switch or repair the wire harness. ■

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## Troubleshooting - B-CAN System Diagnosis Test Mode 1 and Test Mode 2 (without the HDS)

**Special Tools Required**
MPCS (MCIC) service connector 07WAZ-001010A

### Test Mode 1

Check the PCM for DTCs and troubleshoot PCM (see page 11-3) or F-CAN loss of communication errors first, then perform this diagnosis if the HDS is not available.

1. Check the No. 7 (10 A) and No. 21 (7.5 A) fuses in the under-dash fuse/relay box.

   *Are the fuses OK?*

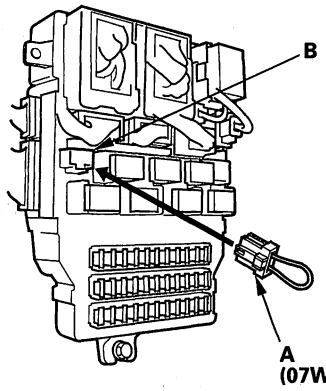
   **YES**—Go to step 2.

   **NO**—Find and repair the cause of the blown fuse.■

2. Remove the left kick panel (see page 20-76).

3. Turn the ignition switch ON (II), and move the ceiling light switch to the middle (door) position.

4. Connect the MPCS service connector (A) to the MCIC socket (B) in the under-dash fuse/relay box.




5. Wait 5 seconds, and watch the ceiling lights. When the ceiling lights flash quickly once, and then go off, the system is in Test Mode 1.

6. Check for B-CAN DTCs indicated by the gauge control module LCD display while still in Test Mode 1. Push the odometer select/reset button to display the next code. After you get to the last code, the display shows END. If no DTCs are stored, the display will read NO.

   *Are any DTCs indicated?*

   **YES**—Go to Step 7.

   **NO**—Go to Step 10.

7. Record all DTCs and sort them.

8. Troubleshoot the DTCs in this order:

   - Battery voltage DTCs
   - Internal error DTCs
   - Loss of communication DTCs (begin with the lowest number first; for example, if B1008 and B1011 are retrieved, troubleshoot B1008 first). Refer to less of communication DTC cross reference chart (see page 22-83).
   - Signal error DTCs

9. Clear the DTCs by pressing and holding the select/reset button for about 10 seconds. You will hear a beep to confirm the codes have been cleared. Operate the devices that failed, and recheck for codes.

### Test Mode 2

10. Remove the MPCS service connector from the under-dash fuse/relay box socket for 5—10 seconds, then re-insert it to enter Mode 2. When the system enters Mode 2, the ceiling light will flash two times quickly and then go off.

    NOTE: If the MPCS connector is disconnected for too short or too long of a time, or the ignition switch is turned OFF, the system will return to Test Mode 1.

11. The following tables list the circuits that can be checked in Test Mode 2. Operate the switch that is most closely related to the problem. If the circuit is OK, the ceiling lights will blink once. If the circuit is faulty, there will be no indication.

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**MICU**

| Item |
|---|
| Driver's door switch (OPEN) |
| Front passenger's door switch (OPEN) |
| Left rear door switch (OPEN) |
| Right rear door switch (OPEN) |
| Audio security ground (when disconnected) |
| Mirror select switch (LEFT, CENTER, RIGHT) |
| Mirror switch (LEFT, RIGHT, UP, DOWN) |

* The front passenger's and door lock knob switches must be in the locked position when beginning the test.

**RELAY CONTROL MODULE**

| Item |
|---|
| Windshield wiper switch (AUTO STOP/PARK) |
| Hood switch (OPEN) |

**COMBINATION SWITCH CONTROL UNIT**

| Item |
|---|
| Turn signal switch (LEFT) |
| Turn signal switch (RIGHT) |
| Combination light switch (ON; each position) |
| Dimmer switch (ON) |
| Passing switch (ON) |
| Windshield wiper switch (ON) |
| Intermittent wiper dwell timer |
| Windshield washer switch (ON) |
| Fog light switch (ON) |
| Rear window wiper switch (ON) |
| Rear window washer switch (ON) |

**REAR MICU**

| Item |
|---|
| Tailgate latch switch (ON) |
| Tailgate outer handle switch (Without power tailgate) (ON) |

**DRIVER'S MPCS UNIT**

| Item |
|---|
| Power window master switch (Driver's window UP) |
| Power window master switch (Driver's window DOWN) |
| Power window master switch (Driver's window AUTO UP) |
| Power window master switch (Driver's window AUTO DOWN) |
| Power window master switch (Front passenger's window UP) |
| Power window master switch (Front passenger's window DOWN) |
| Power window master switch (Front passenger's window AUTO UP) |
| Power window master switch (Front passenger's window AUTO DOWN) |
| Power window master switch (Left rear window UP) |
| Power window master switch (Left rear window DOWN) |
| Power window master switch (Right rear window UP) |
| Power window master switch (Right rear window DOWN) |
| Driver's door key cylinder switch* (LOCK) |
| Driver's door key cylinder switch* (UNLOCK) |
| Driver's door lock switch (LOCK) |
| Driver's door lock switch (UNLOCK) |
| Driver's door lock knob switch (LOCK) |
| Driver's door lock knob switch (UNLOCK) |
| Left rear door lock knob switch** (UNLOCK) |
| Driving position memory switches (1, 2, memo) |
| Left rear power window switch (UP) |
| Left rear power window switch (DOWN) |
| Fuel fill door opener switch (ON) |

* A second key is necessary to check the key cylinder inputs.
  Be sure to rotate the key cylinder switch two times to each position (lock and lock, unlock and unlock) to ensure the door lock knob switch is in the appropriate position.
* * The left rear door lock knob switches must be in the locked position when beginning the test.

(cont'd)

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## Troubleshooting - B-CAN System Diagnosis Test Mode 1 and Test Mode 2 (without the HDS) (cont'd)

**GAUGE CONTROL MODULE**

| Item |
|---|
| Parking brake switch (ON; parking brake applied) |
| Cruise control main SET/RESUME/CANCEL switch (ON; switch pressed) |
| Transmission range switch (P, R, N, D) |
| Washer fluid level switch (fluid removed) (Canada) |
| Brake fluid level switch (fluid removed) |
| Illumination control switches (+, −) |
| MID switches (Select/Reset, <INFO, INFO>) |

**POWER SEAT CONTROL UNIT**

| Item |
|---|
| Power seat slide switch (FORWARD, BACKWARD) |
| Power seat front up-down switch (UP, DOWN) |
| Power seat rear up-down switch (UP, DOWN) |
| Power seat recline switch (FORWARD, RECLINE) |
| Power tilt/telescopic steering switch (UP, DOWN, PUSH, PULL) |

**PASSENGER'S MPCS UNIT**

| Item |
|---|
| Front passenger's door lock knob switch* (UNLOCK) |
| Right rear door lock knob switch* (UNLOCK) |
| Front passenger's door lock switch (LOCK) |
| Front passenger's door lock switch (UNLOCK) |
| Front passenger's power window switch (UP, DOWN, AUTO) |
| Right rear power window switch (UP, DOWN) |

* The front passenger's and right rear door lock knob switches must be in the locked position when beginning the test.

*Do the map lights indicate proper switch operation?*

**YES**—Go to function and input test for the system related to the failure. ■

**NO**—Repair the open, short, or replace the faulty switch. ■

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## Sleep and Wake-up Mode Test

1. Shift to the sleep mode:
   Turn the ignition switch OFF, and remove the key, then open and close the driver's door. If the MICU receives no signals from the inputs listed below, it will go into sleep mode in less than 40 seconds.

| |
|---|
| Driver's door lock switch (LOCK or UNLOCK) |
| Driver's door key cylinder switch (LOCK or UNLOCK) |
| Front passenger's door lock switch (LOCK or UNLOCK) |
| Tailgate latch switch (Tailgate closed) |
| Hazard warning switch (OFF) |

2. Confirm the sleep mode:
   Measure the voltage on the B-CAN communication line (PNK 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 200 mA to less than 35 mA.

3. Shift to the wake up mode:
   When the ignition switch is turned ON (II), the MICU, gauge control module, immobilizer-keyless control unit-receiver, and PCM wake up at the same time without "talking" to each other through the communication lines. When any switch in the multiplex integrated control 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 related to the problem. Operate that switch and see if its control unit wakes up.

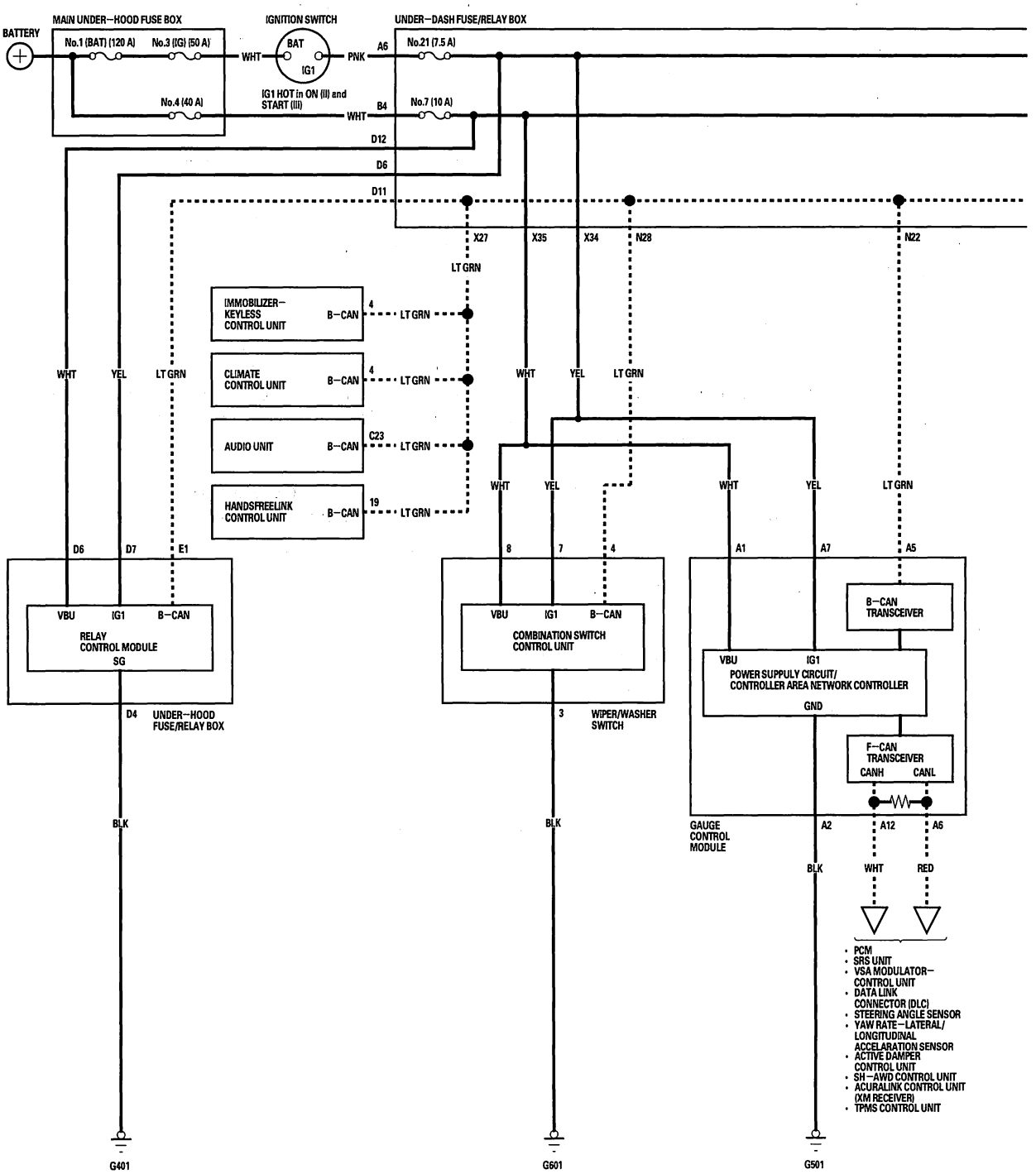
   NOTE: If any control unit is faulty and will not wake up, several circuits in the system will malfunction at the same time. In the table below, the control unit is followed by a list of the switches and input signals that can wake it up.

| |
|---|
| Door switches (door open) |
| Driver's door lock switch (LOCK or UNLOCK) |
| Driver's door lock knob switch (LOCK or UNLOCK) |
| Driver's door key cylinder switch (LOCK or UNLOCK) |
| Front passenger's door lock switch (LOCK or UNLOCK) |
| Front passenger's door lock knob switch (LOCK or UNLOCK) |
| Left rear door lock knob switch |
| Right rear door lock knob switch |
| Tailgate latch switch (Tailgate open) |
| Hood switch (hood open) |
| Hazard warning switch (ON) |
| Combination light switch (Parking, Headlight, Dimmer, Passing ON) |
| Ignition key switch (key inserted) |

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# Multiplex Integrated Control System

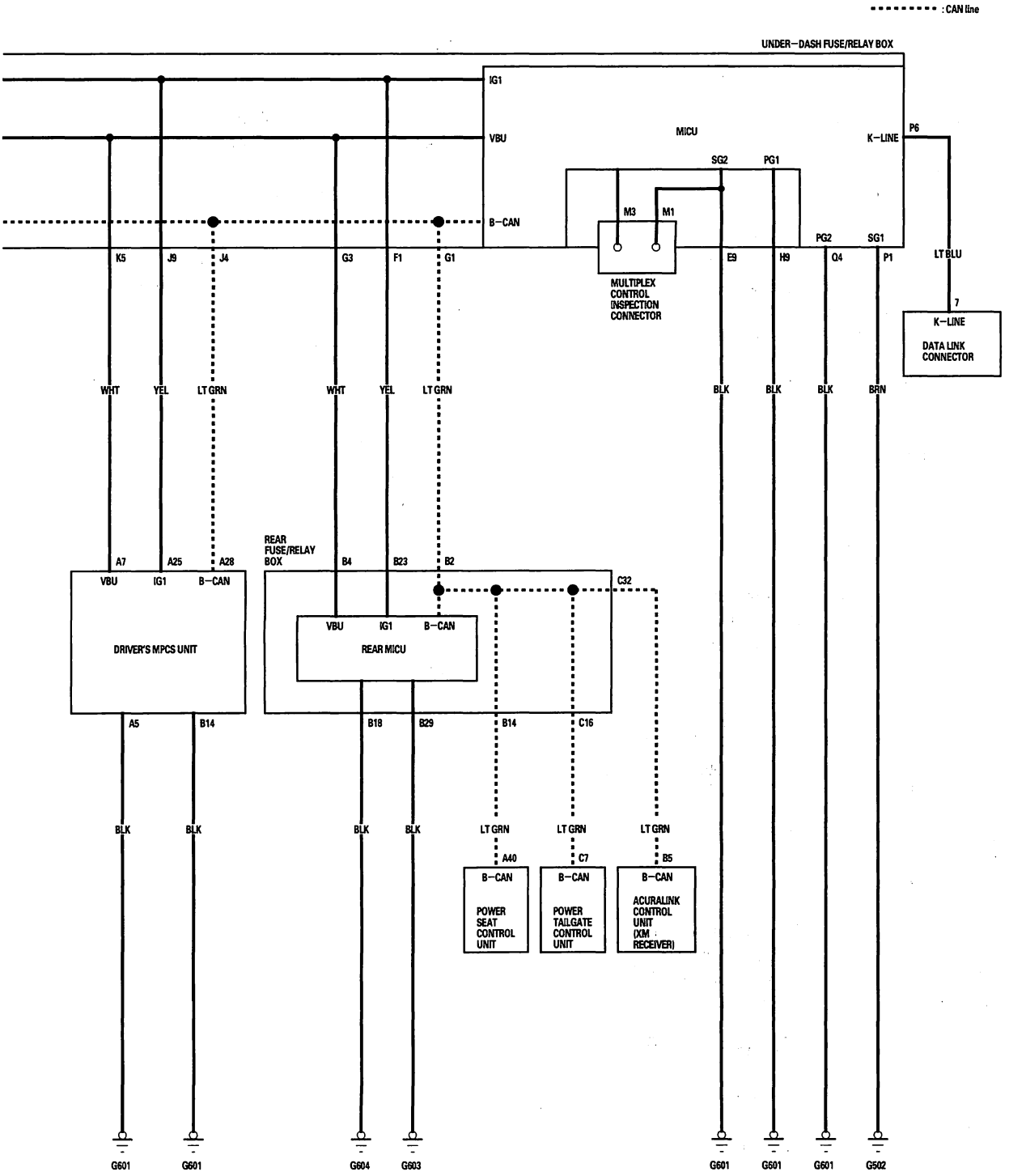
## Circuit Diagram




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## DTC Troubleshooting

### DTC B1000: Communication Bus Line Error

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.
   *Is DTC B1000 indicated?*
   **YES**—Go to step 5.
   **NO**—Intermittent failure, the communication bus line is OK at this time. Check for loose or poor connections, or worn/shorted wires. If the connections are good, check the battery condition (see page 22-76) and the charging system. ■
5. Check for DTCs with the HDS.
   *Are DTCs B1000, B1005, B1007, B1011, B1012, B 1013, B1015 and B1032 all indicated?*
   **YES**—Go to step 6.
   **NO**—Faulty MICU; replace the under-dash fuse/ relay box. ■
6. Turn the ignition switch OFF.
7. Disconnect the appropriate connector at each control unit in the table one at a time. Clear the DTC, then recheck for DTCs after each unit is disconnected.

| Control unit | Connector |
|---|---|
| Relay control module | Under-hood fuse/relay box connector E (14P) |
| Gauge control module | Connector A (12P) |
| Immobilizer-keyless control unit | 7P connector |
| Combination switch control unit | 8P connector |
| Driver's MPCS unit | Connector A (40P) |
| Climate control unit | 40P connector |
| Audio unit | Connector C (24P) |
| HandsFreeLink control unit | 28P connector |
| Power seat control unit | Connector A (40P) |
| Power tailgate control unit | Connector C (14P) |
| AcuraLink control unit (XM receiver) | Connector B (16P) |
| Rear MICU* | Rear fuse/relay box connector B (34P) |

*: Disconnect this one last

*Is DTC B1000 indicated with each individual unit disconnected?*

**YES**—Go to step 11.

**NO**—Replace the control unit that was disconnected when B1000 did not reset (If the unit is the rear MICU, go to Step 8.) ■

8. Disconnect the rear fuse/relay box connectors B (34P) and C (42P).
9. Check for continuity between each of the rear fuse/ relay box connector terminals listed in the table and body ground.

| Connected control unit | Rear fuse/relay box connector terminal |
|---|---|
| Power seat control unit | B14 |
| Power tailgate control unit | C16 |
| AcuraLink control unit (XM receiver) | C32 |

*Is there continuity?*

**YES**—Repair the short to ground in the wire between the rear fuse/relay box and the affected control unit. ■

**NO**—Go to step 10.

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10. Measure the voltage between each of the rear fuse/relay box connector terminals listed in the table and body ground.

| Connected control unit | Rear fuse/relay box connector terminal |
|---|---|
| Power seat control unit | B14 |
| Power tailgate control unit | C16 |
| AcuraLink control unit (XM receiver) | C32 |

*Is there less than 1 V?*

**YES**—Replace the rear fuse/relay box.■

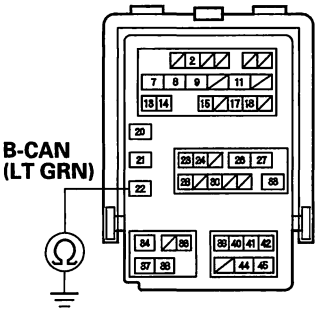
**NO**—Repair short to power in the wire between the rear fuse/ relay box and the affected control unit.■

11. Disconnect each control unit connectors in the table.

| Control unit | Connector |
|---|---|
| Relay control module | Under-hood fuse/relay box connector E (14P) |
| Gauge control module | Connector A (12P) |
| Immobilizer-keyless control unit | 7P connector |
| Combination switch control unit | 8P connector |
| Driver's MPCS unit | Connector A (40P) |
| Climate control unit | 40P connector |
| Audio unit | Connector C (24P) |
| HandsFreeLink control unit | 28P connector |

12. Check for continuity between the under-dash fuse/relay box connector N (45P) No. 22 terminal and body ground.

**UNDER-DASH FUSE/RELAY BOX CONNECTOR N (45P)**




*Is there continuity?*

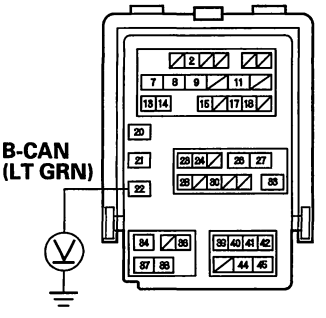
**YES**—Repair short to ground in the wire.■

**NO**—Go to step 13.

13. Turn the ignition switch ON (II).

14. Measure the voltage between the under-dash fuse/relay box connector N (45P) No. 22 terminal and body ground.

**UNDER-DASH FUSE/RELAY BOX CONNECTOR N (45P)**




*Is there battery voltage?*

**YES**—Repair short to power in the wire.■

**NO**—Faulty MICU, replace the under-dash fuse/relay box.■

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## DTC Troubleshooting (cont'd)

### **DTC B1001:** MICU Internal (CPU) Error

### **DTC B1002:** MICU Internal (EEPROM) Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1001 and/or B1002 indicated?*

   **YES**—Faulty MICU, replace the under-dash fuse/relay box. ■

   **NO**—Intermittent failure, the system is OK at this time. ■

### **DTC B1005:** MICU Lost Communication with Relay Control Module (RM Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1005 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the MICU and the relay control module. ■

5. Check for DTCs with the HDS.

   *Are DTCs B1158, B1959, B2162, and B2970 also indicated with B1005?*

   **YES**—Do the relay control module input test (see page 22-136). ■

   **NO**—Do the MICU input test (see page 22-132). ■

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## **DTC B1007:** MICU Lost Communication with Combination Switch Control Unit (HLSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1007 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the MICU and the combination switch control unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1062, B1155, and B1957 also indicated with DTC B1007?*

   **YES**—Do the combination switch control unit input test (see page 22-300). ■

   **NO**—Do the MICU input test (see page 22-132). ■

## **DTC B1011:** MICU Lost Communication with Gauge Control Module (VSP/NE Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1011 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the MICU and the gauge control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1060, B1205, B1357, B1408, B1805, and/or B2160 also indicated with DTC B1011?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Do the MICU input test (see page 22-132). ■

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## DTC Troubleshooting (cont'd)

### **DTC B1012:** MICU Lost Communication with Rear MICU (RJC Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1012 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the MICU and the rear MICU. ■
5. Check for DTCs with the HDS.

   *Is DTC B1955 indicated with DTC B1012?*

   **YES**—Do the rear MICU input test (see page 22-139). ■

   **NO**—Do the MICU input test (see page 22-132). ■

### **DTC B1013:** MICU Lost Communication with Driver's MPCS Unit (ASLOCKSW Message)

### **DTC B1015:** MICU Lost Communication with Driver's MPCS Unit (DRLOCKSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1013 and/or B1015 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the MICU and the driver's MPCS unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1065, B1082, B1356, B1358, and/or B 1905 also indicated with B1013 and/or B1015?*

   **YES**—Do the driver's MPCS unit input test (see page 22-278). ■

   **NO**—Do the MICU input test (see page 22-132). ■

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## DTC B1032: MICU Lost Communication with the SRS Unit (CDS Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1032 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Check for DTCs with the HDS.

   *Is DTC B1011 also indicated with DTC B1032?*

   **YES**—Check for an open in the wire between the MICU and the gauge control module. If the circuit is bad, repair the open. ■

   **NO**—Do the gauge control module input test (see page 22-334). ■

## DTC B1080: Ignition Key Switch Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

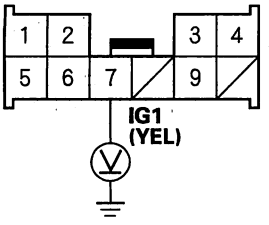
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1080 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect the under-hood fuse/relay box connector D (10P).
7. Turn the ignition switch ON (II).
8. Measure the voltage between the under-hood fuse/relay box connector D (10P) No. 7 terminal and body ground.

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR D (10P)**




Wire side of female terminals

*Is there battery voltage?*

**YES**—Substitute a known-good under-hood fuse/relay box and recheck. ■

**NO**—Go to step 9.

(cont'd)

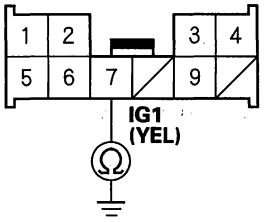
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## DTC Troubleshooting (cont'd)

9. Turn the ignition switch OFF.

10. Check for continuity between the under-hood fuse/relay box connector D (10P) No. 7 terminal and body ground.

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR D (10P)**




Wire side of female terminals

*Is there continuity?*

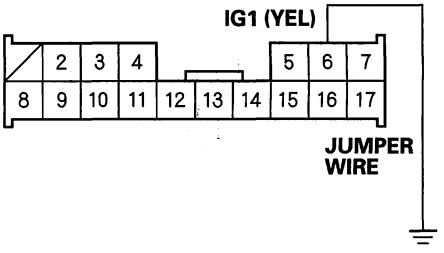
**YES**—Repair a short to ground in the wire. After repairing, replace the No. 21 (7.5 A) fuse in the under-dash fuse/relay box. ■

**NO**—Go to step 11.

11. Disconnect the under-dash fuse/relay box connector D (17P).

12. Connect the under-dash fuse/relay box connector D (17P) No. 6 terminal and body ground.

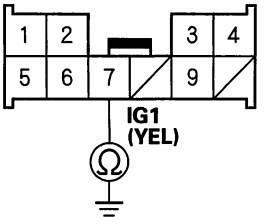
**UNDER-DASH FUSE/RELAY BOX CONNECTOR D (17P)**




Wire side of female terminals

13. Check for continuity between the under-hood fuse/relay box connector D (10P) No. 7 terminal and body ground.

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR D (10P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Substitute a known-good under-dash fuse/relay box and recheck. ■

**NO**—Repair an open in the wire. ■

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**DTC B1050:** Communication Bus Line Error

**DTC B1150:** Communication Bus Line Error

**DTC B1200:** Communication Bus Line Error

**DTC B1250:** Communication Bus Line Error

**DTC B1350:** Communication Bus Line Error

**DTC B1750:** Communication Bus Line Error

**DTC B1800:** Communication Bus Line Error

**DTC B1900:** Communication Bus Line Error

**DTC B1950:** Communication Bus Line Error

**DTC B2150:** Communication Bus Line Error

**DTC B2200:** Communication Bus Line Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Are DTCs B1050, B1150, B1200, B1250, B1350, B 1750, B1800, B1900, B1950, B2150, and/or B2200 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections at the MICU and B-CAN connected units in the table. ■

5. Check for DTCs with the HDS.

| Under-dash fuse/ relay box connector | B-CAN connected unit connector |
|---|---|
| Connector D (17P) No. 11 terminal | Under-hood fuse/relay box connector E (14P) No. 1 terminal |
| Connector N (45P) No. 22 terminal | Gauge control module Connector A (12P) No. 5 terminal |
| Connector N (45P) No. 28 terminal | Combination switch control unit 8P connector No. 4 terminal |
| Connector J (21P) No. 4 terminal | Driver's MPCS unit connector A (40P) No. 28 terminal |
| Connector X (39P) No. 27 terminal | Immobilizer-keyless control unit 7P connector No. 4 terminal |
| Connector X (39P) No. 27 terminal | Climate control unit 40P connector No. 4 terminal |
| Connector X (39P) No. 27 terminal | Audio unit connector C (24P) No. 23 terminal |
| Connector X (39P) No. 27 terminal | HandsFreeLink control unit 28P connector No. 19 terminal |
| Connector G (6P) No. 1 terminal | Power seat control unit connector A (40P) No. 40 terminal |
| Connector G (6P) No. 1 terminal | Power tailgate control unit connector C (14P) No. 7 terminal |
| Connector G (6P) No. 1 terminal | AcuraLink control unit (XM receiver) connector B (16P) No. 5 terminal |
| Connector G (6P) No. 1 terminal | Rear MICU (rear fuse/ relay box connector B (34P) |

*Is DTC B1000 also indicated?*

**YES**—Troubleshoot DTC B1000. ■

**NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections at the MICU and B-CAN connected units in the table. ■

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## DTC Troubleshooting (cont'd)

### **DTC B2152:** Driver's MPCS Unit Internal (EEPROM) Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B2152 indicated?*

   **YES**—Replace the driver's MPCS unit. ■

   **NO**—Intermittent failure, the system is OK at this time. ■

### **DTC B2155:** Driver's MPCS Unit Lost Communication with MICU (MICU Message)

### **DTC B2156:** Driver's MPCS Unit Lost Communication with MICU (MIRRORSW Message)

### **DTC B2161:** Driver's MPCS Unit Lost Communication with MICU (DOORSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Are DTCs B2155, B2156, or B2161 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the driver's MPCS unit and the MICU. ■

5. Check for DTCs with the HDS.

   *Are DTCs B1055, B1056, B1157, B1159, B1255, B 1955, B2156, and/or B2161also indicated?*

   **YES**—Faulty MICU, replace the under-dash fuse/ relay box (see page 22-72). ■

   **NO**—Do the driver's MPCS unit input test (see page 22-137). ■

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## **DTC B2157:** Driver's MPCS Unit Lost Communication with Gauge Control Module (ILLUMI Message)

## **DTC B2160:** Driver's MPCS Unit Lost Communication with Gauge Control Module (VSP/NE Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B2157 and/or B2160 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the driver's MPCS unit and the gauge control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1011, B1060, B1061, B1205, B1206, B 1207, B1359, B1906, B1956, B2157, and/or B2160 also indicated?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Do the driver's MPCS unit input test (see page 22-278). ■

## **DTC B2162:** Driver's MPCS Unit Lost Communication with Relay Control Module (RM Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B2162 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the driver's MPCS unit and the relay control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1005, B1158, B1959, B2162, and/or B 2970 also indicated?*

   **YES**—Do the relay control module input test (see page 22-136). ■

   **NO**—Do the driver's MPCS unit input test (see page 22-278). ■

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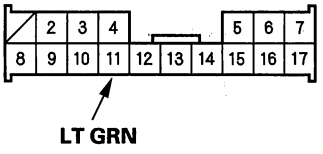
## MICU Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

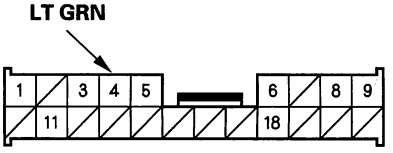
1. Turn the ignition switch OFF.
2. Remove the left kick panel (see page 20-76).
3. Disconnect the under-dash fuse/relay box connectors D, E, F, G, H, J, N, P, Q, W, and X.

   NOTE: All connector views are wire side of female terminals.

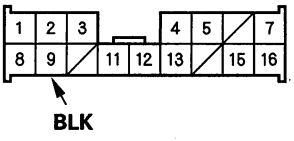
**CONNECTOR D (17P)**



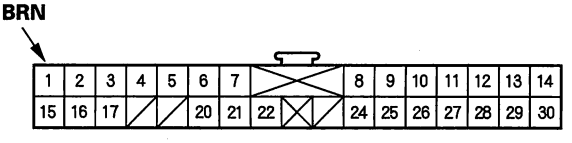

**CONNECTOR J (21P)***



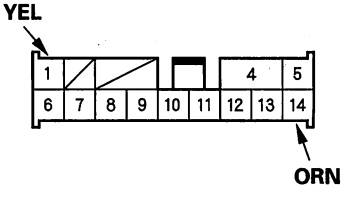

**CONNECTOR E (16P)**



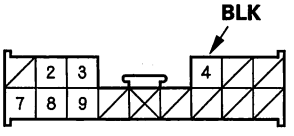

**CONNECTOR P (30P)**



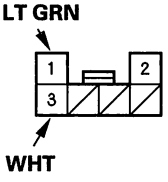

**CONNECTOR F (14P)**



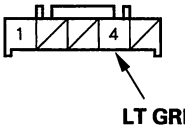

**CONNECTOR Q (14P)**



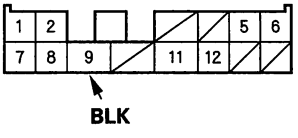

**CONNECTOR G (6P)**




**CONNECTOR W (5P)**




**CONNECTOR H (14P)**

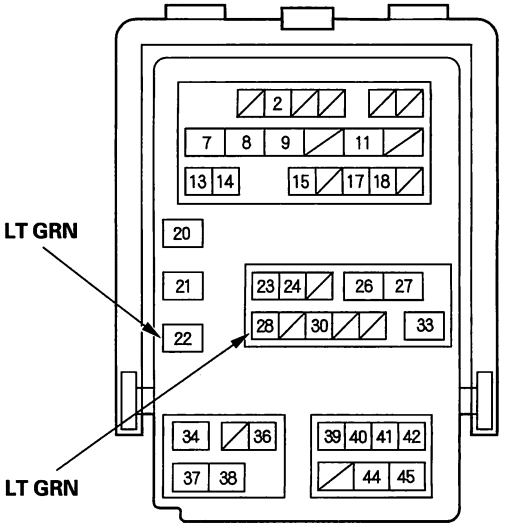



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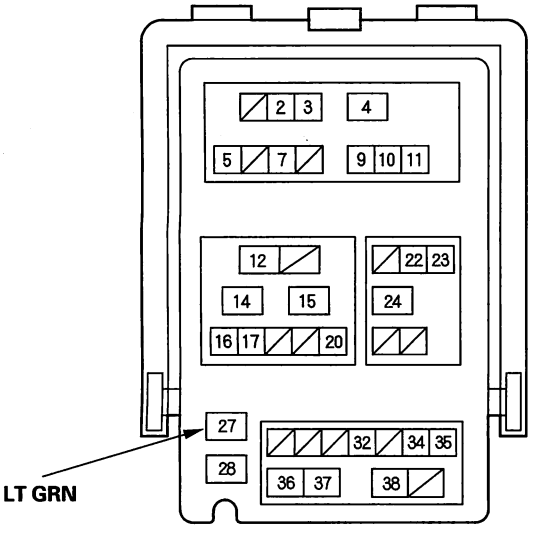


BACK

CONNECTOR N (45P)*




CONNECTOR X (39P)*




***Connector view shown rotated 180°from actual position in the under-dash fuse/relay box.**

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 connector still disconnect, make these input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| D11 | LT GRN | Under all conditions (Under-hood fuse/relay box connector E (14P) disconnected) | Check for continuity between the D11 terminal and the under-hood fuse/relay box connector E (14P) No. 1 terminal: There should be continuity. | • An open in the wire |
| | | | Check for continuity between the D11 terminal and body ground: There should be no continuity. | • A short to ground in the wire |
| G1 | LT GRN | Under all conditions (Rear fuse/relay box connector B (34P) disconnected) | Check for continuity between the G1 terminal and the rear fuse/relay box connector B (34P) No. 2 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the G1 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| J4 | LT GRN | Under all conditions (Driver's MPCS unit connector A (40P) disconnected) | Check for continuity between the J4 terminal and the driver's MPCS unit connector A (40P) No. 28 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the J4 terminal and body ground: There should be no continuity. | A short to ground in the wire |

(cont'd)

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## MICU Input Test (cont'd)

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| P6 | LT BLU | Under all conditions (MICU connector P (30P) disconnected) | Check for continuity between the P6 terminal and the DLC No. 7 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the P6 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| N22 | LT GRN | Under all conditions (Gauge control module connector A (12 P) disconnected) | Check for continuity between the N22 terminal and the gauge control module connector A (12 P) No. 5 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the N22 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| N28 | LT GRN | Under all conditions (Combination switch control unit 8P connector disconnected) | Check for continuity between the N28 terminal and the combination switch control unit 8P connector No. 4 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the N28 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| X27 | LT GRN | Under all conditions (Immobilizer-keyless control unit 7P connector disconnected) | Check for continuity between the X27 terminal and the immobilizer-keyless control unit 7P connector No. 4 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the X27 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| X27 | GRY | Under all conditions (Climate control unit 40P connector disconnected) | Check for continuity between the X27 terminal and the climate control unit 40P connector No. 4 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the X27 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| X27 | LT GRN | Under all conditions (Audio unit connector C) (24P) disconnected) | Check for continuity between the X27 terminal and the audio unit connector C (24P) No. 23 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the X27 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| X27 | LT GRN | Under all conditions (HandsFreeLink control unit 28P connector disconnected) | Check for continuity between the X27 terminal and the HandsFreeLink control unit 28P connector No. 19 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the X27 terminal and body ground: There should be no continuity. | A short to ground in the wire |

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6. Reconnect the connectors, and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box (see page 22-72).

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E9<br>H9<br>Q4 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| P1 | BRN | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G502)<br>• An open in the wire |
| F1 | YEL | Ignition switch ON (II), (Rear fuse/relay box connector B (34P) disconnected) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• A short to ground in the wire between the MICU and rear fuse/relay box |
| G3 | WHT | Under all conditions, (Rear fuse/relay box connector B (34P) disconnected) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• A short to ground in the wire between the MICU and rear fuse/relay box |
| F14 | ORN | Under all conditions | Short connection to ground: The ignition key light should come on. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Faulty ignition key light<br>• An open in the wire |
| W4 | LT GRN | Under all conditions (Interior lights switch in DOOR position) | Short connection to ground: The interior lights should come on. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Blown map lights or ceiling light bulb(s)<br>• An open in the wire |

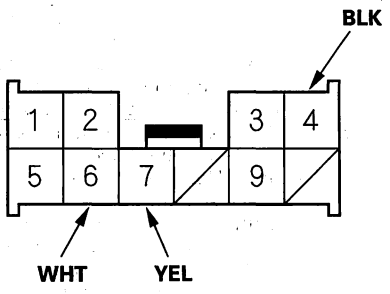
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## Relay Control Module Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

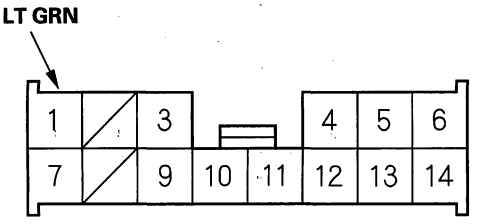
1. Turn the ignition switch OFF.
2. Remove the under-hood fuse/relay box (see page 22-72).
3. Disconnect the under-hood fuse/relay box connectors D (10P) and E (14P).

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR D (10P)**




Wire side of female terminals

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR E (14P)**




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 connectors
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E1 | LT GRN | Under all conditions (Under-dash fuse/relaybox connector D (17P) disconnected | Check for continuity between the E1 terminal and the under-dash fuse/ relay box connector D (17P) No. 11 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the E1 terminal and body ground: There should be no continuity. | A short to ground in the wire |

6. 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, replace the relay control module.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| D4 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G401)<br>• An open in the wire |
| D6 | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| D7 | YEL | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |

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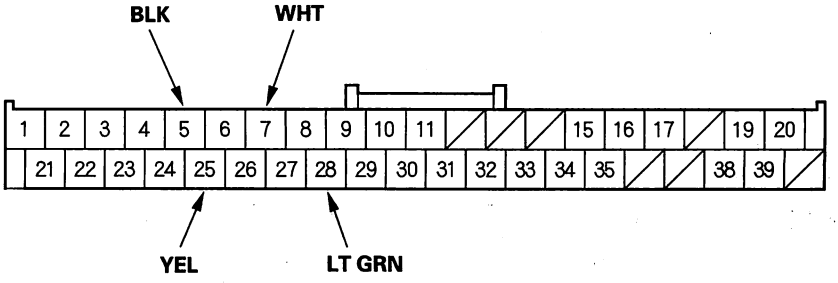
BACK

# Driver's MPCS Unit Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

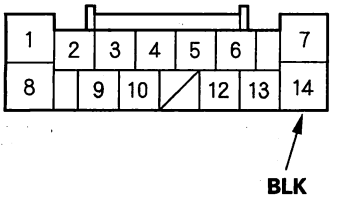
1. Turn the ignition switch OFF.
2. Remove the driver's door panel (see page 20-8).
3. Disconnect the driver's MPCS unit connectors A (40P) and B (14P).

**DRIVER'S MPCS UNIT CONNECTOR A (40P)**




Wire side of female terminals

**DRIVER'S MPCS UNIT CONNECTOR B (14P)**




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.

(cont'd)



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## Driver's MPCS Unit Input Test (cont'd)

5. With the connectors still disconnected, make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A28 | LT GRN | Under all conditions (Under-dash fuse/relay box connector J (21P) disconnected | Check for continuity between the A 28 terminal and the under-dash fuse/relay box connector J (21P) No. 4 terminal: There should be continuity. | An open in the wire. |
| | | | Check for continuity between the A 28 terminal and body ground: There should be no continuity. | A short to ground in the wire |

6. Reconnect the connectors, and make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, replace the driver's MPCS unit.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A5<br>B14 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G401)<br>• An open in the wire |
| A7 | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A25 | YEL | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |

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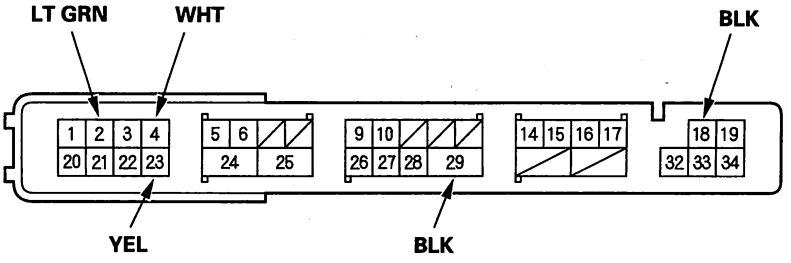
BACK

## Rear MICU Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

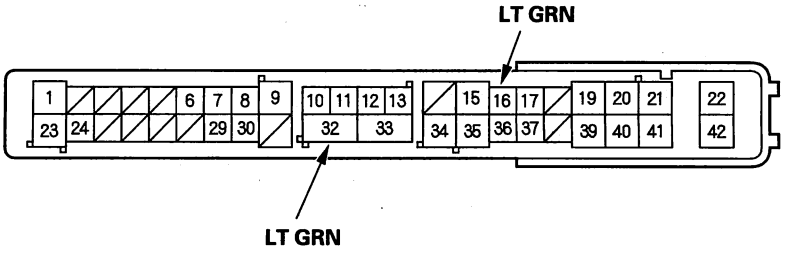
1. Turn the ignition switch OFF.
2. Remove the left rear trim (see page 20-92).
3. Disconnect the rear fuse/relay box connectors B (34P) and C (42P).

**CONNECTOR B (34P)**




Wire side of female terminals

**CONNECTOR C (42P)**




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.

(cont'd)



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## Rear MICU Input Test (cont'd)

5. With the connectors still disconnected, make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B2 | LT GRN | Under all conditions (Under-dash fuse/relay box connector G (6P) | Check for continuity between the B2 terminal and the under-dash fuse/relay box connector G (6P) No. 1 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the B2 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| B14 | LT GRN | Under all conditions (Power seat control unit connector A (40P) disconnected) | Check for continuity between the B 14 terminal and the power seat control unit connector A (40P) No. 40 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the B 14 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| C16*1 | LT GRN | Under all conditions (Power tailgate control unit connector C (14P) disconnected) | Check for continuity between the C 16 terminal and the power tailgate control unit connector C (14P) No. 7 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the C 16 terminal and body ground: There should be continuity. | A short to ground in the wire |
| C32*2 | LT GRN | Under all conditions (AcuraLink control unit (XM receiver) connector B (16P) disconnected) | Check for continuity between the C 32 terminal and the (AcuraLink control unit (XM receiver) connector B (16P) No. 5 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the C 32 terminal and body ground: There should be no continuity. | A short to ground in the wire |

* 1: With power tailgate
* 2: With AcuraLink

6. Reconnect the connectors, and make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the rear MICU must be faulty, replace the rear fuse/relay box (see page 22-75).

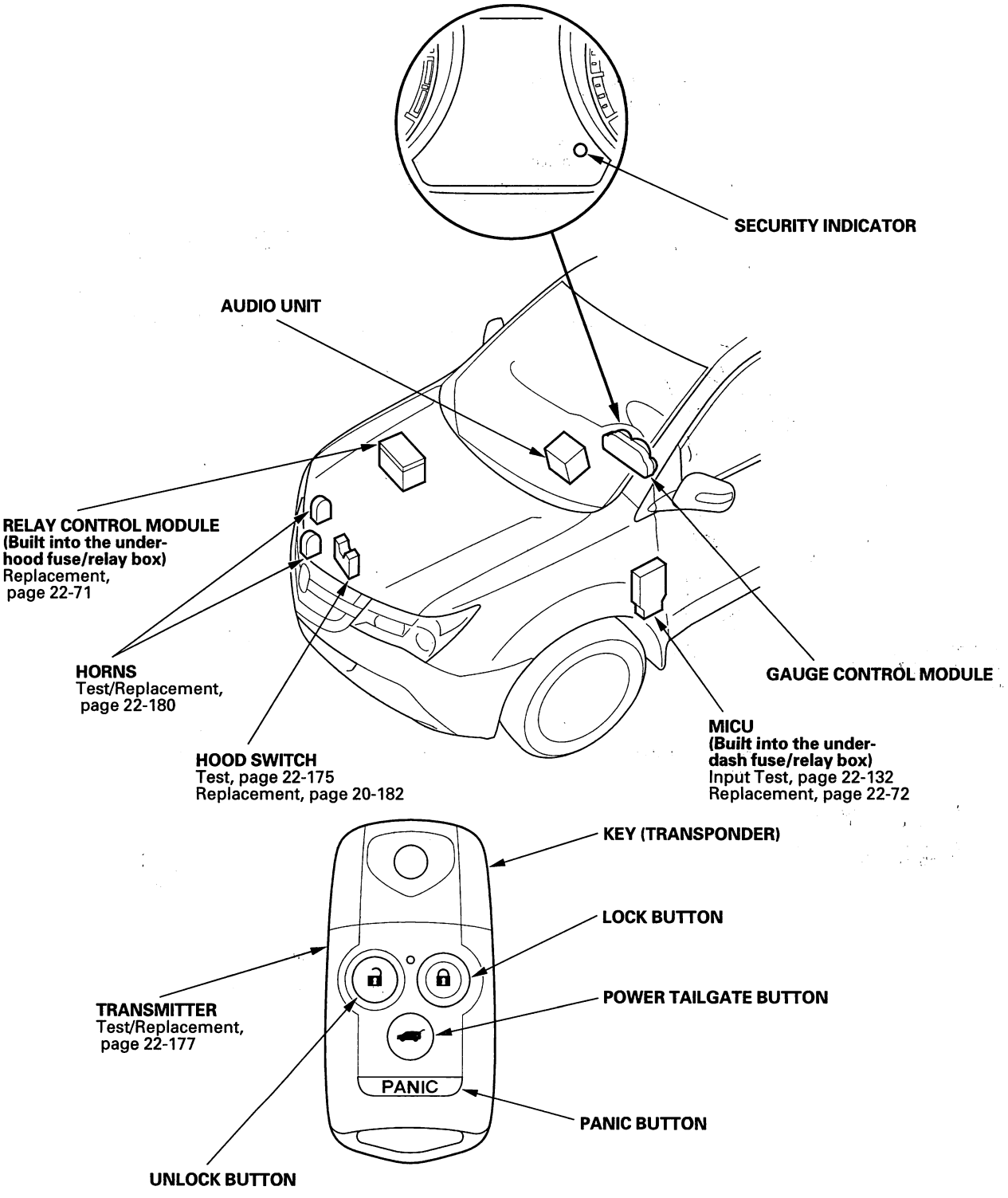
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B18<br>B29 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G603, G604)<br>• An open in the wire |
| B4 | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Faulty rear fuse/relay box<br>• An open in the wire |
| B23 | YEL | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Faulty rear fuse/relay box<br>• An open in the wire |

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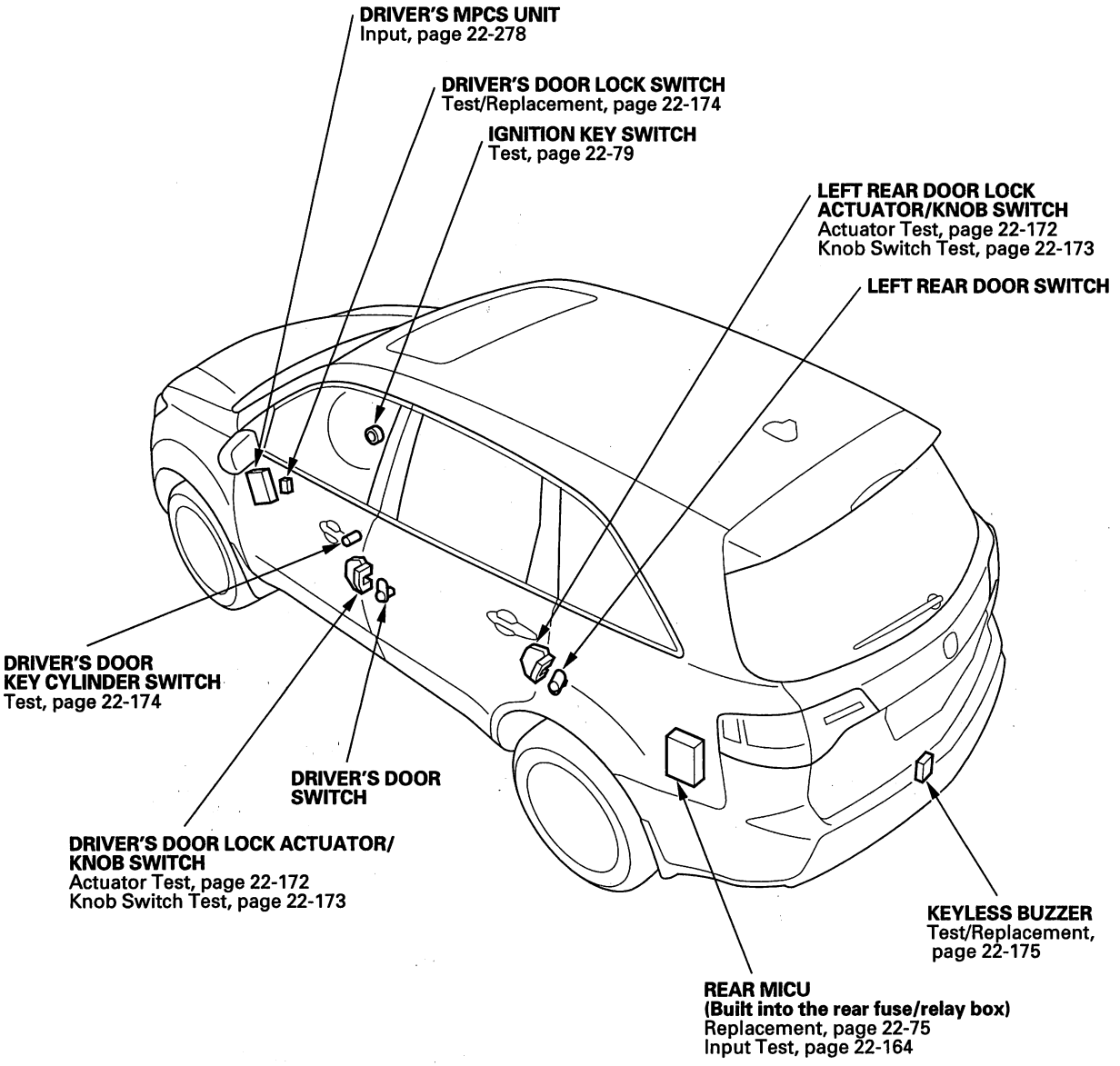



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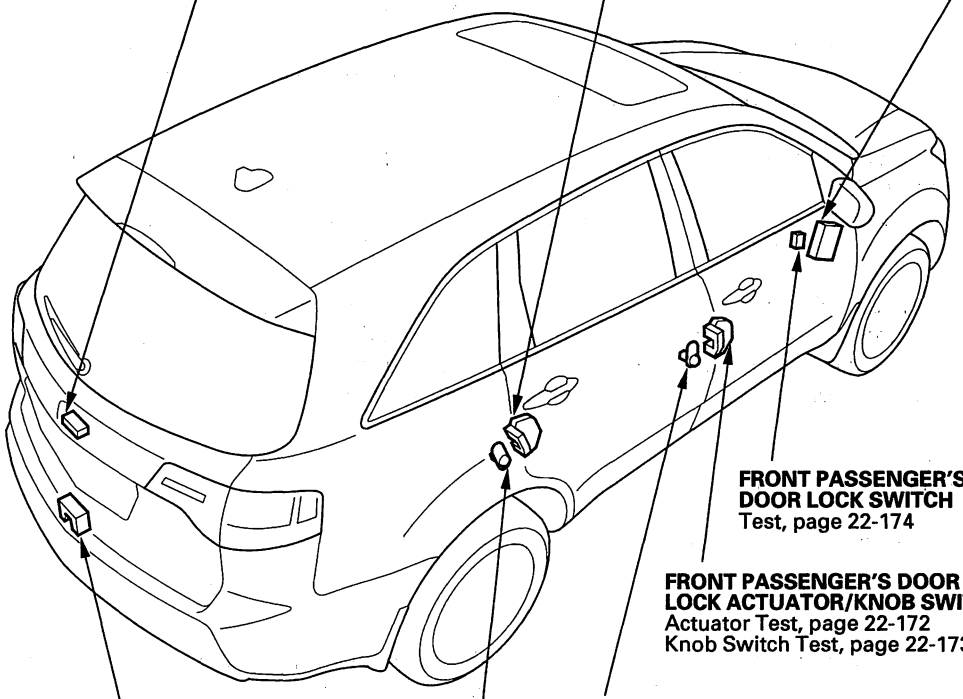
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## System Description

### Security Alarm System

The security alarm system is integrated with the multiplex integrated control system. For the system to arm, the ignition switch must be off, the key must be removed, and the MICU must receive signals that the doors, hood, and tailgate are closed and locked. The alarm can be armed or disarmed at any time by locking or unlocking the driver's door with the key or pressing the LOCK/UNLOCK button on the transmitter, the alarm can also be armed by locking (with the lock knob) then closing the driver's door.

When everything is closed and locked, the only inputs that are grounded, and have 0 V, are the driver's door lock knob switch (LOCK position), and the audio unit. In other words, all of the other switches are open, and have about 5.0 V in sleep mode or 12 V in awake mode, including the key cylinder switches. The security indicator in the gauge control module begins to flash immediately after the doors, tailgate, and hood are closed and locked, and then, after 20 seconds, the flashing intervals of the security indicator change to indicate that the alarm is fully armed. If the security indicator does not flash, the system is not arming. If the LOCK button is pressed a second time within 5 seconds (Keyless LOCK acknowledgement is turned ON) and the vehicle is completely closed and locked, a beep sounds and parking lights flash one time to confirm the security alarm system is armed.

If one of the switches is misadjusted or shorted internally (0 V), or there is a short in the circuit (0 V), the security system will not arm. A switch that is slightly misadjusted can cause the alarm to sound for no apparent reason. In this case, a significant change in outside air temperature, the vibration of a passing vehicle, or something bumping into the vehicle could cause the alarm to sound. There is no glass breakage or motion detector feature.

If anything is opened or improperly unlocked after the system is armed, the control unit receives a ground signal from that switch, the 5—12 V reference drops to 0 V, and the system sounds the alarm. If the audio unit is disconnected, the input loses its ground, and the input voltage goes to 5—12 V, and the system sounds the alarm.
The system sounds the alarm when any of following occur while the security system is armed:

- A door or the tailgate is forced open
- A door is unlocked without using the key or the transmitter
- The hood is opened
- The audio unit (or navigation unit, rear controller and screen) is disconnected
- The transmitter panic is operated
- The ignition switch is turned ON (II)

When the system sounds the alarm, the horns sound and the exterior lights flash for 2 minutes. The alarm can be stopped at any time by unlocking the driver's door with the key or by pressing any button on the transmitter.

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## Panic Mode

The panic mode sounds the alarm in order to attract attention. When the PANIC button on the transmitter is pressed and held for about 2 seconds, the alarm sounds and the exterior lights flash for about 20 seconds.

The panic mode can be cancelled at anytime by pressing any button on the remote or by turning the ignition switch ON (II). The panic mode will not function if the ignition switch is ON (II).

## Keyless Entry System

The keyless entry system is integrated with the multiplex integrated control system. Transmitters 1 and 2 (Identified on the back of each transmitter) are linked to the DPMS, the climate control settings, the custom memory settings (in the MID), the audio, the navigation and the illumination settings. Depending on which transmitter unlocks the vehicle, these settings are chosen.

Some functions of the security, keyless entry, and power door locks can be customized using the MID keyless memory setting. They include:

- AUTO DOOR LOCK: Door locking can be turned off, or turned on when shifting from Park or at a speed above 15 mph.
- AUTO DOOR UNLOCK: Door unlocking can be turned off, or turned on when shifting to Park or turning the ignition switch OFF.
- WHENEVER UNLOCKING: Door unlocking can be set to unlock all doors or only the driver's door on the first push.
- KEYLESS DOOR LOCK ACKNOWLEDGEMENT: The beep and the front parking lights can be turned on or off when pressing the LOCK/UNLOCK button on the remote.
- SECURITY RELOCK TIMER: Select the time (30, 60, or 90 sec.) that the doors relock if you unlock the doors with the remote, but do not open any of them.
- HEADLIGHT AUTO OFF TIMER: Select time (0, 15, 30, or 60 sec.) to turn the headlights off after removing the key from the ignition opening, then closing the driver's door.
- AUTO LIGHT SENSITIVITY: Automatic lighting sensor sensitivity can be adjusted five steps (MIN/LOW/MID/HIGH/MAX).
- INTERIOR LIGHT DIMMING TIMER: Select the dimming time (15, 30, or 60 sec.) of the interior lights after closing the door with the key removed from the ignition.

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(cont'd)

## System Description (cont'd)

- METER SETUP:
  Language-English/French/Espanol
  Outside air temperature-+5 +4 +3 +2 +1 0 −1 −2 −3 −4 −5
  Trip A an average Fuel Reset w/fill-ON/OFF
  Adjust alarm volume-HIGH/MID/LOW
  Elapsed time reset-manually only, IGN OFF, Trip A, Trip B
  Auto interior illumination-MAX MID LOW MIN OFF
- POSITION SETUP:
  Memory position link ON/OFF
  Auto tilt telescope steering wheel ON/OFF
  NOTE: If either of these function is turned off, they will not function with a linked remote.
- LIGHTING SETUP:
  Interior light dimming time (15, 30, 60 sec.)
  Headlight auto OFF timer (0, 15, 30, 60 sec.)
  Auto light sensitivity MAX HIGH MID LOW MIN
- DOOR WINDOW SETUP:
  Auto door lock-Shift from park with vehicle speed ON or OFF-Driver's door/All doors
  Auto door unlock-Shift to park with ignition ON or OFF-Driver's door/All doors
  Key and remote unlock mode-Driver's door/All doors
  Keyless lock acknowledgement-ON/OFF
  Security relock timer (90, 60, 30, sec)
- WIPER SETUP:
  Wiper action intermittent/with speed

The transmitters can be linked and unlinked to the keyless memory settings by pressing the LOCK and UNLOCK buttons at the same time for about 1 second. The LED on the transmitter blinks twice when unlinked, and once when linked.

The keyless entry system allows you to lock and unlock the vehicle with the transmitter. When you press the LOCK button, all the doors lock (unless any one of the doors is not fully closed or the key is in the ignition switch).

When you press the UNLOCK button first time, only the driver's door unlocks, if keyless memory setting "WHENEVER UNLOCKING" is set to Driver's Door. The other doors unlock when you press the UNLOCK button a second time. All the doors unlock when you press the UNLOCK button first time if keyless memory setting "WHENEVER UNLOCKING" is set to All Doors.

NOTE: The doors will not lock with the transmitter if a door is not fully closed, or if the ignition key is in the ignition switch.

If the UNLOCK button is pressed, released, then pressed and held, the windows and the moonroof begin to open. The windows and the moonroof stop if the button is released. The windows and moonroof cannot be closed with the remote. See power windows for more information and troubleshooting.
When the interior lights switch is in the "DOOR" position, the individual map lights will come on when the UNLOCK button is pressed. If a door is not opened, the lights will go off in about 30, 60, or 90 seconds (depending on the keyless memory setting "SECURITY RELOCK TIMER"), and the doors will relock. If the doors are locked with the transmitter within 30 seconds, the lights will go off immediately.

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# Manual Keyless Transmitter Programming/Deleting

NOTE: The keyless transmitter attaches to the ignition key and is separate from the immobilizer transponder. It is not necessary to use the HDS when replacing or deleting an existing keyless transmitter.

- Adding a key (transponder) can only be done with the HDS. If the key being added has a new remote transmitter, it can be programmed with the HDS at the end of the "ADD A KEY" function (see page 22-410).
- If one or all keys (transponders) are lost, the remote transmitters must be deleted manually. This will assure that all of the old keyless transmitters have been cleared from the immobilizer/keyless control units memory.
- When replacing the immobilizer keyless control unit, you must have all of the remote transmitters that need to be programmed to the car.
- The immobilizer keyless control unit can only store 5 keyless transmitter.
- During programming, pushing the transmitters button more than once may push other remotes out of the memory. In other words, pushing the same remotes button 5 times will delete all other remotes.

## Adding a remote transmitter

Turn the ignition ON (II) and within 4 seconds push the lock or unlock button within 4 seconds and turn it OFF, turn it back ON (II) within 4 seconds and back OFF (0). Repeat this 2 more times and the locks should cycle when the button is pushed. Turn the ignition key OFF (0) and remove the key. Wait 10 seconds and verify that the all remotes function properly.

## Adding multiple remote transmitters

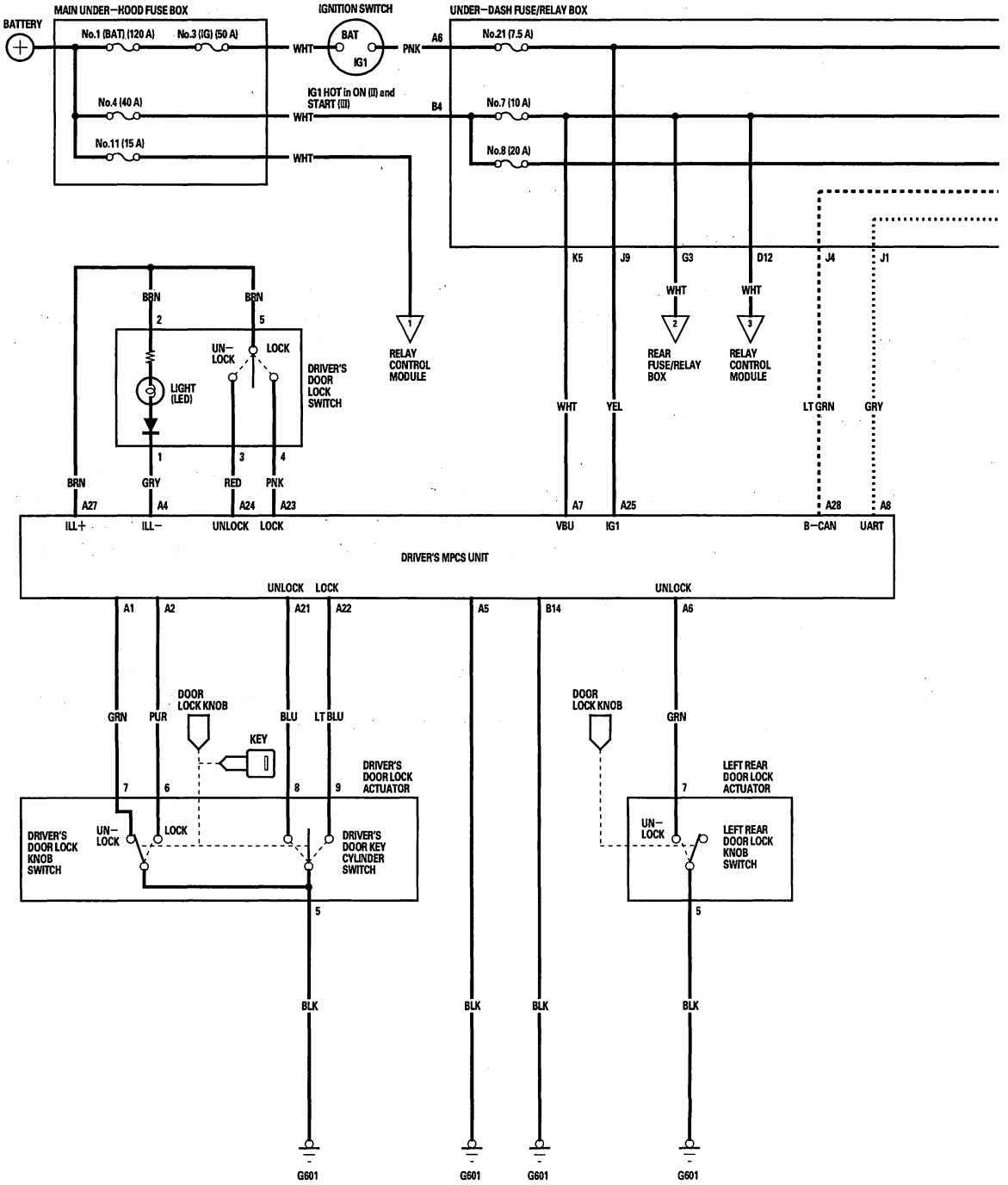
Turn the ignition ON (II) and within 4 seconds push the lock or unlock button within 4 seconds and turn it OFF, turn it back ON (II) within 4 seconds and back OFF (0). Repeat this 2 more times and the locks should cycle when the button is pushed. Push the lock or unlock button on each remote to be programmed within 4 seconds of each other. Turn the ignition key OFF (0) and remove the key. Wait 10 seconds and verify that all remotes being programmed are functioning properly.

## Deleting remotes

Turn the ignition ON (II) and within 4 seconds push the lock or unlock button within 4 seconds and turn it OFF, turn it back ON (II) within 4 seconds and back OFF (0). Repeat this 2 more times and the locks should cycle when the button is pushed. Push the same button 5 more times. This will leave only the current remote programmed.

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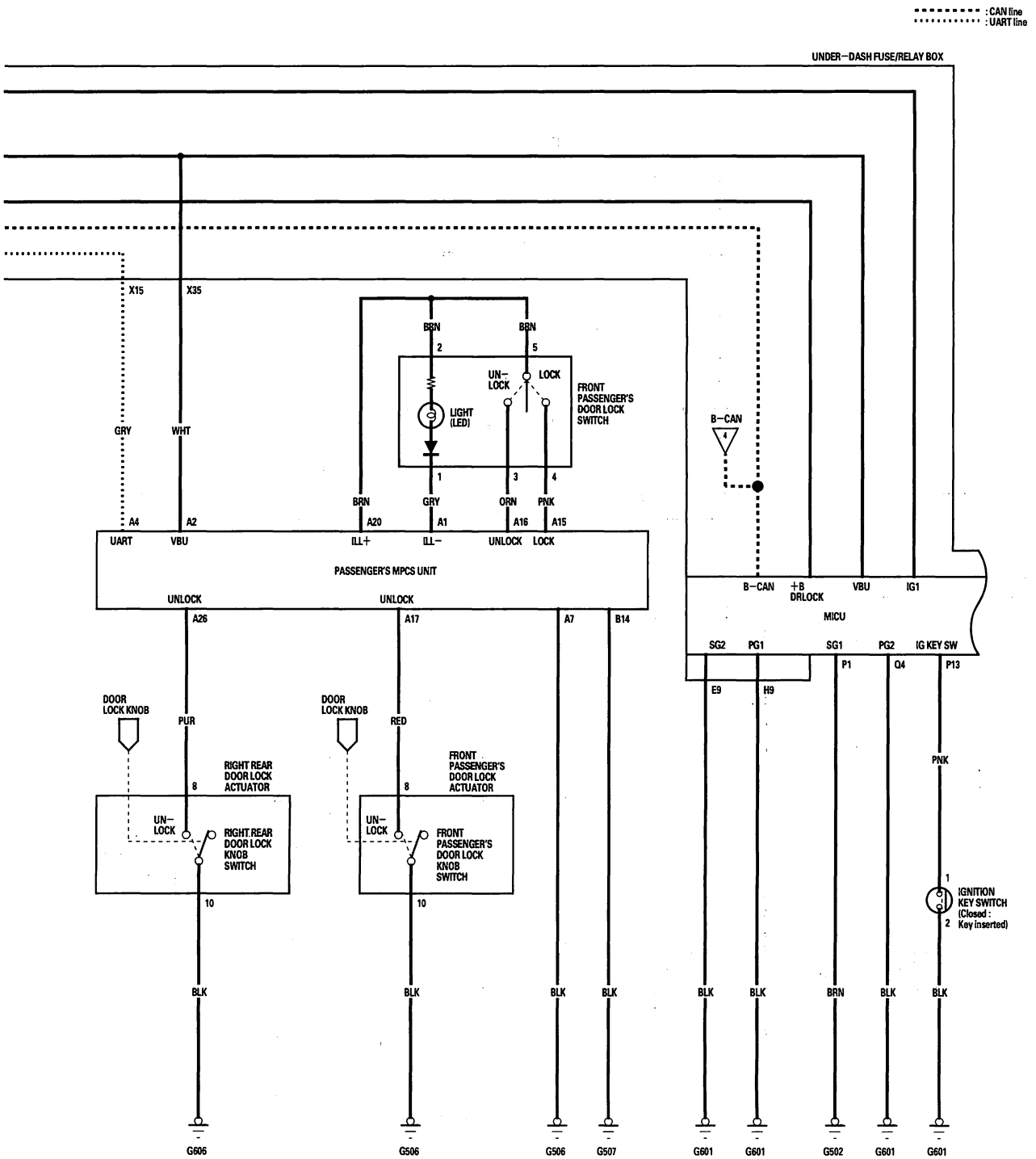
## Circuit Diagram




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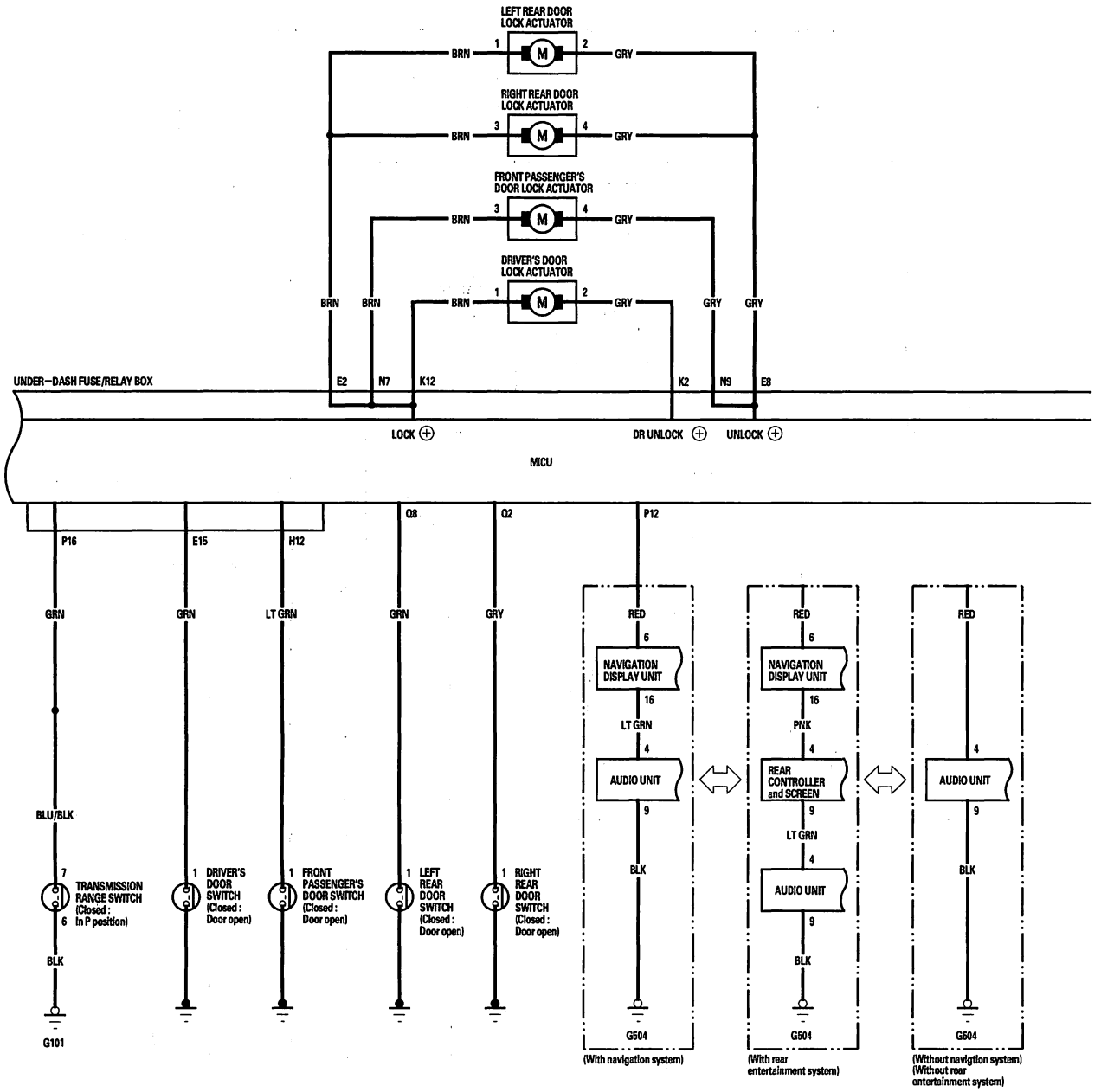

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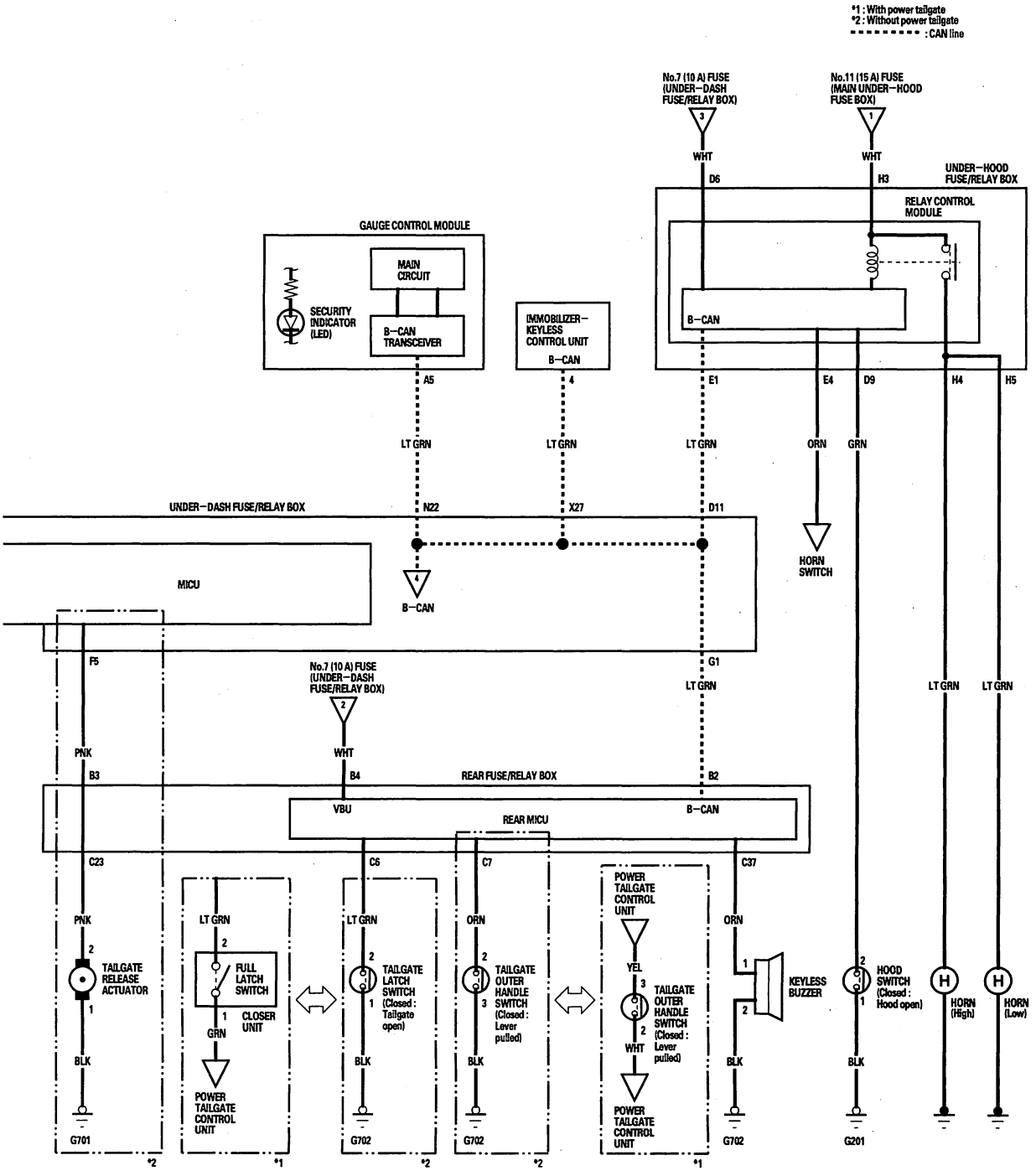
## Circuit Diagram (cont'd)




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## DTC Troubleshooting

### DTC B2179: Driver's Door Key Cylinder Switch LOCK/UNLOCK Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF and then back ON (II).
3. Turn the driver's door key cylinder to the LOCK and UNLOCK positions with the ignition key.
4. Check for DTCs with the HDS.

   *Is DTC B2179 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the driver's door key cylinder switch system is OK at this time. Check for loose or poor connections. ■
5. With the driver's door key cylinder switch in neutral position, select DOOR LOCK from the BODY ELECTRICAL system select menu, and enter the DATA LIST.
6. Check the ON/OFF Information of the Driver's Door Key Cylinder Switch (LOCK) and Driver's Door Key Cylinder Switch (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES**—Go to step 7.

   **NO**—Go to step 8.
7. Turn the driver's door key cylinder to the LOCK and UNLOCK positions with the ignition key, and check the ON/OFF information of the Driver's Door Key Cylinder Switch (LOCK) and Driver's Door Key Cylinder Switch (UNLOCK) in the DATA LIST.

   *Are both Driver's Door Key Cylinder Switch (LOCK) and Driver's Door Key Cylinder Switch (UNLOCK) information indicators ON at the same time with the door key cylinder switch in the LOCK or UNLOCK position?*

   **YES**—Test the key cylinder switch (see page 22-174). If it is OK, repair the short between the No. 8 BLU and No. 9 LT BLU wires.

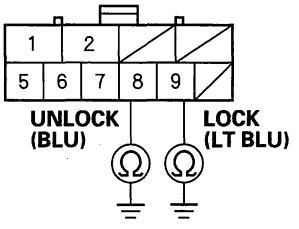
   **NO**—Replace the driver's MPCS unit. ■
8. Disconnect the driver's door lock actuator 10P connector.
9. Check the ON/OFF information of the Driver's Door Key Cylinder Switch (LOCK) and Driver's Door Key Cylinder Switch (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES**—Faulty driver's door key cylinder switch; replace the driver's door lock actuator assembly. ■

   **NO**—Go to step 10.
10. Turn the ignition switch OFF.
11. Disconnect the driver's MPCS unit connector A (40P).
12. Check for continuity between body ground and the driver's door lock actuator 10P connector terminals No. 8 and No. 9 individually.

**DRIVER'S DOOR LOCK ACTUATOR 10P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Replace the driver's MPCS unit. ■

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## **DTC B2180:** Driver's Door LOCK Switch LOCK /UNLOCK Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Lock and unlock the driver's door with the driver's door lock switch operation.
3. Check for DTCs with the HDS.

   *Is DTC B2180 indicated?*

   **YES**—Go to step 4.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the driver's MPCS unit and the driver's door lock switch. ■
4. With the driver's door lock switch in the neutral position, select the DOOR LOCK from the BODY ELECTRICAL system select menu, and enter the DATA LIST.
5. Check the ON/OFF Information of the Driver's Door Lock Switch (LOCK) and Driver's Door Lock Switch (UNLOCK).

   *Are both information indicators OFF?*

   **YES**—Go to step 6.

   **NO**—Go to step 7.
6. Operate the driver's door lock switch in the LOCK and UNLOCK positions, and check the ON/OFF information of the Driver's Door Lock Switch (LOCK) and Driver's Door LOCK Switch (UNLOCK).

   *Are both Driver's Door LOCK Switch (LOCK) and Driver's Door LOCK Switch (UNLOCK) information indicators ON at the same time when the door lock switch is in the LOCK or UNLOCK position?*

   **YES**—Repair short between the wires. ■

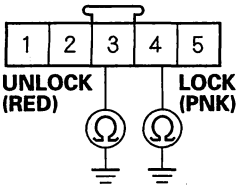
   **NO**—Replace the driver's MPCS unit. ■
7. Disconnect the driver's door lock switch 5P connector.
8. Check the ON/OFF information of the Driver's Door Lock Switch (LOCK) and Driver's Door Lock Switch (UNLOCK).

   *Are both information indicators OFF?*

   **YES**—Faulty driver's door lock switch. ■

   **NO**—Go to step 9.
9. Disconnect the driver's MPCS unit connector A (40P).
10. Check for continuity between body ground and the driver's door lock switch 5P connector No. 3 and No. 4 terminals individually.

**DRIVER'S DOOR LOCK SWITCH 5P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire. ■

**NO**—Replace the driver's MPCS unit. ■

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## DTC Troubleshooting (cont'd)

### DTC B2181: Driver's Door LOCK Knob Switch LOCK/UNLOCK Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Lock and unlock the driver's door with the door lock knob switch operation.
4. Check for DTCs with the HDS.

   *Is DTC B2181 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the driver's door lock knob switch system is OK at this time. Check for loose or poor connections.■
5. Select DOOR LOCK from the BODY ELECTRICAL system select menu, and enter the DATA LIST.
6. Check the ON/OFF information of the Driver's Door Lock Knob Switch (LOCK) and Driver's Door Lock Knob Switch (UNLOCK) in the DATA LIST.

   *Does the Driver's Door Lock Knob Switch (LOCK) information indicate ON and Driver's Door Lock Knob Switch (UNLOCK) information indicate OFF with the door lock knob switch is in the LOCK position, and does the Driver's Door Lock Knob Switch (LOCK) information indicate OFF and Driver's Door Lock Knob Switch (UNLOCK) information indicate ON with the door lock knob switch is in the UNLOCK position?*

   **YES**—Replace the driver's MPCS unit.■

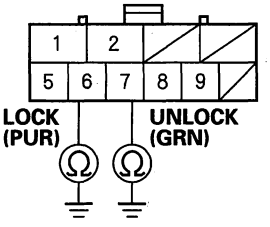
   **NO**—Go to step 7.
7. Disconnect the driver's door lock actuator 10P connector.
8. Check the ON/OFF information of the Driver's Door Knob Switch (LOCK) and Driver's Door Lock Knob Switch (UNLOCK) in the DATA LIST.

   *Are both information indicators OFF?*

   **YES**—Faulty driver's door lock knob switch; replace the driver's door lock actuator assembly.■

   **NO**—Go to step 9.
9. Turn the ignition switch OFF.
10. Disconnect the driver's MPCS unit connector A (40P).
11. Check for continuity between body ground and the driver's door lock actuator 10P connector terminals No. 6 and No. 7 individually.

**DRIVER'S DOOR LOCK ACTUATOR 10P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire.■

**NO**—Replace the driver's MPCS unit.■

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## **DTC B2186:** Front Passenger's Door Lock Switch LOCK/UNLOCK Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Lock and unlock the front passenger's door with the door lock switch operation.
4. Check for DTCs with the HDS.

   *Is DTC B2186 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the front passenger's door lock switch system is OK at this time. Check for loose or poor connections. ■
5. With the front passenger's door lock switch in the neutral position, select the DOOR LOCK from the BODY ELECTRICAL system select menu, and enter the DATA LIST.
6. Check the ON/OFF information of the Front Passenger's Door Lock Switch (LOCK) and Front Passenger's Door Lock Switch (UNLOCK).

   *Are both information indicators OFF?*

   **YES**—Go to step 7.

   **NO**—Go to step 8.
7. Operate the front passenger's door lock switch in the LOCK and UNLOCK positions, and check the ON/OFF information of the Front Passenger's Door Lock Switch (LOCK) and Front Passenger's Door Lock Switch (UNLOCK).

   *Are both the Front Passenger's Door Lock Switch (LOCK) and Front passenger's Door Lock Switch (UNLOCK) information indicators ON at the same time when the door lock switch is in the LOCK or UNLOCK position?*

   **YES**—Repair short between the wires. ■

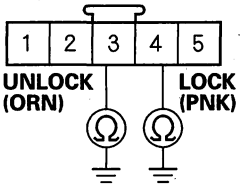
   **NO**—Replace the passenger's MPCS unit. ■
8. Disconnect the front passenger's door lock switch 5P connector.
9. Check the ON/OFF information of the Front Passenger's Door Lock Switch (LOCK) and Front Passenger's Door Lock Switch (UNLOCK).

   *Are both information indicators OFF?*

   **YES**—Faulty front passenger's door lock switch; replace it. ■

   **NO**—Go to step 10.
10. Turn the ignition switch OFF.
11. Disconnect the passenger's MPCS unit connector A (28P).
12. Check for continuity between body ground and the front passenger's door lock switch 5P connector terminals No. 3 and No. 4 individually.

**FRONT PASSENGER'S DOOR LOCK SWITCH 5P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire. ■

**NO**—Replace the passenger's MPCS unit. ■

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## Symptom Troubleshooting

### Power Door Locks/Keyless

1. If the door lock system works properly, but the vehicle does not start, refer to the immobilizer-keyless control unit symptom troubleshooting information (see page 22-403).

NOTE: Only the panic function will work with the key in the ignition off position. There is no keyless function with the ignition turned ON (II).

| No. | Symptom | Check Items |
|---|---|---|
| 1 | The doors will not lock or unlock.* | • MICU input test (see page 22-132)<br>• Driver's door key cylinder switch test (see page 22-174)<br>• Door lock switch test (see page 22-174)<br>• Door lock knob switch test (see page 22-173) |
| 2 | The doors will not lock.* | • MICU input test (see page 22-132)<br>• Door lock knob switch test (see page 22-173)<br>• Driver's door switch test (check the door switch ON/OFF information with the HDS) |
| 3 | The doors will not unlock.* | • MICU input test (see page 22-132)<br>• Driver's door lock knob switch test (see page 22-173) |
| 4 | Keyless operation does not work (LOCK, UNLOCK, PANIC). | Symptom troubleshooting (see page 22-157). |
| 5 | Doors will not unlock with the transmitter, but will unlock with the door switch. | Symptom troubleshooting (see page 22-159). |
| 6 | Doors will not lock with the transmitter, but will lock with the door switch. | Symptom troubleshooting (see page 22-159). |
| 7 | Doors automatically relock 30, 60, or 90 seconds after being unlocked with the transmitter even though a door has been opened. | • Driver's door switch test.<br>• Symptom troubleshooting (see page 22-160). |
| 8 | The horn does not sound and/or the headlights do not flash when PANIC button on the transmitter pressed. | Symptom troubleshooting (see page 22-159). |
| 9 | Keyless lock or unlock operation will work even though the ignition key is in the ignition switch. | Ignition key switch test (see page 22-79). |

*: If only one door is not working properly, check that door's lock actuator first, then check the other items listed in this table.

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## Keyless operation does not work (LOCK, UNLOCK, PANIC)

NOTE:
- Before troubleshooting, check the B-CAN DTCs. If any DTC is indicated, troubleshoot the indicated DTC first.
- Before troubleshooting, do the keyless transmitter test (see page 22-177).

1. Turn the ignition switch ON (II).
2. Try to start the engine.

   *Does the engine start?*

   **YES**—The immobilizer system is OK, go to step 3.

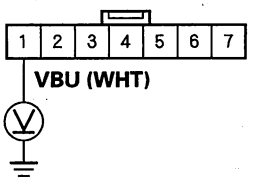
   **NO**—Go to the immobilizer symptom troubleshooting (see page 22-405).■
3. Turn the ignition switch OFF.
4. Connect the HDS to the data link connector.
5. Close all doors, then turn the ignition switch ON (II).
6. Enter the BODY ELECTRICAL menu, and check the door switch parameters.

   *Do all door switches indicate OFF?*

   **YES**—Go to step 7.

   **NO**—Faulty door switch, or shorted door switch wire. Repair as necessary.■
7. Remove the ignition key from the ignition switch.
8. Measure for voltage between the immobilizer-keyless control unit 7P connector No. 1 terminal and body ground.

**IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR**



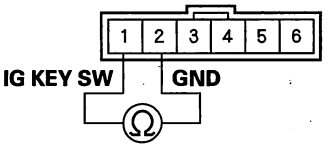

Wire side of female terminals

*Is there battery voltage?*

**YES**—Go to step 9.

**NO**—Check the No. 7 (10 A) fuse in the under-dash fuse/relay box. If the fuse is blown, replace the fuse and repair a short to ground in the wire. If the fuse is OK, repair open in the wire.■
9. Disconnect the ignition key switch 6P connector.
10. At the ignition key switch side, check for continuity between the ignition key switch 6P connector No. 1 and No. 2 terminals.

**IGNITION KEY SWITCH 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Faulty ignition key switch or short to ground, replace the steering lock assembly.■

**NO**—Go to step 11.

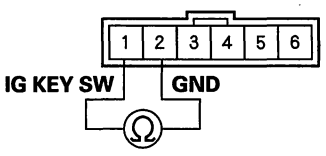
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## Symptom Troubleshooting (cont'd)

11. Insert the ignition key into the ignition switch.
12. At the ignition key switch side, check for continuity between the ignition key switch 6P connector No. 1 and No. 2 terminals.

**IGNITION KEY SWITCH 6P CONNECTOR**




Terminal side of male terminals

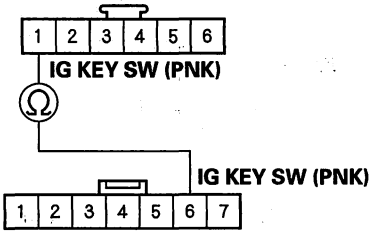
*Is there continuity?*

**YES**—Go to step 13.

**NO**—Faulty ignition key switch, replace the steering lock assembly. ■

13. Disconnect the immobilizer-keyless control unit 7P connector.
14. Check for continuity between the immobilizer-keyless control unit 7P connector No. 6 terminal and the ignition key switch 6P connector No. 1 terminal.

**IGNITION KEY SWITCH 6P CONNECTOR**
Wire side of female terminals




**IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR**
Wire side of female terminals

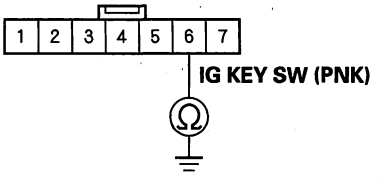
*Is there continuity?*

**YES**—Go to step 15.

**NO**—Repair open in the wire. ■

15. Check for continuity between the immobilizer-keyless control unit 7P connector No. 6 terminal and body ground.

**IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire. ■

**NO**—Replace the immobilizer-keyless control unit. ■

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### Doors will not unlock (or lock) with the transmitter, but will unlock (lock) with the door switch

NOTE: Before troubleshooting, check the B-CAN DTCs. If any DTC is indicated, troubleshoot the indicated DTC first.

1. Turn the ignition switch OFF.
2. Remove the ignition key from the ignition switch.
3. Close and lock the doors.
4. Try to lock/unlock the doors with the keyless transmitter.

   *Do the door lock actuators work normally?*

   **YES**—Intermittent failure, the system is OK at this time. ■

   **NO**—Go to step 5.
5. Open the driver's door.

   *Does the key-in reminder chime sound?*

   **YES**—Faulty ignition key switch, or short to ground on the ignition key switch PNK wire. Repair as necessary. ■

   **NO**—Go to step 6.
6. Do the transmitter test (see page 22-177).

   *Is the transmitter OK?*

   **YES**—Substitute a known-good MICU and recheck. ■

   **NO**—Replace the transmitter. ■

### The horn does not sound and/or the headlights do not flash when the PANIC button on the transmitter is pressed

NOTE: Before troubleshooting, check the B-CAN DTCs. If any DTC is indicated, troubleshoot the indicated DTC first.

1. Press the PANIC button.

   *Does the horn sound?*

   **YES**—Go to step 3.

   **NO**—Go to step 2.
2. Press the horn button.

   *Does the horn sound?*

   **YES**—Go to step 3.

   **NO**—Check the horn circuit. ■
3. Turn the headlight switch ON.

   *Do the headlights come on?*

   **YES**—Go to step 4.

   **NO**—Check the lighting circuit. ■
4. Do the transmitter test (see page 22-177).

   *Is the transmitter OK?*

   **YES**—Substitute a known-good MICU and recheck. ■

   **NO**—Replace the transmitter. ■

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## Symptom Troubleshooting (cont'd)

### Doors automatically relock 30, 60, 90 seconds after being unlocked with the transmitter even though a door has been opened

1. Turn the ceiling light switch in DOOR position.
2. Turn the ignition switch ON (II).
3. Close all doors.
4. Watch the ceiling light and the door indicator on the gauge control module.

   *Does the ceiling light and door indicator go off?*

   **YES**—Go to step 5.

   **NO**—Repair short to ground in the wire between the MICU and door switch.■
5. Open and close each door one at a time.
6. Watch the ceiling light and the door indicator on the gauge control module.

   *Does the ceiling light and door indicator come on when the door is open, and go off when the door is closed?*

   **YES**—Substitute a known-good MICU and recheck. If the symptom goes away, replace the original MICU.■

   **NO**—Check for open in the wire between the MICU and the door switch. If the wire is OK, replace the door switch.■

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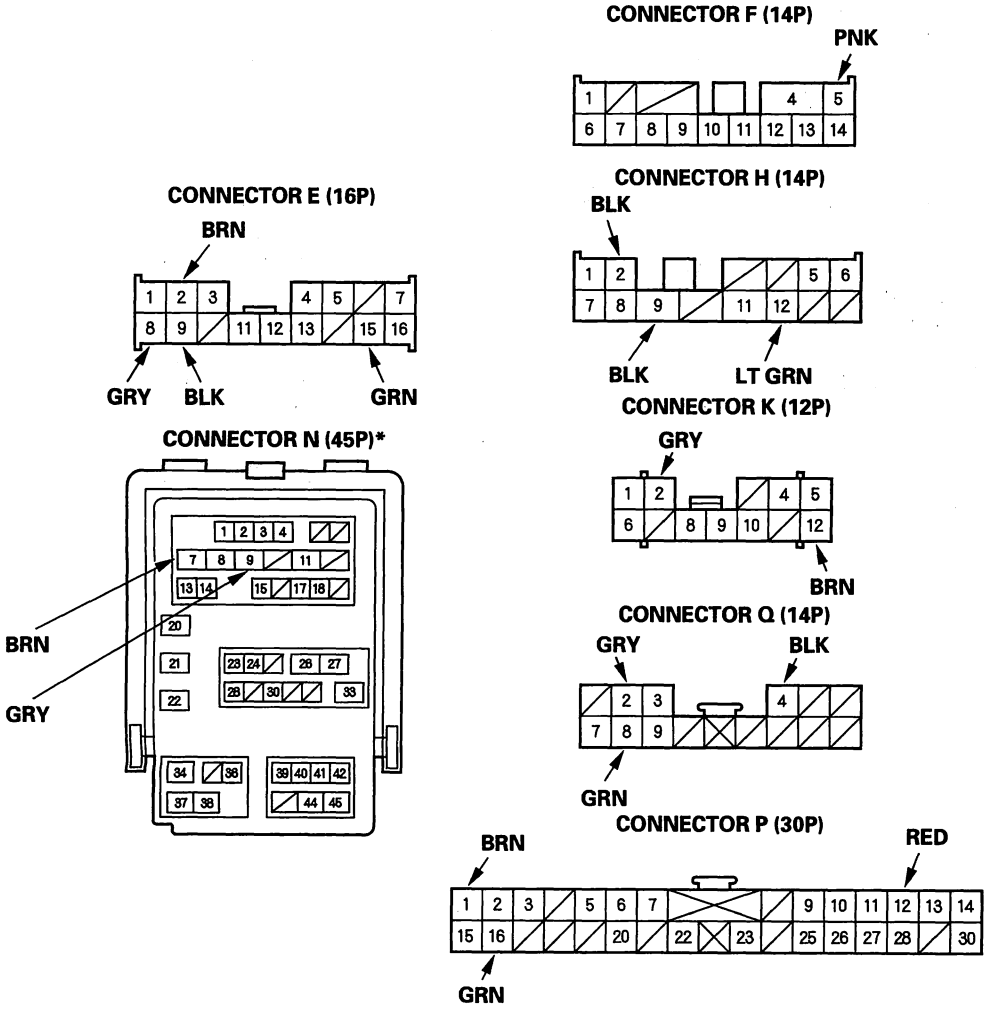
## Control Unit Input Test

NOTE: Before testing, troubleshoot the multiplex integrated control system first using B-CAN system Diagnosis Test Mode A (see page 22-112).

**MICU**

1. Turn the ignition switch OFF.
2. Remove the left kick panel (see page 20-76).
3. Disconnect the under-dash fuse/relay box connectors.

   NOTE: All connector views are wire side of female terminals.




*** Connector view shown rotated 180° from actual position in the under-dash fuse/relay box.**

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)



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## Control Unit Input Test (cont'd)

5. With the connector still disconnected, make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E2<br>E8 | BRN<br>GRY | Connect battery power to the E2 (E8) terminal, and the E8 (E2) terminal to body ground. | Check actuator operation:<br>The left and right rear door lock actuators should LOCK (UNLOCK). | • Faulty left rear door lock actuator<br>• Faulty right rear door lock actuator<br>• An open in the wire |
| K2<br>K12 | GRY<br>BRN | Connect battery power to the K12 (K2) terminal, and the K2 (K12) terminal to body ground. | Check actuator operation:<br>The driver's door lock actuator should LOCK (UNLOCK). | • Faulty driver's door lock actuator<br>• An open in the wire |
| N7<br>N9 | BRN<br>GRY | Connect battery power to the N7 (N9) terminal, and the N9 (N7) terminal to body ground. | Check actuator operation:<br>The front passenger's door lock actuator should LOCK (UNLOCK). | • Faulty front passenger's door lock actuator<br>• An open in the wire |
| F5* | PNK | Connect battery power to the F5 terminal. | Check tailgate release actuator operation:<br>The tailgate should open. | • Faulty tailgate release actuator<br>• Poor ground (G701)<br>• Faulty rear fuse/relay box<br>• An open in the wire |

*: Without power tailgate

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6. Reconnect the connectors, then turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 7.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| P1 | BRN | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G502)<br>• An open in the wire |
| E9<br>H9<br>Q4 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| E15 | GRN | Driver's door open | Measure the voltage to ground: There should be less than 1 V. | • Faulty driver's door switch<br>• An open in the wire |
| | | Driver's door closed | Measure the voltage to ground: There should be more than 5 V. | • Faulty driver's door switch<br>• A short to ground in the wire |
| H12 | LT GRN | Front passenger's door open | Measure the voltage to ground: There should be less than 1 V. | • Faulty front passenger's door switch<br>• An open in the wire |
| | | Front passenger's door closed | Measure the voltage to ground: There should be more than 5 V. | • Faulty front passenger's door switch<br>• A short to ground in the wire |
| Q2 | GRY | Right rear door open | Measure the voltage to ground: There should be less than 1 V. | • Faulty right rear door switch<br>• An open in the wire |
| | | Right rear door closed | Measure the voltage to ground: There should be more than 5 V. | • Faulty right rear door switch<br>• A short to ground in the wire |
| Q8 | GRN | Left rear door open | Measure the voltage to ground: There should be less than 1 V. | • Faulty left rear door switch<br>• An open in the wire |
| | | Left rear door closed | Measure the voltage to ground: There should be more than 5 V. | • Faulty left rear door switch<br>• A short to ground in the wire |
| P12 | RED | Under all conditions | Measure the voltage to ground: There should be less than 1 V. | • Faulty connection at the audio unit, navigation unit, and/or rear controller and screen<br>• Faulty audio unit<br>• Faulty navigation unit<br>• Faulty rear controller and screen<br>• An open in the wire<br>• Poor ground (G504) |
| P16 | GRN | Transmission range switch in P position | Measure the voltage to ground: There should be less than 1 V. | • Faulty transmission range switch<br>• An open in the wire<br>• Poor ground (G101) |
| | | Transmission range switch in any other position than P | Measure the voltage to ground: There should be more than 5 V. | • Faulty transmission range switch<br>• A short to ground in the wire |

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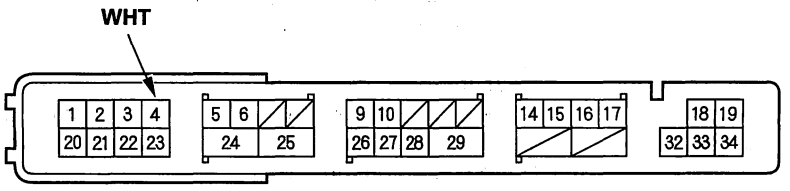
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## Control Unit Input Test (cont'd)

**Rear Fuse/Relay Box**

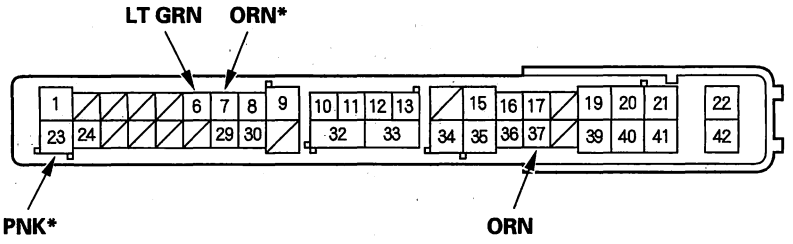
7. Turn the ignition switch OFF.
8. Remove the left rear trim (see page 20-92).
9. Disconnect the rear fuse/relay box connectors.

**CONNECTOR B (34P)**




Wire side of female terminals

**CONNECTOR C (42P)**




Wire side of female terminals

***: Without power tailgate**

10. 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 11.

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BACK

11. With the connector still disconnected, make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 12.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| C23* | PNK | Connect battery power to the C23 terminal momentarily. | Check tailgate release actuator operation: The tailgate should open. | • Poor ground (G701)<br>• Faulty tailgate release actuator<br>• An open in the wire |
| C37 | ORN | Connect battery power to the C37 terminal momentarily. | Check keyless buzzer operation: The keyless buzzer should sound. | • Faulty keyless buzzer<br>• Poor ground (G702)<br>• An open in the wire |

*: Without power tailgate

12. Reconnect the connectors, then turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 13.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B4 | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| C6 | LT GRN | Tailgate open | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G702)<br>• Faulty tailgate latch switch<br>• An open in the wire |
| | | Tailgate closed | Measure the voltage to ground: There should be more than 5 V. | • Faulty tailgate latch switch<br>• A short to ground in the wire |
| C7* | ORN | Tailgate outer handle pulled | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G702)<br>• Faulty tailgate outer handle switch<br>• An open in the wire |
| | | Tailgate outer handle released | Measure the voltage to ground: There should be more than 5 V. | • Faulty tailgate outer handle switch<br>• A short to ground in the wire |

*: Without power tailgate

(cont'd)



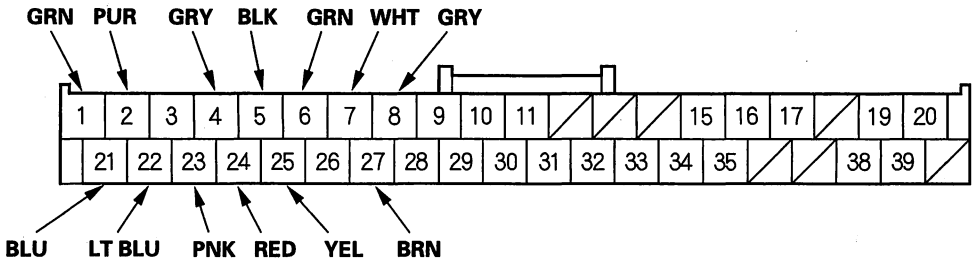
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## Control Unit Input Test (cont'd)

**Driver's MPCS Unit**

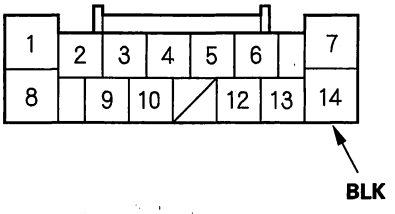
13. Turn the ignition switch OFF.
14. Remove the driver's door panel (see page 20-8).
15. Disconnect the driver's MPCS unit connectors A (40P) and B (14P).

**CONNECTOR A (40P)**




Wire side of female terminals

**CONNECTOR B (14P)**




Wire side of female terminals

16. 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 17.

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17. With the connectors still disconnected, make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 18.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A8 | GRY | Under all conditions | Check for continuity between the A8 terminal and the passenger's MPCS unit connector A (28P) No. 4 terminal: There should be continuity. | • Faulty under-dash fuse/relay box<br>• An open in the wire |
| | | | Check for continuity to ground: There should be no continuity. | • Faulty under-dash fuse/relay box<br>• A short to ground in the wire |
| A23 • A27 | PNK • BRN | Driver's door lock switch in UNLOCK | Check for continuity between the terminals: There should be continuity. | • Faulty driver's door lock switch<br>• An open in the wire |
| | | Driver's door lock switch in neutral or LOCK | Check for continuity between the terminals: There should be no continuity. | • Faulty driver's door lock switch<br>• A short to ground in the wire |
| A24 • A27 | RED • BRN | Driver's door lock switch in LOCK | Check for continuity between the terminals: There should be continuity. | • Faulty driver's door lock switch<br>• An open in the wire |
| | | Driver's door lock switch in neutral or UNLOCK | Check for continuity between the terminals: There should be no continuity. | • Faulty driver's door lock switch<br>• A short to ground in the wire. |
| A27 • A4 | BRN • GRY | Connect the A7 and A27 terminals, and A4 and A5 terminals with jumper wires | Check the driver's door lock switch lights: The switch LED should come on. | • Faulty driver's door lock switch<br>• Blown bulb(s)<br>• An open in the wire |

(cont'd)

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## Control Unit Input Test (cont'd)

18. Reconnect the connectors, then turn the ignition switch ON (II), and make these input tests at the connectors.
    - If any test indicates a problem, find and correct the cause, then recheck the system.
    - If all the input tests prove OK, go to step 19.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A5<br>B14 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| A7<br>A27 | WHT<br>BRN | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A25 | YEL | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A1 | GRN | Driver's door lock knob switch in UNLOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G601)<br>• Faulty driver's door lock knob switch<br>• An open in the wire |
| | | Driver's door lock knob switch in LOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty driver's door lock knob switch<br>• A short to ground in the wire |
| A2 | PUR | Driver's door lock knob switch in LOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G601)<br>• Faulty driver's door lock knob switch<br>• An open in the wire |
| | | Driver's door lock knob switch in UNLOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty driver's door lock knob switch<br>• A short to ground in the wire |
| A21 | BLU | Driver's door key cylinder switch in UNLOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G601)<br>• Faulty driver's door key cylinder switch<br>• An open in the wire |
| | | Driver's door key cylinder switch in neutral or LOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty driver's door key cylinder switch<br>• A short to ground in the wire |
| A22 | LT BLU | Driver's door key cylinder switch in LOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G601)<br>• Faulty driver's door key cylinder switch<br>• An open in the wire |
| | | Driver's door key cylinder switch in UNLOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty driver's door key cylinder switch<br>• A short to ground in the wire |
| A6 | GRN | Left rear door lock knob switch in UNLOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G601)<br>• Faulty left rear door lock knob switch<br>• An open in the wire |
| | | Left rear door lock knob switch in LOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty left rear door lock knob switch<br>• A short to ground in the wire |

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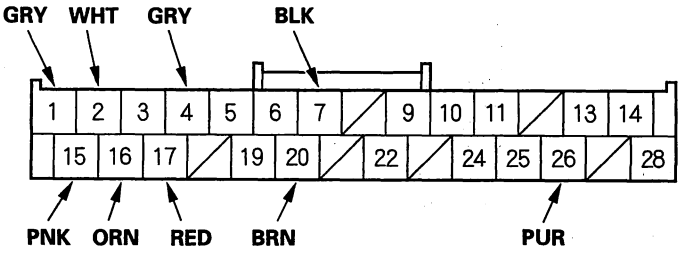


BACK

**Passenger's MPCS Unit**

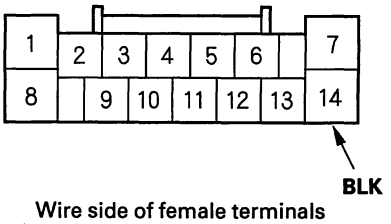
19. Turn the ignition switch OFF.
20. Remove the front passenger's door panel (see page 20-8).
21. Disconnect the passenger's MPCS unit connectors.

**CONNECTOR A (28P)**




Wire side of female terminals

**CONNECTOR B (14P)**




Wire side of female terminals

22. 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 23.

(cont'd)



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## Control Unit Input Test (cont'd)

23. With the connectors still disconnected, make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 24.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A4 | GRY | Under all conditions | Check for continuity between the A4 terminal and the driver's MPCS unit connector A (40P) No. 8 terminal: There should be continuity. | • Faulty under-dash fuse/relay box<br>• An open in the wire |
| | | | Check for continuity to ground: There should be no continuity. | • Faulty under-dash fuse/relay box<br>• A short to ground in the wire |
| A15 • A20 | PNK • BRN | Front passenger's door lock switch in LOCK | Check for continuity between the terminals: There should be continuity. | • Faulty front passenger's door lock switch<br>• An open in the wire |
| | | Front passenger's door lock switch in neutral or UNLOCK | Check for continuity between the terminals: There should be no continuity. | • Faulty front passenger's door lock switch<br>• A short to ground in the wire |
| A16 • A20 | ORN • BRN | Front passenger's door lock switch in UNLOCK | Check for continuity between the terminals: There should be continuity. | • Faulty front passenger's door lock switch<br>• An open in the wire |
| | | Front passenger's door lock switch in neutral or LOCK | Check for continuity between the terminals: There should be no continuity. | • Faulty front passenger's door lock switch<br>• A short to ground in the wire. |
| A20 • A1 | BRN • GRY | Connect the A2 and A20 terminals, and A1 and A7 terminals with jumper wires | Check the front passenger's door lock switch lights: The switch LED should come on. | • Faulty front passenger's door lock switch<br>• An open in the wire |

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24. Reconnect the connectors, then turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 25.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A7 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G506)<br>• An open in the wire |
| B14 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G507)<br>• An open in the wire |
| A2<br>A20 | WHT<br>BRN | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A17 | RED | Front passenger's door lock knob switch in UNLOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G506)<br>• Faulty front passenger's door lock knob switch<br>• An open in the wire |
| | | Front passenger's door lock knob switch in LOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty front passenger's door lock knob switch<br>• A short to ground in the wire |
| A26 | PUR | Right rear door lock knob switch in UNLOCK | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G606)<br>• Faulty right rear door lock knob switch<br>• An open in the wire |
| | | Right rear door lock knob switch in LOCK | Measure the voltage to ground: There should be battery voltage. | • Faulty right rear door lock knob switch<br>• A short to ground in the wire |

25. If multiple failures are found on more than one control unit, replace the under-dash fuse/relay box (includes the MICU) (see page 22-72). If input failures are related to a particular control unit, replace the control unit.

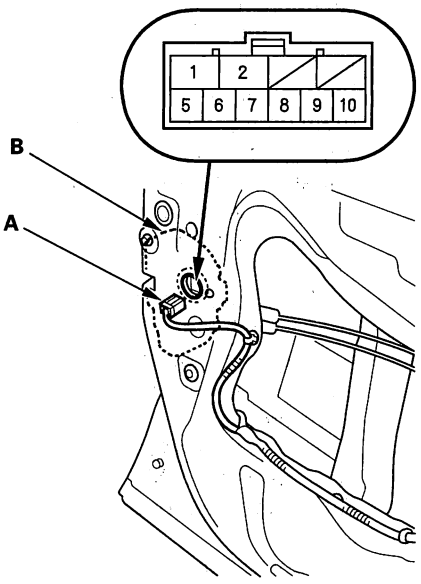
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## Door Lock Actuator Test

### Driver's Door and Left Rear Door

1. Remove the door panel (see page 20-8).
2. Disconnect the 10P connector (A) from the actuator (B).

   NOTE: The illustration shows the driver's door.




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

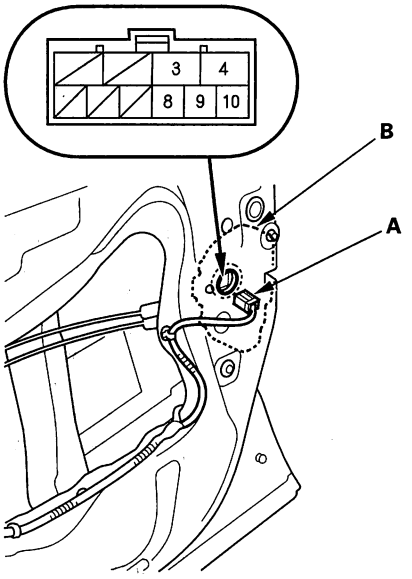
| Terminal / Position | 1 | 2 |
|---|---|---|
| LOCK | ⊕ | ⊖ |
| UNLOCK | ⊖ | ⊕ |

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

### Front Passenger's Door and Right Rear Door

1. Remove the door panel (see page 20-8).
2. Disconnect the 10P connector (A) from the actuator (B).

   NOTE: The illustration shows the front passenger's door.




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 | 3 | 4 |
|---|---|---|
| LOCK | ⊕ | ⊖ |
| UNLOCK | ⊖ | ⊕ |

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

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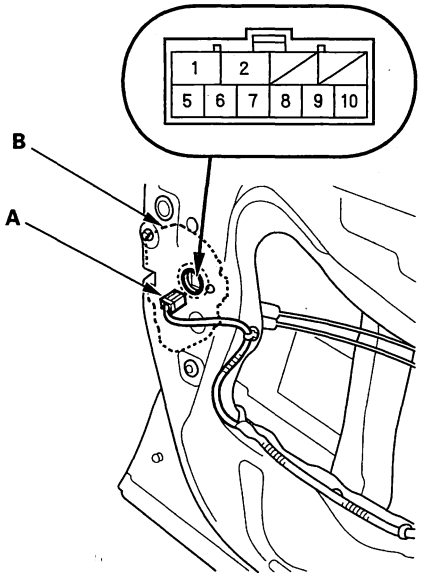


BACK

# Door Lock Knob Switch Test

## Driver's Door

1. Remove the driver's door panel (see page 20-8).
2. Disconnect the 10P connector (A) from the actuator (B).

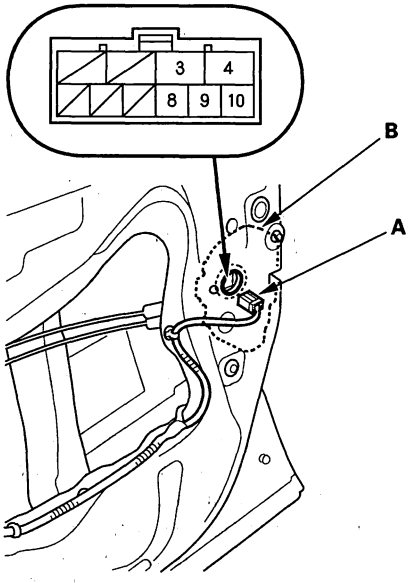



3. Check for continuity between the terminals.
   - There should be continuity between the No. 6 and No. 5 terminals when the door lock knob switch is in the LOCK position and no continuity when the switch is in the UNLOCK position.
   - There should be continuity between the No. 7 and No. 5 terminals when the door lock knob switch is in the UNLOCK position and no continuity when the switch is in the LOCK position.
4. If the continuity is not as specified, replace the door lock actuator.

## Passenger Doors

1. Remove the passenger's door panel (see page 20-8).
2. Disconnect the 10P connector (A) from the actuator (B).

   NOTE: The illustration shows the front passenger's door.

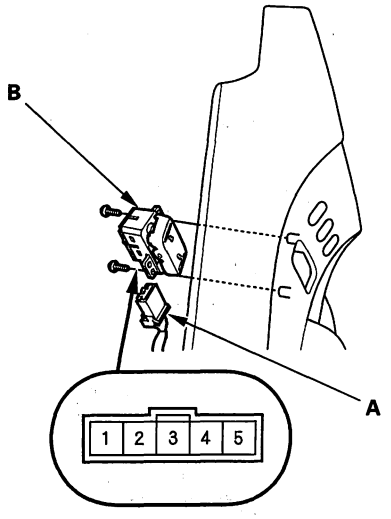



3. Check for continuity between the terminals. There should be continuity between the No. 8 [No. 7] and No. 10 [No. 5] terminals when the door lock knob switch in the UNLOCK position and no continuity when the switch is in the LOCK position.
   [ ] : Left rear door
4. If the continuity is not specified, replace the door lock actuator.

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## Door Lock Switch Test

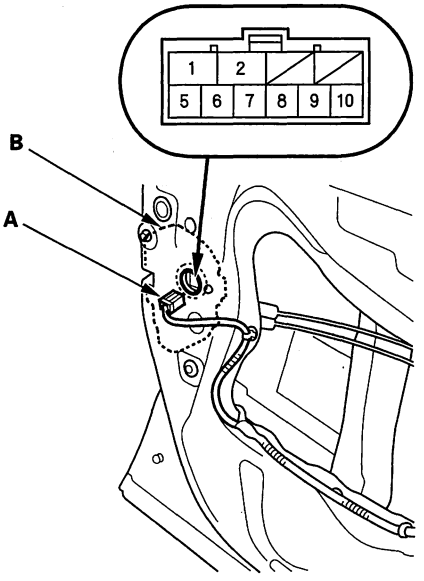
1. Remove the door panel (see page 20-8).
2. Disconnect the 5P connector (A), remove the two screws, then remove the door lock switch (B).




3. Check for continuity between the terminals.
   - There should be continuity between the No. 5 and No. 4 terminals when the door lock switch is in the LOCK position.
   - There should be no continuity between the No. 5 and No. 4 terminals when the door lock switch is in the neutral position or UNLOCK position.
   - There should be continuity between the No. 5 and No. 3 terminals when the door lock switch is in the UNLOCK position.
   - There should be no continuity between the No. 5 and No. 3 terminals when the door lock switch is in the neutral position or LOCK position.
   - There should be continuity between the No. 2, No. 2 (+) and No. 1 (−) terminals (bulb check).
4. If the continuity is not as specified, replace the bulb or switch.

## Door Key Cylinder Switch Test

1. Remove the driver's door panel (see page 20-8).
2. Disconnect the 10P connector (A) from the key cylinder switch (B).




3. Check for continuity between the terminals.
   - There should be continuity between the No. 9 and No. 5 terminals when the door key cylinder switch is in LOCK position.
   - There should be no continuity between the No. 9 and No. 5 terminals when the door key cylinder switch is in the neutral or UNLOCK position.
   - There should be continuity between the No. 8 and No. 5 terminals when the door key cylinder switch is in UNLOCK position.
   - There should be no continuity between the No. 8 and No. 5 terminals when the door key cylinder switch is in the neutral or LOCK position.
4. If the continuity is not as specified, replace the door key cylinder assembly (see page 20-12).

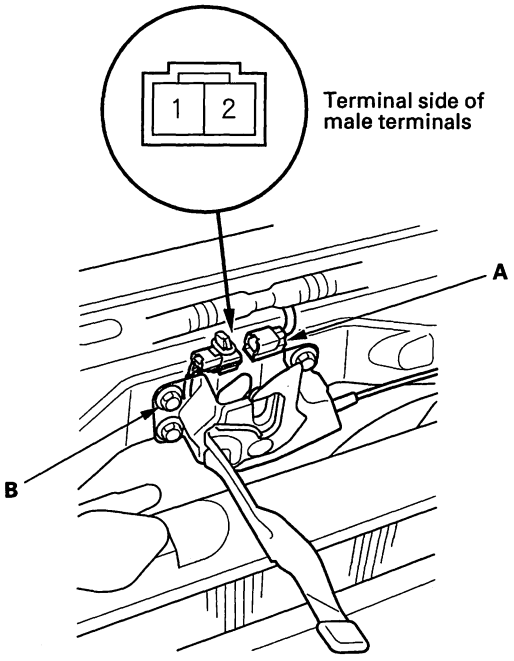
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## Hood Switch Test

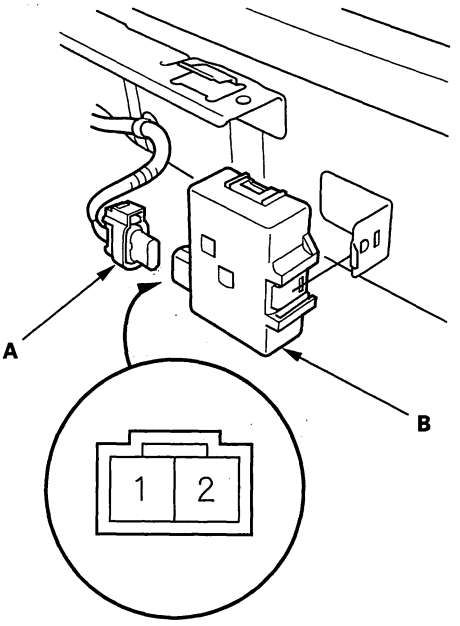
1. Open the hood.
2. Disconnect the 2P connector (A) from the hood switch (B).




3. Check for continuity between the terminals. There should be continuity between the No. 1 and No. 2 terminals when the hood is opened (latch released). There should be no continuity between the No. 1 and No. 2 terminals when the hood is closed (latch pushed down).
4. If the continuity is not as specified, replace the hood switch.

## Keyless Buzzer Test/Replacement

1. Remove the rear bumper (see page 20-190).
2. Disconnect the 2P connector (A) from the keyless buzzer (B).



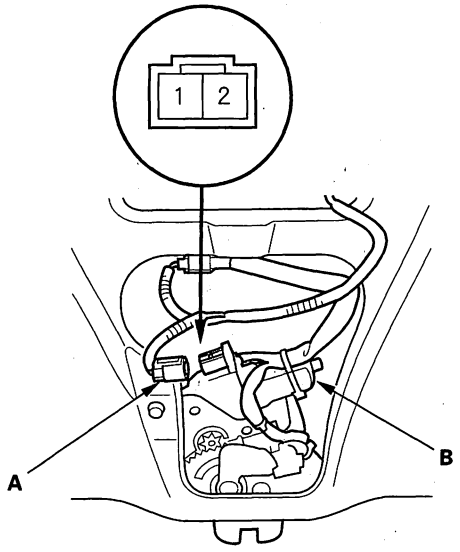

3. Test the buzzer by connecting battery power to the No. 1 terminal and ground to the No. 2 terminal. The buzzer should sound.
4. If the buzzer does not sound, replace it.
5. Install the buzzer in the reverse order of removal.

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## Tailgate Release Actuator Test

### Without Power Tailgate

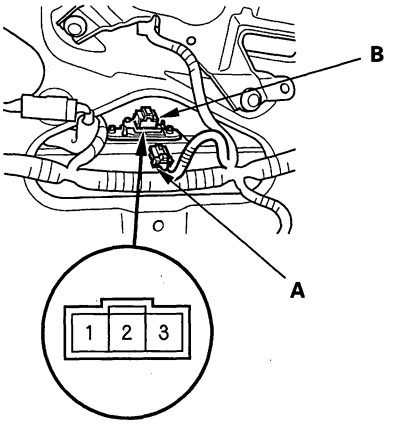
1. Remove the tailgate trim panel (see page 20-96).
2. Disconnect the 2P connector (A) from the tailgate release actuator (B).



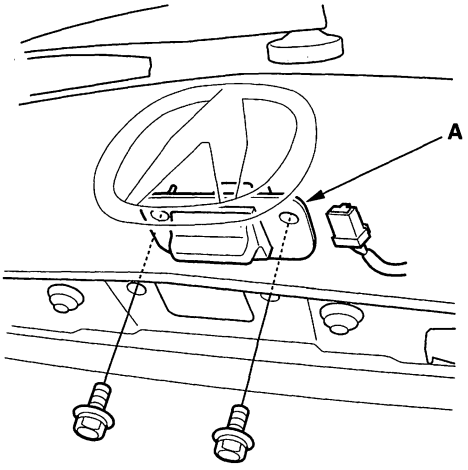

3. Check the actuator by connecting battery power to the No. 2 terminal and ground to the No. 1 terminal. To prevent damage to the actuator, apply battery voltage only momentarily.
   The actuator should work.
4. If the actuator does not work, replace the tailgate latch assembly (see page 20-228).

## Tailgate Outer Handle Switch Test/ Replacement

1. Remove the tailgate trim panel (see page 20-96).
2. Disconnect the 3P connector (A) from the tailgate outer handle switch (B).




3. Check for continuity between the tailgate outer handle switch 3P connector No. 2 and No. 3 terminals.
   - There should be continuity when the tailgate outer handle is pulled.
   - There should be no continuity when the tailgate outer handle is released.
4. If the continuity is not as specified, remove the two bolts and the tailgate outer handle switch (A).




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

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# Transmitter Test/Replacement

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 doors with the transmitter.
- If you unlocked the doors with the transmitter, but do not open any of the doors within 30, 60, or 90 seconds, the doors relock automatically.
- The lock or unlock does not work with the transmitter if the ignition key is inserted in the ignition switch.

## With HDS

1. Press the lock or unlock button five or six times to reset the transmitter.

   - If the locks work, the transmitter is OK.
   - If any of the transmitter buttons does not work, replace the transmitter, then manually reprogram the transmitter (see page 22-147).
   - If the locks don't work, go to step 2.

2. Connect the HDS to the data link connector.

3. Select KEYLESS from the BODY ELECTRICAL menu, then enter the KEYLESS CHECK.

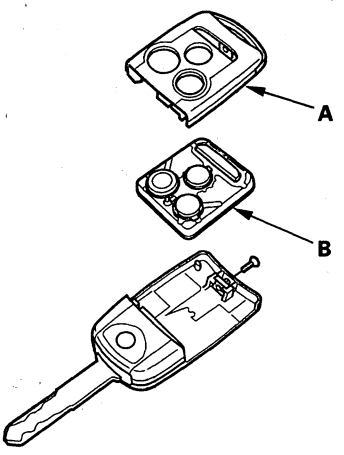
4. Press lock, unlock, trunk, or panic button and check the response on the screen of the HDS.

   NOTE: The door lock actuators may or may not cycle when receiving input from the transmitter.

   - If KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is OK.
   - If DIFFERENT KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is not registered to the vehicle, if necessary, manually reprogram the transmitter (see page 22-147).
   - If KEYLESS ENTRY TRANSMITTER CODE IS NOT RECEIVED is indicated, go to step 5.

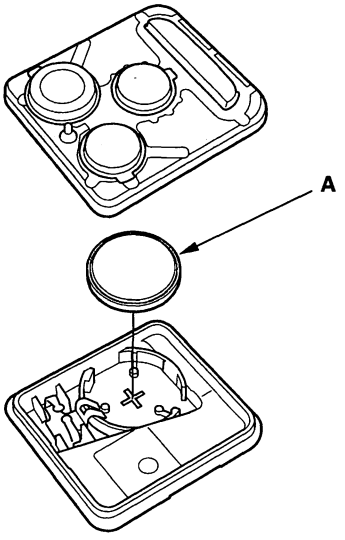
5. Remove the transmitter cover (A) from the transmitter (B), and check for water damage.

   - If you find any water damage, replace the transmitter, then manually reprogram the transmitter (see page 22-147).
   - If there is no water damage, go to step 6.




6. Replace the transmitter battery (A) with a new one, and press lock or unlock button and check the receive condition on the screen of the HDS.

   - If KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is OK.
   - If KEYLESS ENTRY TRANSMITTR CODE IS NOT RECEIVED is indicated, go to step 7.




(cont'd)

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## Transmitter Test/Replacement (cont'd)

7. Use a different known-good keyless transmitter assembly and repeat steps 3 and 4.

   NOTE: The keyless transmitter does not need to be programmed to the vehicle for this test.

   - If DIFFERENT KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, replace the keyless transmitter and manually reprogram the transmitter (see page 22-147).
   - If KEYLESS ENTRY TRANSMITTER CODE IS NOT RECEIVED is indicated, the immobilizer-keyless control unit is faulty, replace it and do the immobilizer system registration (see page 22-410).

### Without HDS

1. Start the engine.

   - If the engine does not start, go to the immobilizer system troubleshooting (see page 22-408).
   - If the engine starts, go to step 2.

2. Press the lock or unlock button five or six times to reset the transmitter.

   - If the locks work, the transmitter is OK.
   - If the locks don't work, go to step 3.

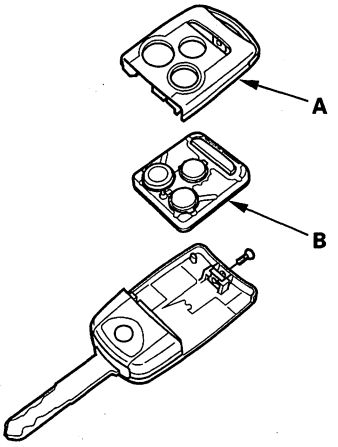
3. Manually program the transmitter (see page 22-147). If the transmitter does not program, go to step 4.

4. Manually program a known-good transmitter.

   - If you can program the transmitter, replace the original transmitter.
   - If you can not program the transmitter, replace the original transmitter, go to step 5.

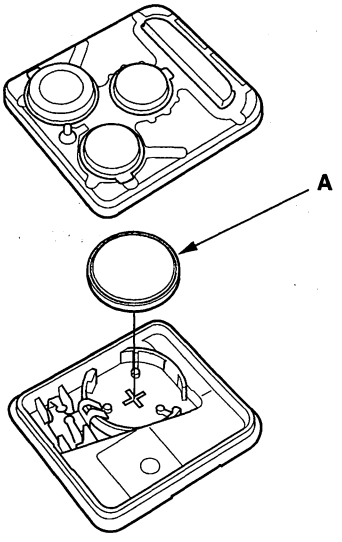
5. Remove the transmitter cover (A) from the transmitter (B), and check for water damage.

   - If you find any water damage, replace the transmitter.
   - If there is no water damage, go to step 6.




6. Replace the transmitter battery (A) with a new one, and try to lock and unlock the doors with the transmitter by pressing the lock or unlock button five or six times.

   - If the doors lock and unlock, the transmitter is OK.
   - If the doors don't lock and unlock, the HDS will be required for further diagnosis.



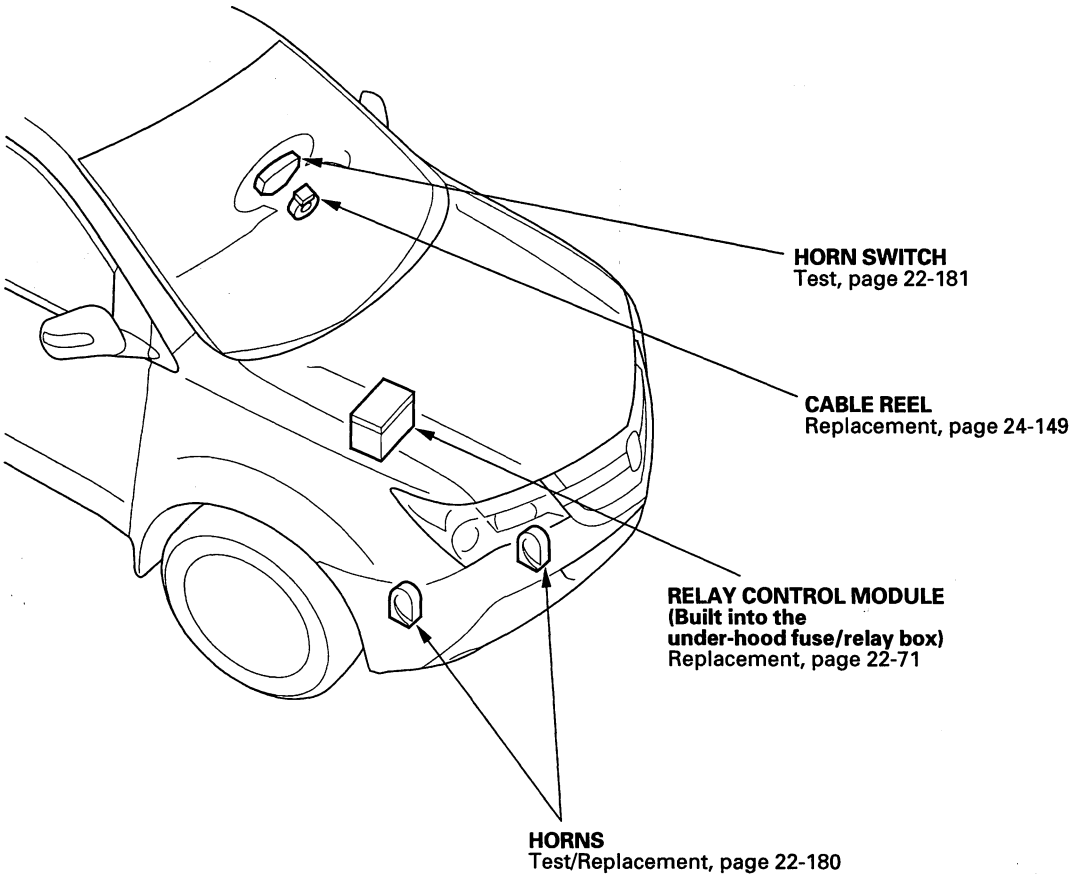

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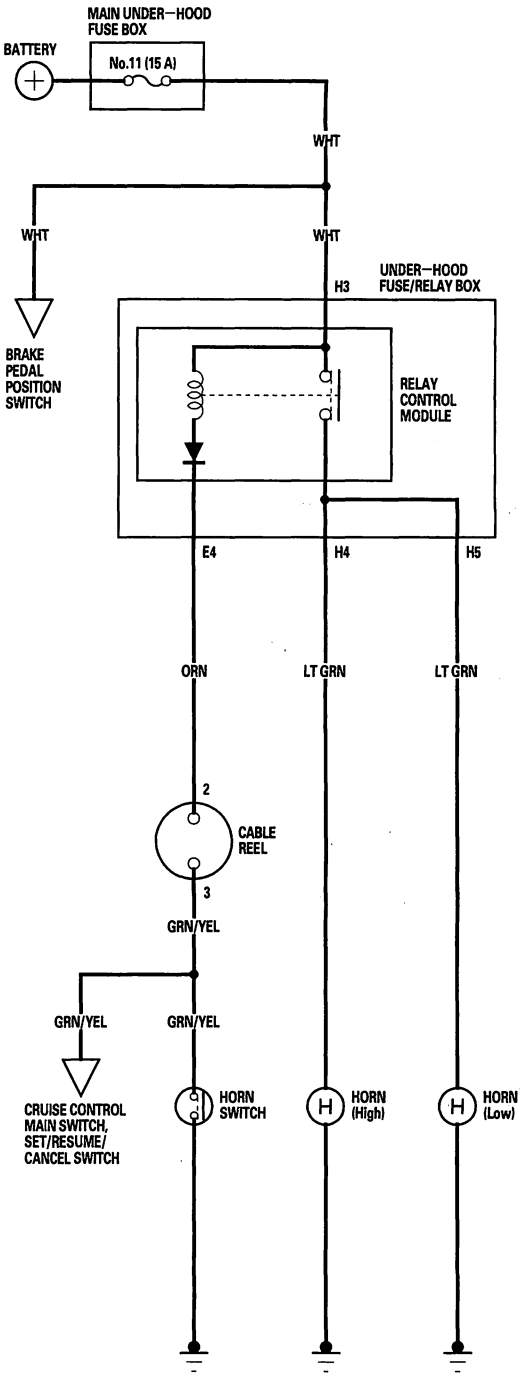
# Horns

## Component Location Index



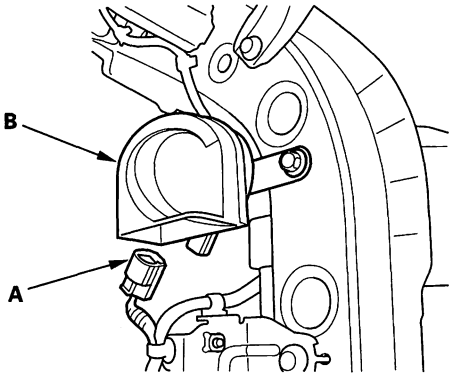

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## Circuit Diagram

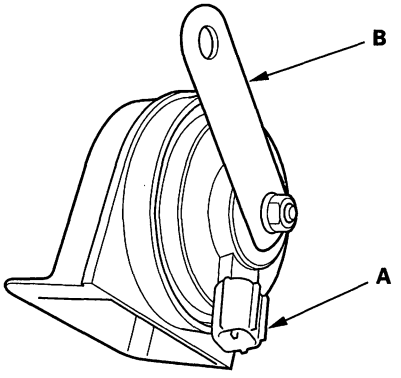



## Horn Test/Replacement

1. Remove the upper grille (see page 20-203).
2. Disconnect the 1P connector (A) from each horn (B).




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




4. If it fails to sound, replace it.

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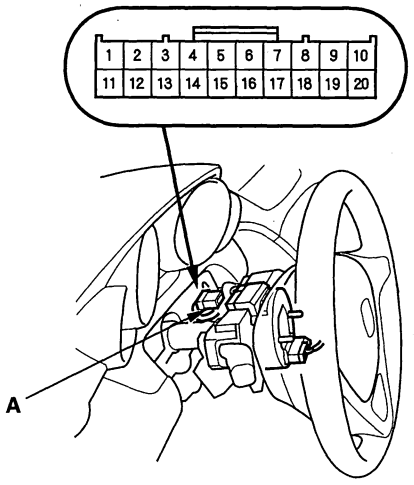


BACK

## Horn Switch Test

1. Remove the steering column covers (see page 17-25).

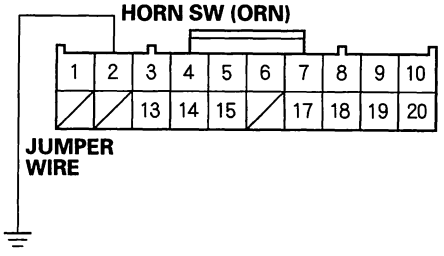
2. Disconnect the dashboard wire harness 20P connector (A) from the cable reel (B).




3. Using a jumper wire, connect the dashboard wire harness 20P connector No. 2 terminal to body ground. The horns should sound.

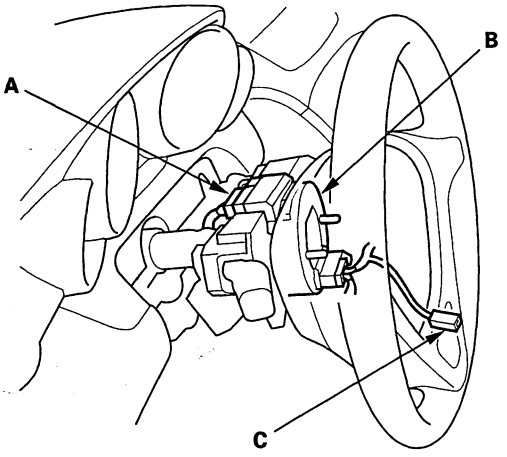
   - If the horns sound, go to step 4.
   - If the horns do not sound, check these items:
     - No. 11 (15 A) fuse in the main under-hood fuse box.
     - Horn (see page 22-180)
     - MICU
     - An open in the wire.

**DASHBOARD WIRE HARNESS 20P CONNECTOR**




Wire side of female terminals

4. Reconnect the dashboard wire harness 20P connector (A) to the cable reel (B).

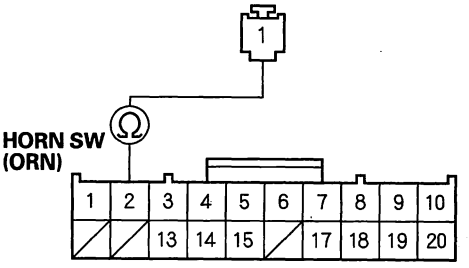



5. Remove the driver's airbag assembly (see page 24-137), and disconnect the horn switch 1P positive terminal (C) from the driver's airbag.

6. Check for continuity between the dashboard wire harness 20P connector No. 2 terminal and the horn switch 1P positive terminal.

   - If there is continuity, check the installation of the driver's airbag assembly and the steering wheel. If the installation is correct, faulty horn switch; replace the driver's airbag assembly.
   - If there is no continuity, repair an open in the wire between the cable reel and the horn switch 1P positive terminal, if the wire harness is OK, replace the cable reel (see page 24-149).

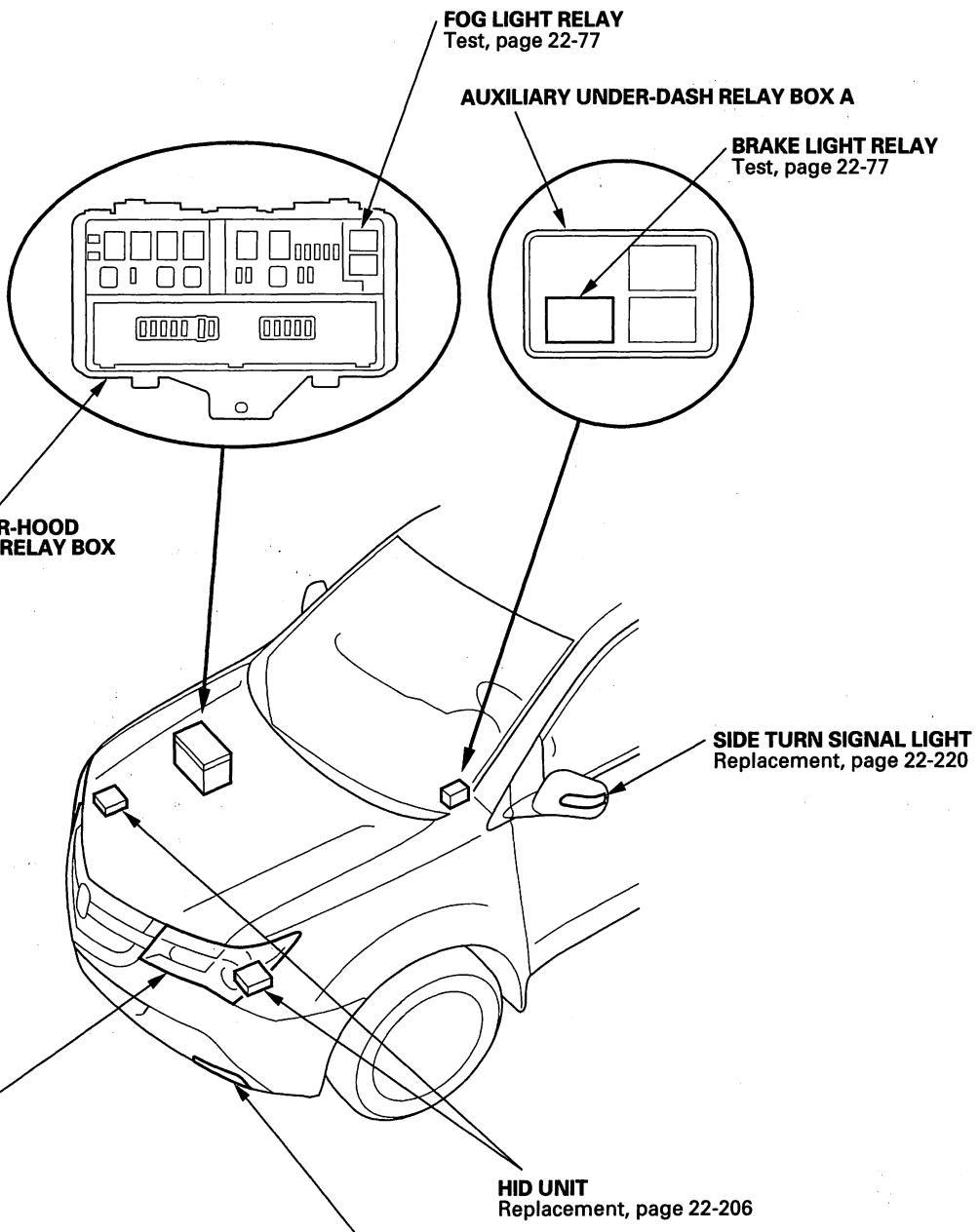
**HORN SWITCH 1P POSITIVE TERMINAL**
Wire side of female terminals




**DASHBOARD WIRE HARNESS 20P CONNECTOR**
Wire side of female terminals

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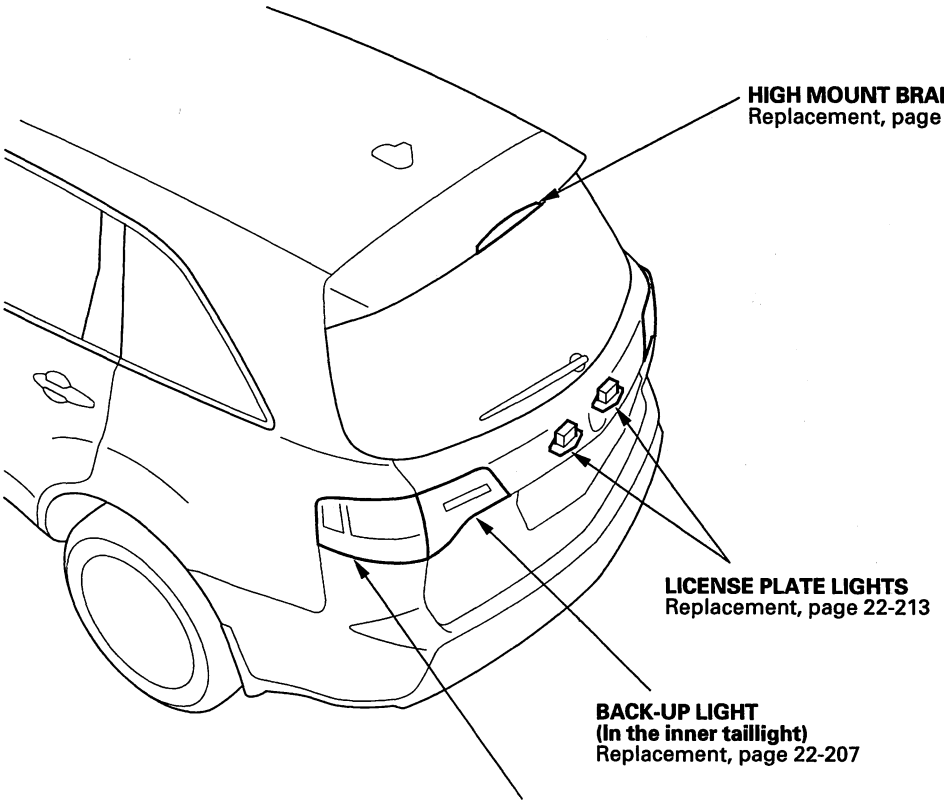
## Component Location Index




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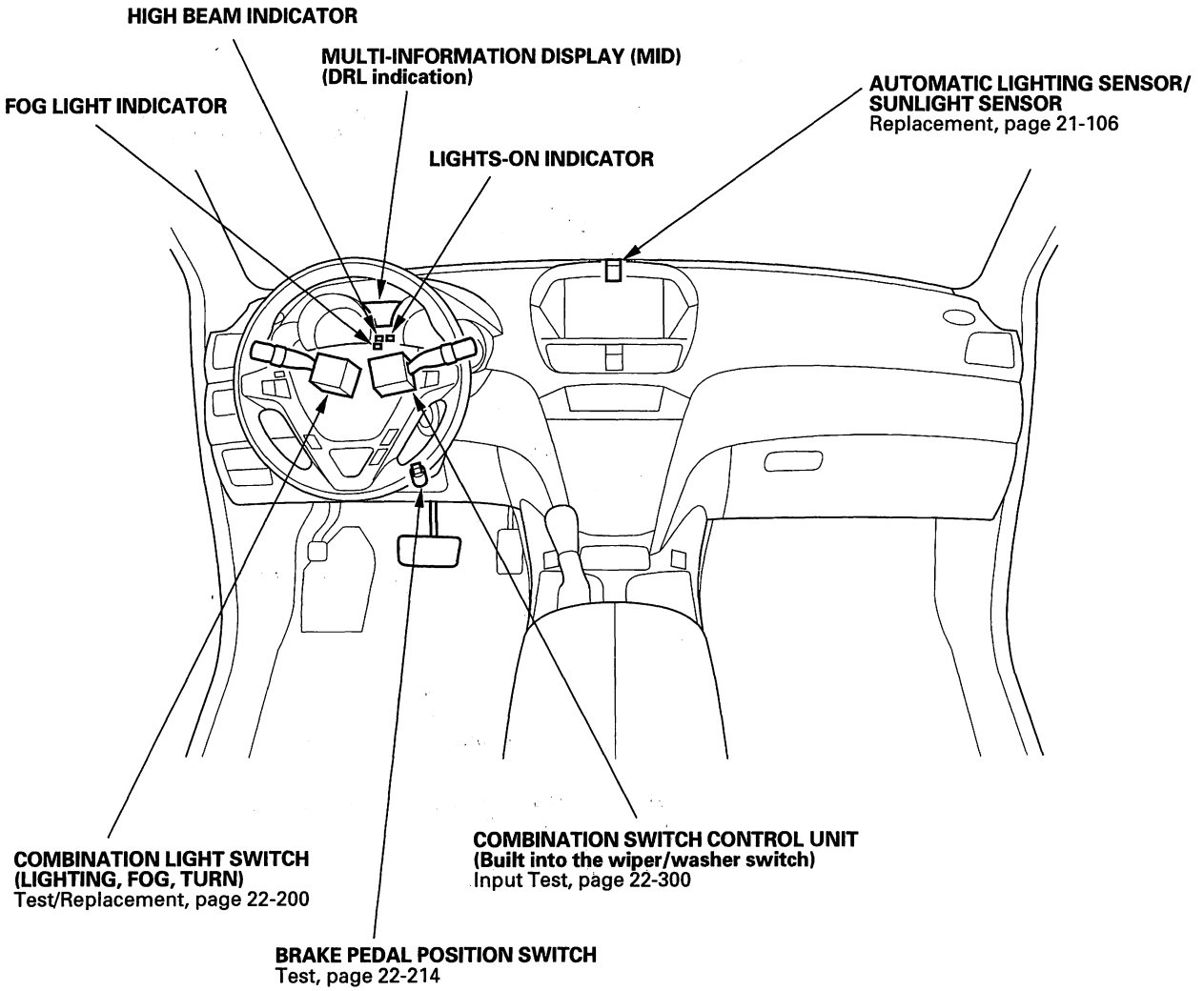
BACK




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## Component Location Index (cont'd)




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## System Description

### Daytime Running Lights

The daytime running lights system is composed of the relay control module, the combination control unit, the left and right daytime running lights, and the DRL indication on the multi-information display (MID). The daytime running lights operate with the ignition switch ON (II), the headlights off, and the parking brake released.

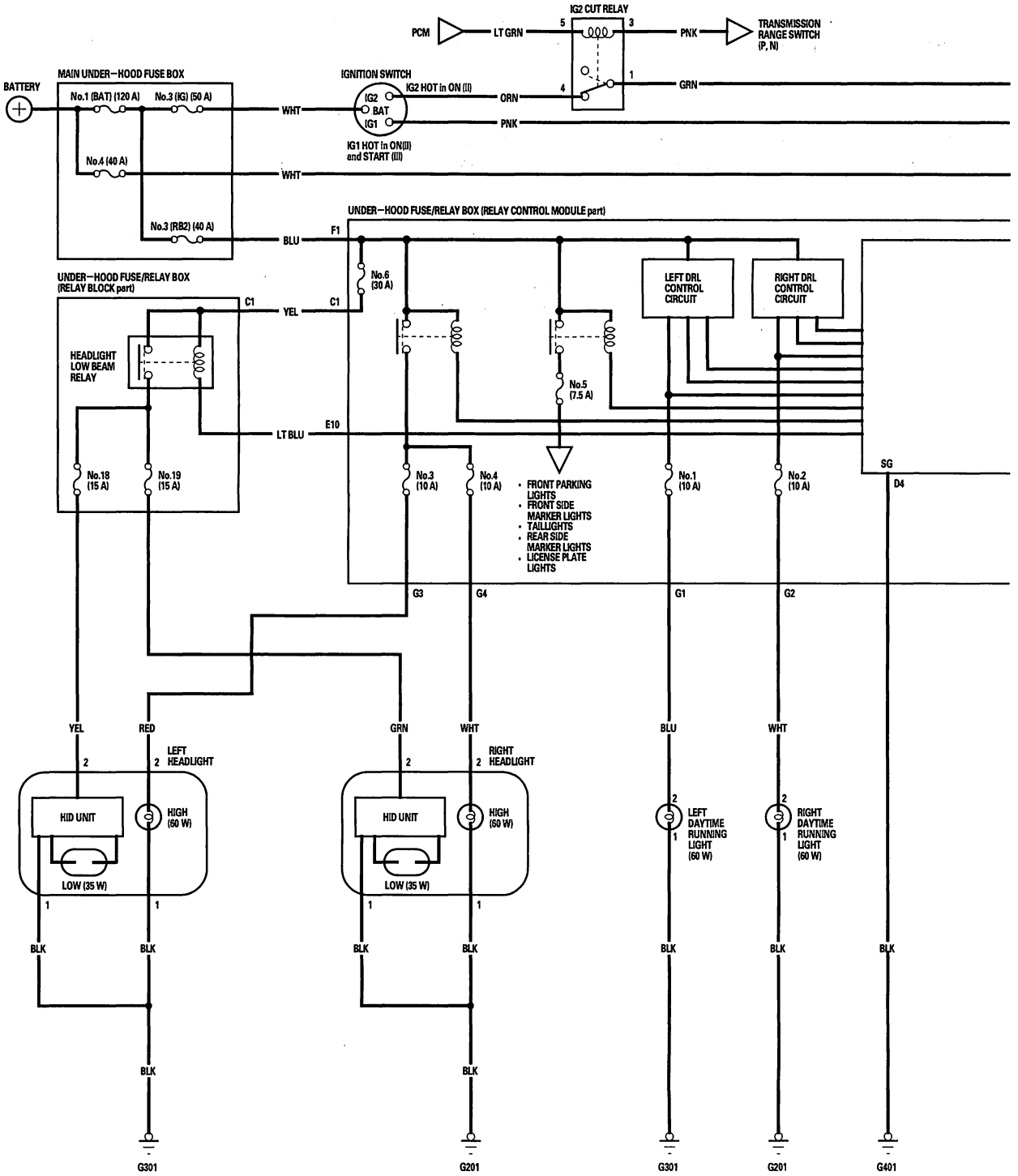
When the daytime running lights are on, the relay control module turns the left and right daytime running lights control circuit on and off (duty cycle) which provides a reduced voltage (approximately 6—8 volts) via the No. 1 and No. 2 fuses in the under-hood fuse/relay box. The DRL comes on with reduced brightness.

The gauge control module will show the DRL indication on the multi-information display (MID) with the ignition switch ON (II) and the parking brake released when a problem is detected with the daytime running lights circuit.

NOTE: The daytime running lights are disabled when the ignition switch is turned OFF. To keep the daytime running lights from coming on, apply the parking brake switch while the ignition switch OFF. When you then turn the ignition switch back ON (II), the daytime running lights will not come on until the parking brake is released.

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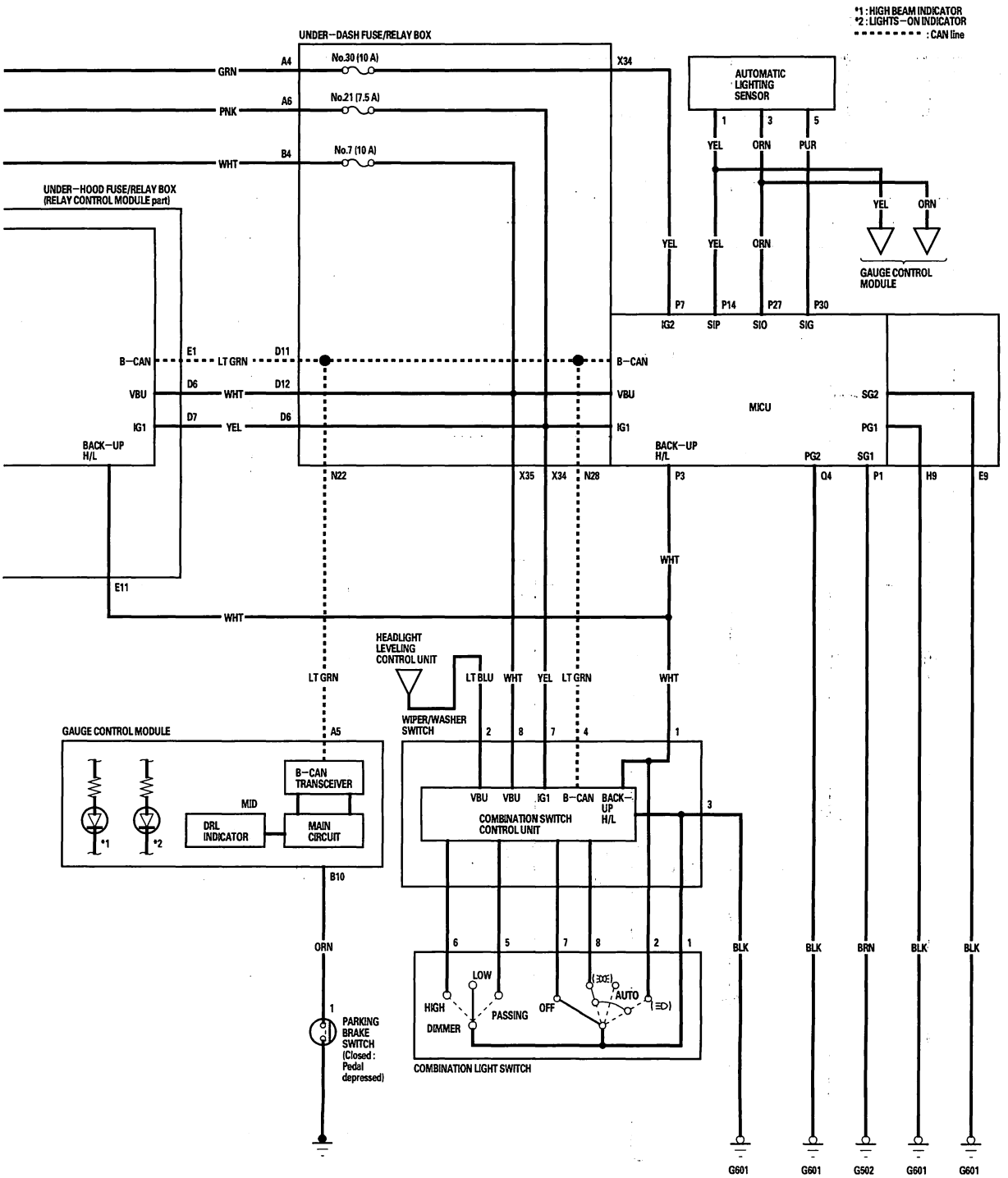
## Circuit Diagram




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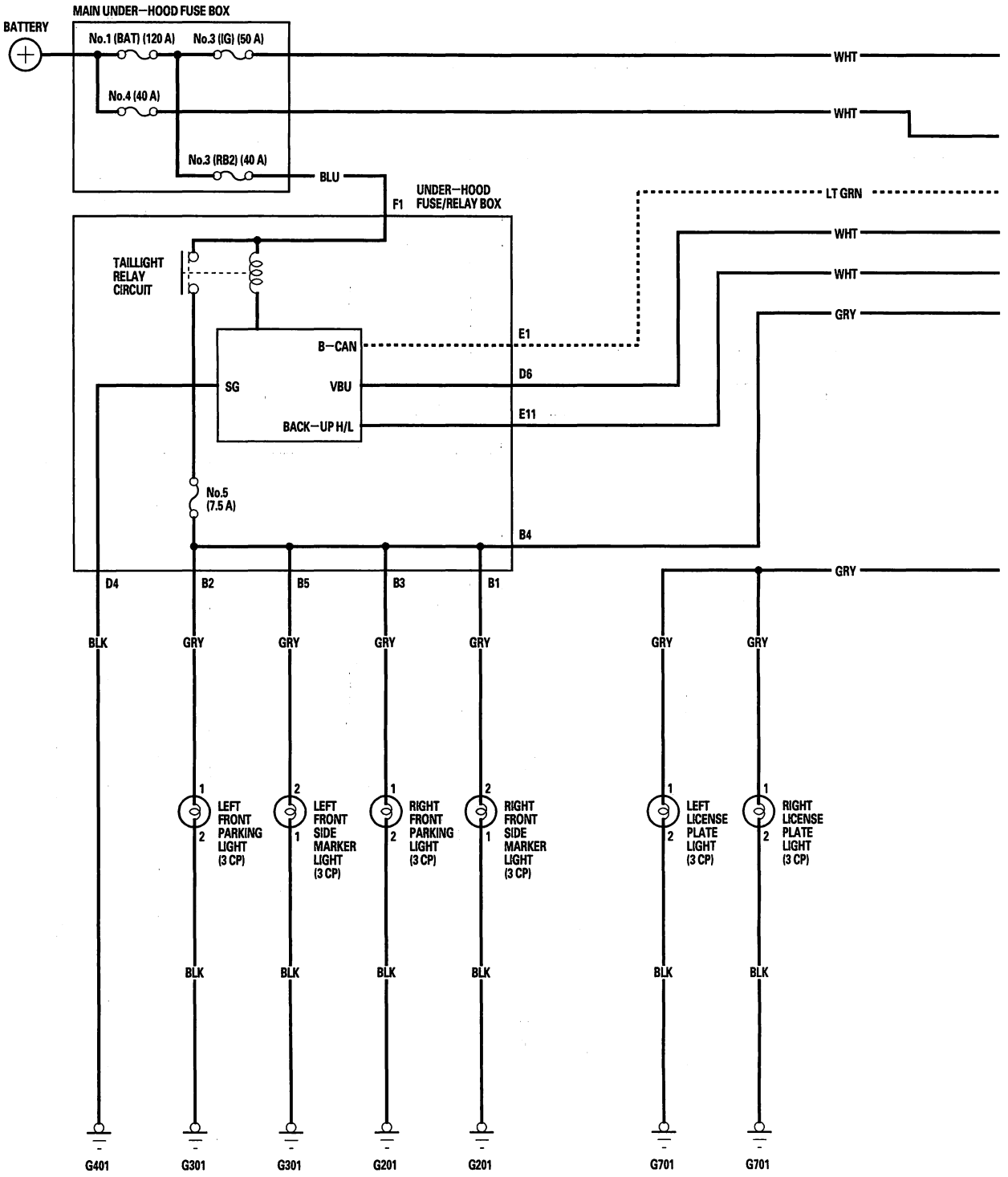


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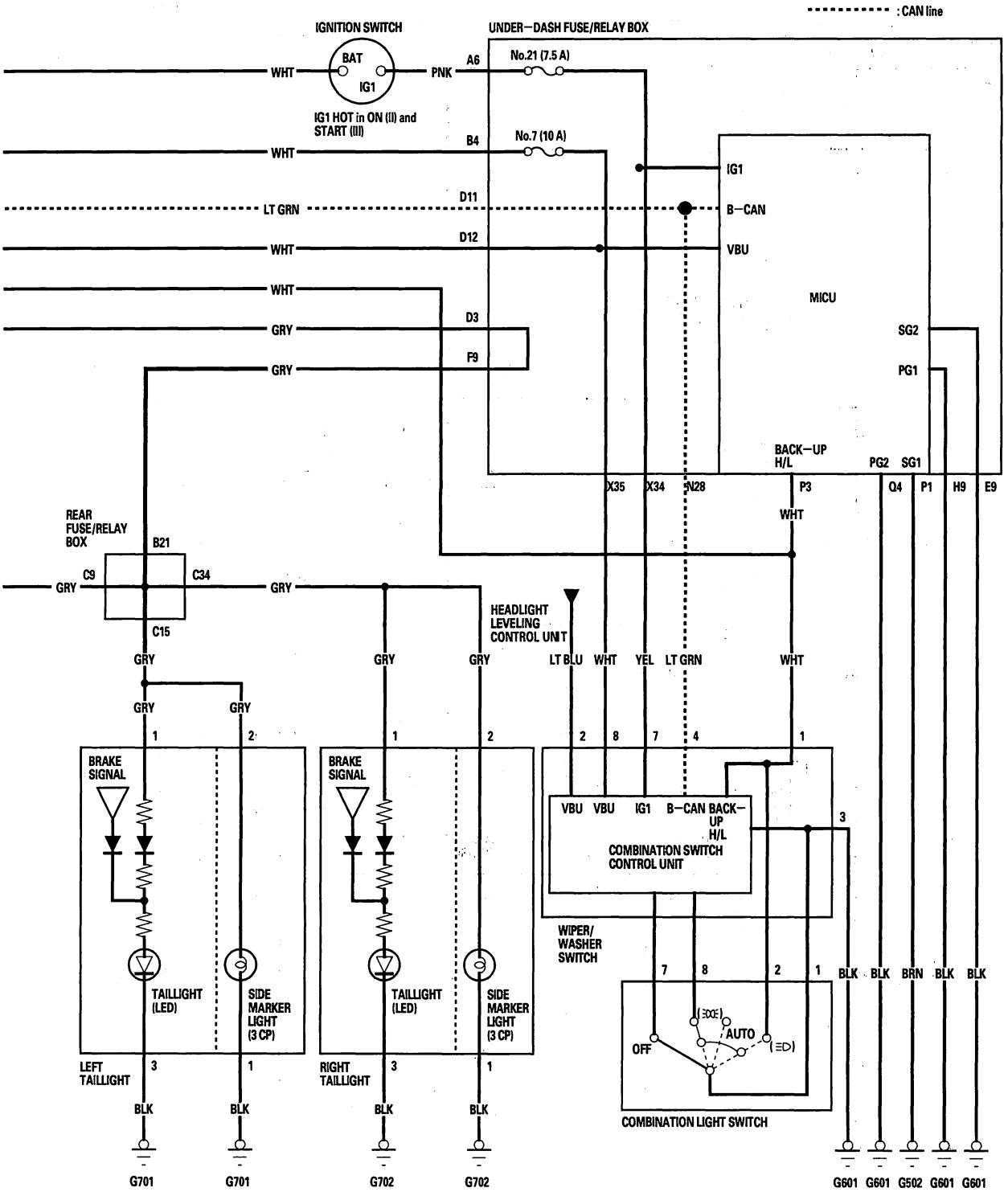
## Circuit Diagram - Parking/Side Marker/License Plate Lights, Taillights




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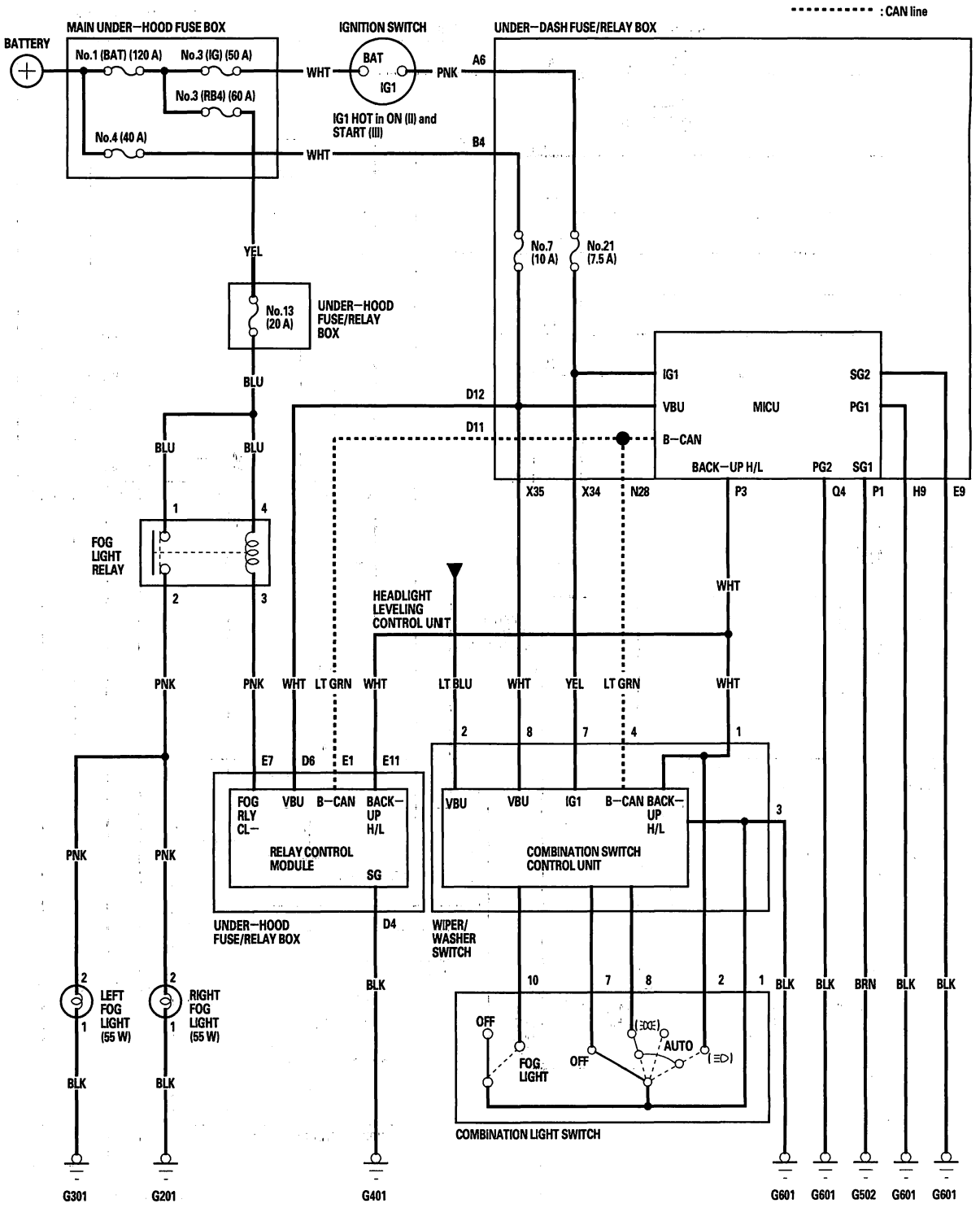


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## Circuit Diagram - Fog Lights

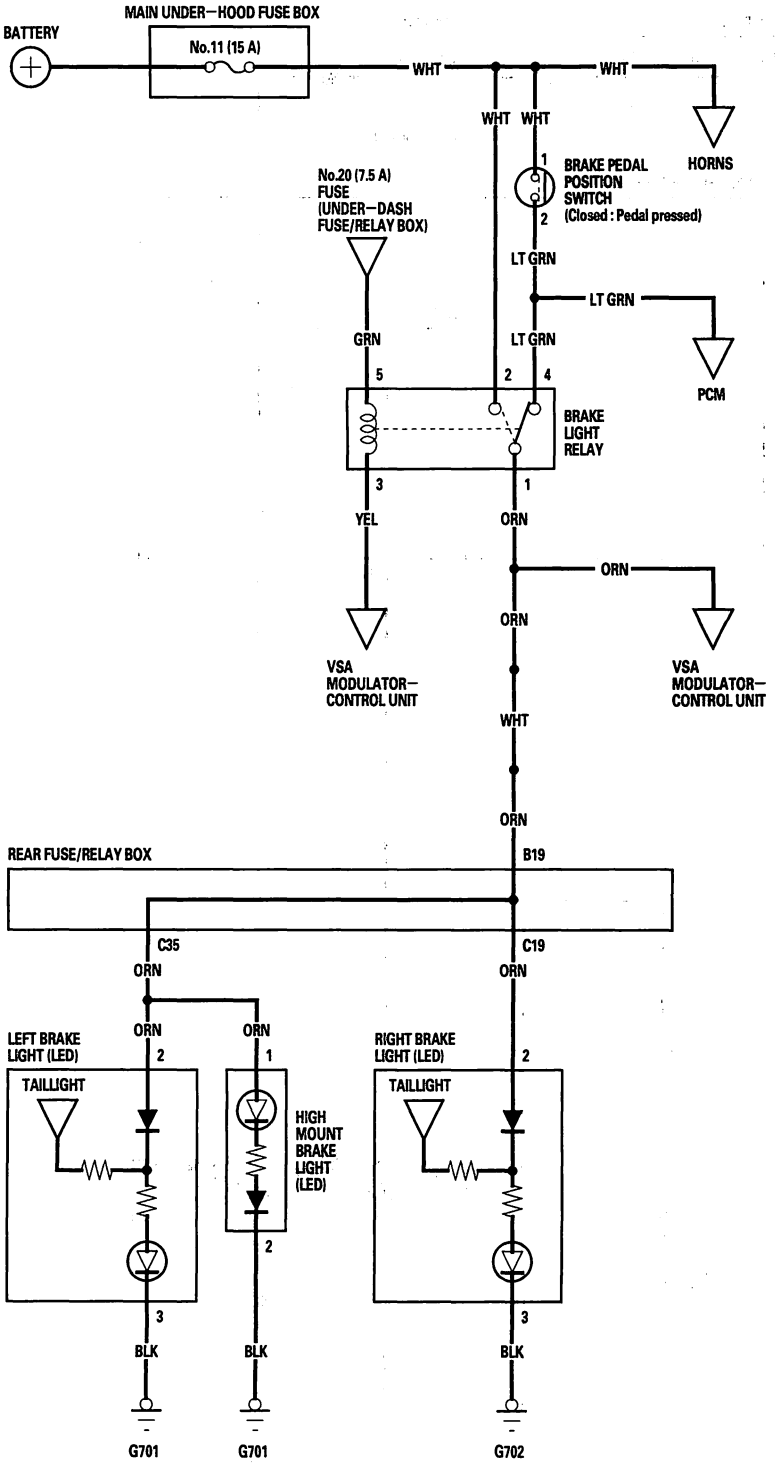



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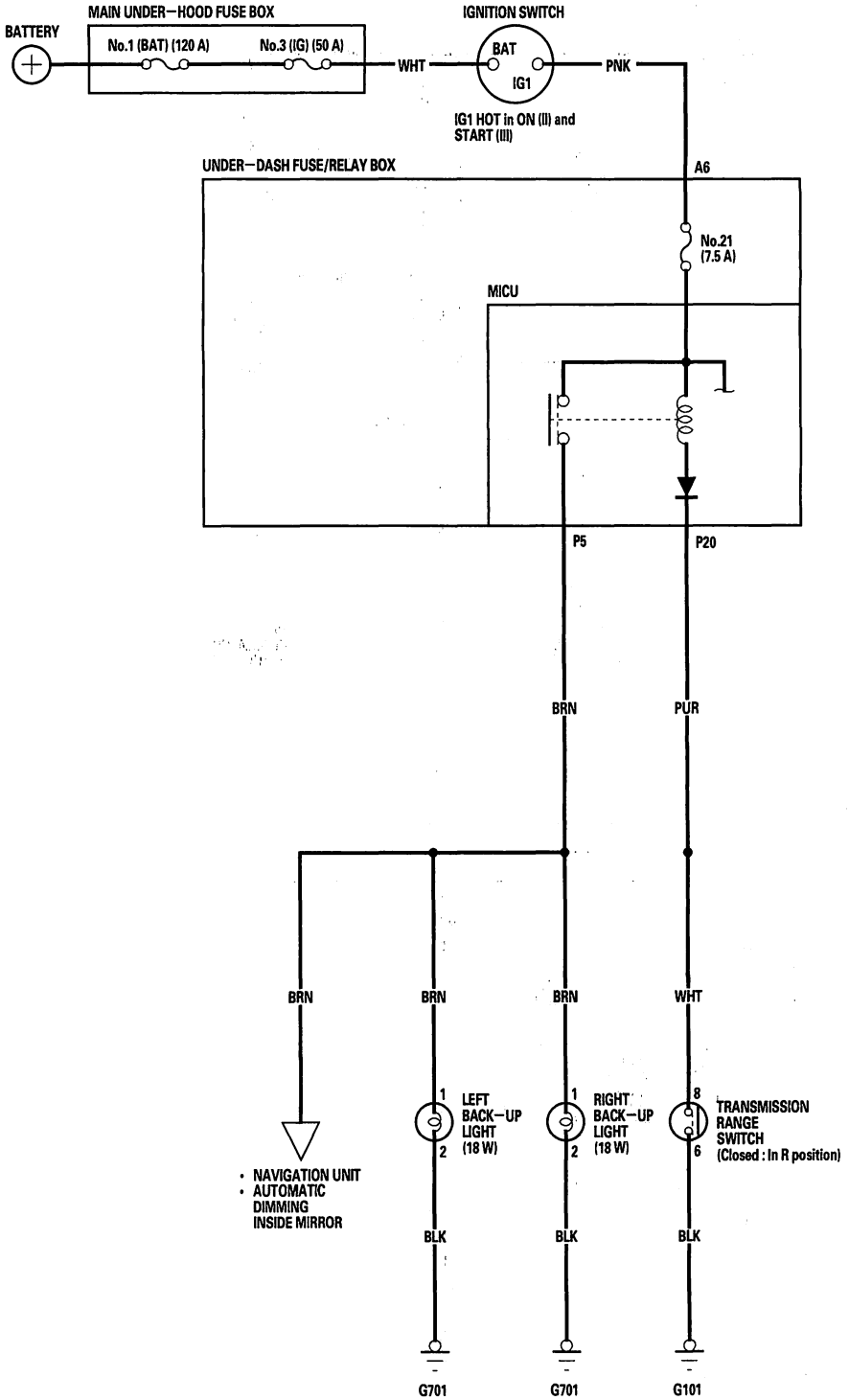
BACK

# Circuit Diagram - Brake Lights




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## Circuit Diagram - Back-up Lights




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BACK

# DTC Troubleshooting

## DTC B1075: Headlight Switch Back-up Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Turn the headlight switch ON for 5 seconds and OFF.
4. Check for DTCs with the HDS.

   *Is DTC B1075 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Select BODY ELECTRICAL system select menu, then enter the DATA LIST menu.
6. Check the ON/OFF information of the HEADLIGHT BACK-UP with the HDS.

   *Is OFF indicated?*

   **YES**—Go to step 7.

   **NO**—Check for a short in the WHT wire between the combination switch control unit and the relay control module (H/L BACK-UP line) or between the combination switch control unit and the MICU, if the harness is OK, replace the combination switch control unit (see page 22-300). ■
7. Turn the headlight switch ON.
8. Select BODY ELECTRICAL system select menu, then enter the DATA LIST menu.
9. Check the ON/OFF information of the HEADLIGHT BACK-UP with the HDS.

   *Is ON indicated?*

   **YES**—Go to the relay control module input test (see page 22-136) and check for a poor ground, if the GND line is OK, replace the under-hood fuse/relay box (see page 22-71). ■

   **NO**—Check for an open in the wire between the combination switch control unit and the relay control module (H/L BACK-UP line) or between the combination switch control unit and the MICU, if the wire is OK, replace the combination switch control unit (see page 22-302). ■

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## DTC Troubleshooting (cont'd)

### DTC B1078: Daytime Running Lights System Error (Canada)

### DTC B1079: Daytime Running Lights System Error (USA)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Turn the headlight switch OFF, and apply the parking brake.
2. Turn the ignition switch ON (II).
3. Clear the DTCs with the HDS.
4. Release the parking brake.
5. Turn the ignition switch OFF, and then back ON (II).
6. Check for DTCs with the HDS.

   *Is DTC B1078 or B1079 indicated?*

   **YES**—Go to step 7.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
7. Turn the ignition and headlight switches OFF.
8. Check the No. 1 (10 A) and No. 2 (10 A) fuses in the under-hood fuse/relay box.

   *Are the fuses OK?*

   **YES**—Go to step 9.

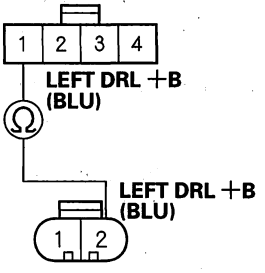
   **NO**—Replace the blown fuse and recheck. If the fuse blows again, repair short in the wire between the under-hood fuse/relay box and the appropriate daytime running lights.■
9. Check the daytime running light bulbs.

   *Are the daytime running light bulbs OK?*

   **YES**—Go to step 10.

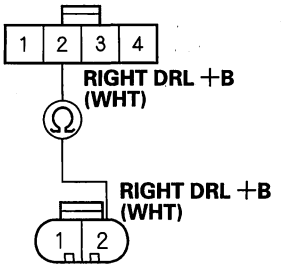
   **NO**—Replace the faulty bulb.■
10. Disconnect the under-hood fuse/relay box connector G (4P).
11. Disconnect the each daytime running light 2P connector.
12. Check for continuity between the each daytime running light 2P connector No. 2 terminal and the under-hood fuse/relay box connector G (4P) No. 1 and No. 2 terminals respectively.

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR G (4P)**
Wire side of female terminals




**LEFT DAYTIME RUNNING LIGHT 2P CONNECTOR**
Wire side of female terminals

**UNDER-HOOD FUSE/RELAY BOX CONNECTOR G (4P)**
Wire side of female terminals




**RIGHT DAYTIME RUNNING LIGHT 2P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.■

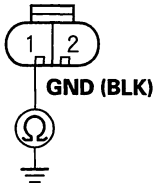
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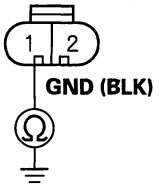
13. Check for continuity between the No. 1 terminal of each daytime running light 2P connector and body ground.

**LEFT DAYTIME RUNNING LIGHT 2P CONNECTOR**




Wire side of female terminals

**RIGHT DAYTIME RUNNING LIGHT 2P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Replace the relay control module. ■

**NO**—Repair open in the BLK wire or poor ground (G201-right side, G301-left side). ■

## **DTC B1252:** Combination Switch Control Unit Internal (EEPROM) Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

*Is DTC B1252 indicated?*

**YES**—Replace the combination switch control unit (see page 22-302). ■

**NO**—Intermittent failure, the system is OK at this time. ■

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## DTC Troubleshooting (cont'd)

### **DTC B1255:** Combination Switch Control Unit Lost Communication with MICU (MICU Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1255 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the combination switch control unit and the MICU. ■
5. Check for DTCs with the HDS.

   *Are DTC B1055, B1157, B1806, B1955, and B2155 also indicated?*

   **YES**—Go to the MICU input test (see page 22-132). ■

   **NO**—Go to the combination switch control unit input test (see page 22-300). ■

### **DTC B1275:** Combination Light Switch OFF Position Circuit Malfunction

### **DTC B1276:** Combination Light Switch Parking (SMALL) Position Circuit Malfunction

### **DTC B1277:** Headlight Switch AUTO Position Circuit Malfunction

### **DTC B1278:** Headlight Switch ON Position Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate each combination light switch position for more than 2 seconds, then turn the combination light switch OFF.
4. Check for DTCs with the HDS.

   *Is DTC B1275, B1276, B1277 and/or B1278 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect the combination light switch 20P connector from the combination light switch.
7. Do the combination light switch test (see page 22-200) and check for open or short in the combination light switch terminals in each switch position.

   *Is the combination light switch OK?*

   **YES**—Faulty combination switch control unit, replace the wiper/washer switch. ■

   **NO**—Replace the combination light switch. ■

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## **DTC B1279:** Headlight Switch DIMMER Position Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Turn the headlight switch ON.
4. Change the DIMMER switch from low beam to high beam and wait for 2 seconds.
5. Pull and hold the combination light switch lever, and hold the passing switch position for more than 2 seconds.
6. Check for DTCs with the HDS.

   *Is DTC B1279 indicated?*

   **YES**—Go to step 7.

   **NO**—Intermittent failure, the headlight switch DIMMER circuit is OK at this time. Check for loose or poor connections. ■
7. Turn the ignition switch OFF.
8. Disconnect the combination light switch 20P connector from the combination light switch.
9. Do the combination light switch test (see page 22-200) and check for open or short in the combination light switch terminals in each switch position.

   *Is the combination light switch OK?*

   **YES**—Faulty combination switch control unit, replace the wiper/washer switch. ■

   **NO**—Replace the combination light switch. ■

## **DTC B1280:** Turn Signal Switch Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Turn the turn signal switch to left position and wait for 2 seconds, then turn to right position and wait for 2 seconds.
4. Check for DTCs with the HDS.

   *Is DTC B1280 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the turn signal switch circuit is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect the combination light switch 20P connector from the combination light switch.
7. Do the combination light switch test (see page 22-200) and check for open or short in the turn signal switch terminals in each switch position.

   *Is the turn signal switch OK?*

   **YES**—Faulty combination switch control unit, replace the wiper/washer switch. ■

   **NO**—Replace the combination light switch. ■

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## DTC Troubleshooting (cont'd)

### DTC B1575: Automatic Lighting Sensor Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

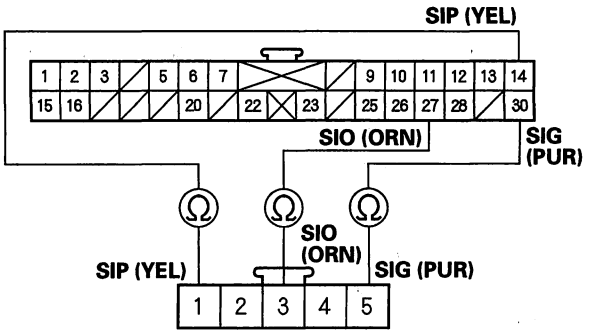
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B1575 indicated?*

   **YES**—Go to step 4.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the automatic lighting sensor and the MICU.■
4. Turn the ignition switch OFF.
5. Disconnect the under-dash fuse/relay box connector P (30P).
6. Disconnect the automatic lighting sensor 5P connector.
7. Disconnect the gauge control module connector A (12P).
8. Check for continuity between the under-dash fuse/relay box connector P (30P) No. 14, No. 27, and No. 30 terminals and the automatic lighting sensor 5P connector No. 1, No. 3 and No. 5 terminals respectively.

**UNDER-DASH FUSE/RELAY BOX CONNECTOR P (30P)**
Wire side of female terminals




**AUTOMATIC LIGHTING SENSOR 5P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair open in the wire.■

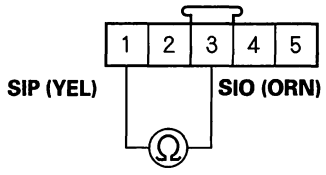
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BACK

9. Check for continuity between the automatic lighting sensor 5P connector No. 1 and No. 3 terminals.

**AUTOMATIC LIGHTING SENSOR 5P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire between the No. 1 and No. 3 terminals. ■

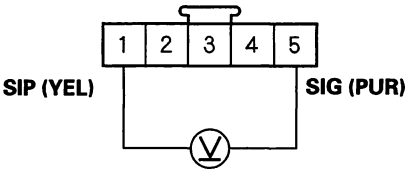
**NO**—Go to step 10.

10. Reconnect the under-dash fuse/relay box connector P (30P).

11. Turn the ignition switch ON (II).

12. Measure the voltage between the automatic lighting sensor 5P connector No. 1 and No. 5 terminals.

**AUTOMATIC LIGHTING SENSOR 5P CONNECTOR**




Wire side of female terminals

*Is there about 5 V?*

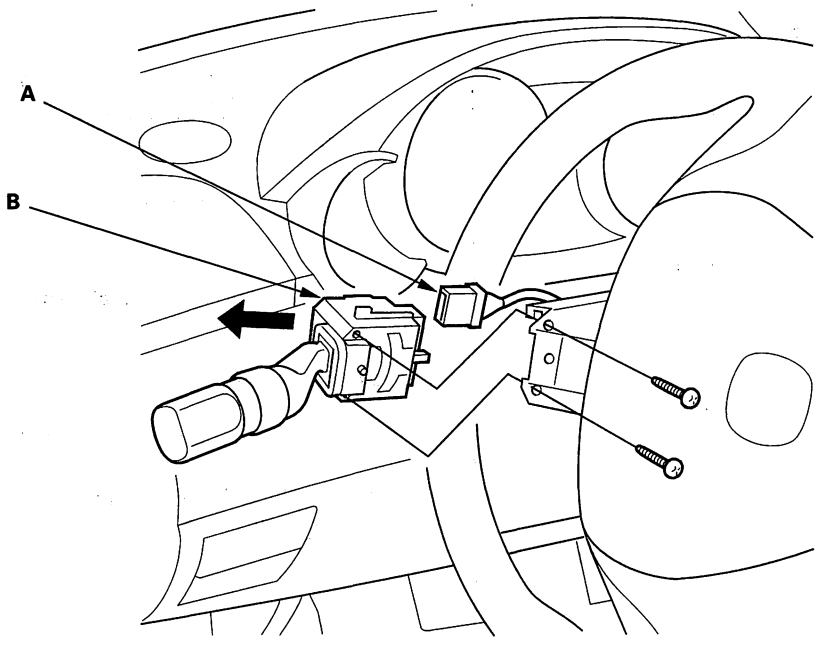
**YES**—Replace the automatic lighting sensor. ■

**NO**—Replace the under-dash fuse/relay box (see page 22-72). ■

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## Combination Light Switch Test/Replacement

1. Remove the driver's dashboard lower cover (see page 20-119).
2. Remove the steering column covers (see page 20-129).
3. Disconnect the combination light switch 20P connector (A) from the combination light switch (B).




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

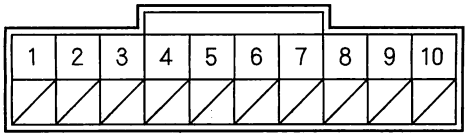
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BACK

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.




Terminal side of male terminals

**Light switch:**

| Position \ Terminal | | | 4 | 9 | 6 | 5 | 3 | 10 |
|---|---|---|---|---|---|---|---|---|
| Headlight switch | OFF | | ○ | | | | | ○ |
| | ≡OO≡ | | | | | | ○ | ○ |
| | ≡D | LOW | | ○ | | | ○ | ○ |
| | | HIGH | | ○ | | | ○ | ○ |
| | | | | | | ○ | | ○ |
| Passing switch | OFF | | | | | | | |
| | ON | | | | ○ | | | ○ |

**Turn signal switch:**

| Position \ Terminal | 8 | 7 | 10 |
|---|---|---|---|
| LEFT | ○ | | ○ |
| Neutral | | | |
| RIGHT | | ○ | ○ |

**Fog light switch:**

| Position \ Terminal | 1 | 10 |
|---|---|---|
| OFF | | |
| ON | ○ | ○ |

6. If the continuity check is not as specified, replace the switch.

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## HID Lamp System Troubleshooting

**⚠ WARNING**

A transient high tension (25,000 V) occurs at the bulb sockets or the high intensity discharge (HID) lamps when the combination light switch is turned ON, it may cause serious electrical shock or electrocution if you do not observe the cautions below.

**⚠ CAUTION**

- Never turn on the combination light switch before fitting the HID bulbs to their bulb sockets and completing the reassembly of the headlight assembly.
- Do not service the headlights assembly in wet conditions, such as rain or snow, near a sprinkler system, or when your hands are wet to prevent electrocution.
- Do not touch the surface of the HID bulbs with your bare hands and do not stain it with any oils and fats.
- Do not disassemble the inverter unit and the igniter unit.
- Do not turn on the HID bulb by using a power source other than the battery mounted on your vehicle.

NOTE:
- Before troubleshooting, check the No. 19 (15 A), and No. 18 (15 A) fuses in the under-hood fuse/relay box.
- Cool down the HID bulb before checking.
- After checking, the HID system requires about 5 minutes to be normal condition.
- Before troubleshooting, make sure you have the anti-theft code for the radio and navigation system (if equipped).
- After connecting the battery cables, enter the anti-theft code for the radio and navigation system (if equipped), then set the clock.

1. Turn the ignition switch ON (II).

2. Select the BODY ELECTRICAL menu, then enter the HEADLIGHT COMMAND from the FUNCTIONAL TESTS, and turn the headlights on repeatedly.

   *Do the headlights come on?*

   **YES**—Go to the combination light switch test and the combination switch input test. ■

   **NO**—Go to step 3.

3. Turn the headlight switch and the ignition switch OFF.

4. Disconnect the negative battery cable, then disconnect the positive cable.

5. Remove the bulb socket from the HID bulb (see page 22-207).

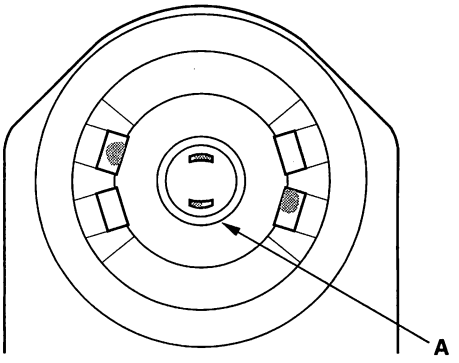
6. Check for loose or poor connections between the bulb socket and the HID bulb.

   *Is the connection OK?*

   **YES**—Go to step 7.

   **NO**—Install the bulb and the bulb socket correctly and recheck. ■

7. Check the condition of the HID bulb socket mating surface (A).




   *Are the terminals corroded or burnt?*

   **YES**—Replace the bulb socket, and recheck. ■

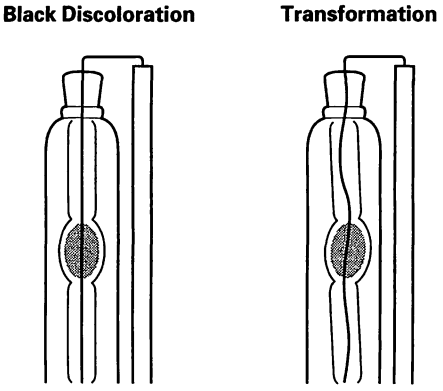
   **NO**—Go to step 8.

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BACK

8. Remove the bulb, and check the luminescence part of the HID bulb.




*Is there black discoloration or transformation?*

**YES**—Replace the HID bulb(s), and recheck. ■

**NO**—Go to step 9.

9. Substitute the right and left HID bulbs.

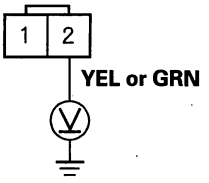
*Does the symptom change to the other side?*

**YES**—Replace the HID bulb and recheck. ■

**NO**—Go to step 10.

10. Turn the combination light switch OFF.
11. Disconnect the HID unit 2P connector.
12. Turn the combination light (headlight) switch ON.
13. Measure the voltage between the No. 2 terminal of the HID unit 2P connector and body ground.

**HID UNIT 2P CONNECTOR**




Wire side of female terminals

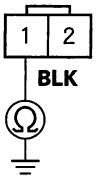
*Is there battery voltage?*

**YES**—Go to step 14.

**NO**—Repair open in the wire between the HID unit and under-hood fuse/relay box. If the wire is OK, replace the under-hood fuse/relay box (see page 22-71).

14. Check for continuity between the No. 1 terminal of the HID unit 2P connector and body ground.

**HID UNIT 2P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Faulty HID unit. ■

**NO**—Repair open in the wire between the HID unit and body ground. If the wire is OK, check for poor ground (G201/G301). ■

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## Headlight Adjustment

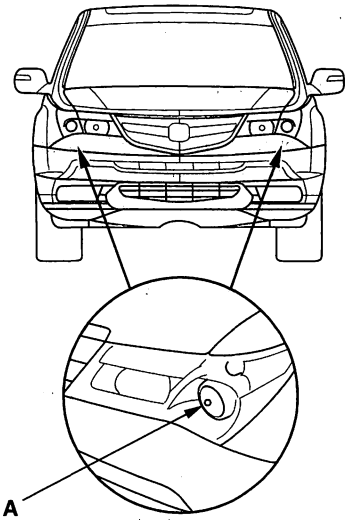
**⚠CAUTION**

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

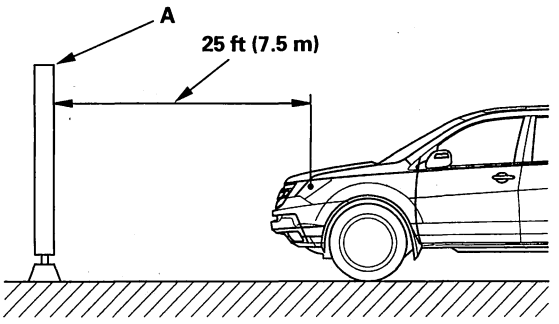
Before adjusting the headlights:

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

1. Clean the outer lens so that you can see the center (A) of the headlights.



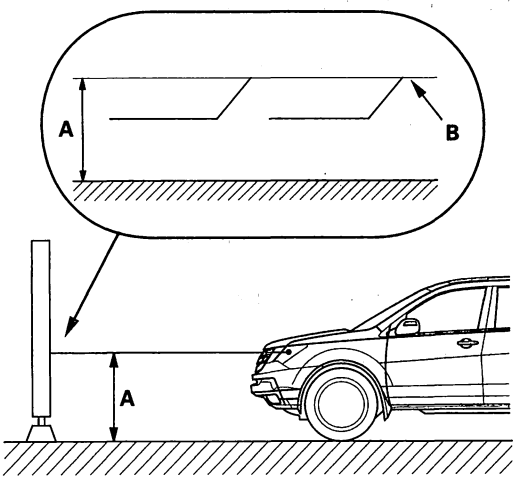

2. Park the vehicle in front of a wall or a screen (A).




3. Turn the low beams on.

4. Determine if the headlights are aimed properly.

   Vertical adjustment:
   Measure the height of the headlights (A).
   Adjust the cut line (B) to the lights height.

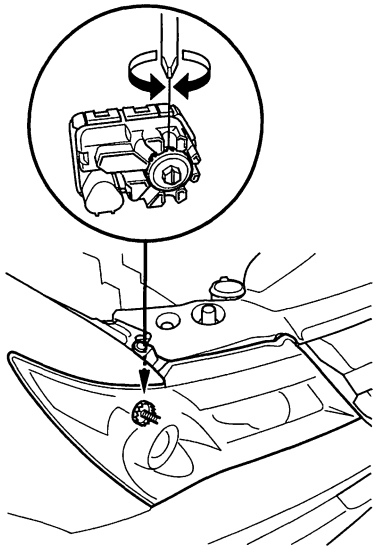



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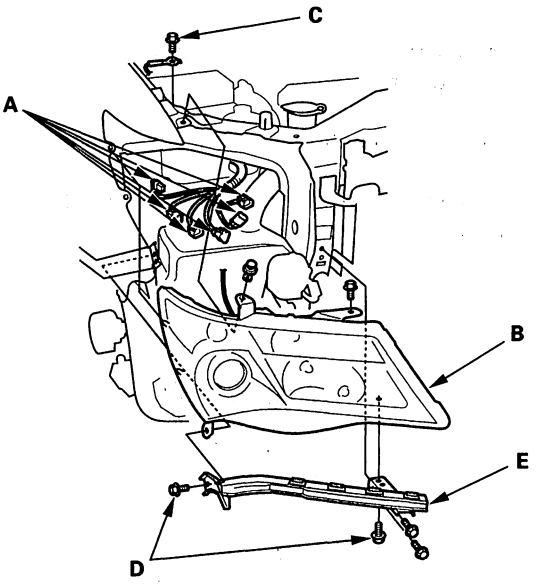
BACK

5. If necessary, open the hood and adjust the headlights to local requirements by turning the vertical adjuster.



## Headlight Replacement

1. Remove the front bumper (see page 20-188).
2. Remove the connectors (A) from the headlight assembly (B).

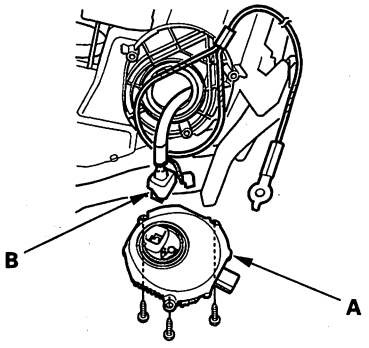



3. Remove the security strap bolt (C).
4. Remove the clips and bolts, then remove the headlight.
5. Remove the bolt (D) and the corner upper beam (E) from the headlight.
6. Install the headlight in the reverse order of removal.
7. After the replacement, then do the headlights learning procedure (see page 22-231) and aim the headlights per local requirements.

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## HID Unit Replacement

1. Make sure you have the anti-theft code for the radio and the navigation system (if equipped). Make sure the ignition switch is OFF.
2. Turn the combination light switch OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable.
4. Remove the headlight assembly (see page 22-205).
5. Remove the three mounting screws and the HID unit (A).




6. Disconnect the 4P connector (B) from the HID unit.
7. Inspect the gasket for damage. If damaged, replace it.
8. Install in the reverse order of removal.
9. Enter the anti-theft codes for the radio and the navigation system, then set the clock.

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## HID Bulb Replacement

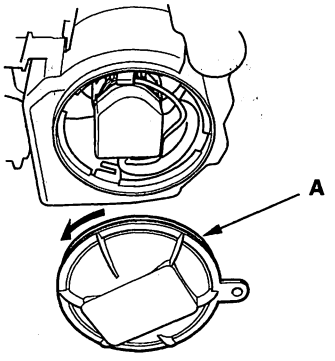
**⚠WARNING**

A transient high tension (25,000 V) occurs at the bulb sockets of the high intensity discharge (HID) lamps when the combination light switch is turned ON, it may cause serious electrical shock or electrocution if you do not observe the cautions below.

**⚠CAUTION**

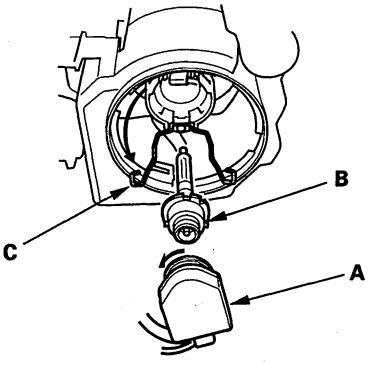
- Never turn on the combination light switch before fitting the HID bulbs to their bulb sockets and completing the reassembly of the headlight assembly.
- Do not service the headlights assembly in wet conditions, such as rain or snow, near a sprinkler system, or when your hands are wet to prevent electrocution.
- Do not touch the surface of the HID bulbs with your bare hands and do not stain it with any oils and fats.
- Do not disassemble the inverter unit and the igniter unit.
- Do not turn on the HID bulb by using a power source other than the battery mounted on your vehicle.

1. Make sure you have the anti-theft codes for the radio and the navigation system (if equipped). Make sure the ignition switch is OFF.
2. Turn the combination light switch OFF.
3. Disconnect the negative battery cable, then disconnect the positive cable.
4. Remove the headlight assembly (see page 22-205).
5. Turn the cover (A) 45 ° counterclockwise to remove it from the headlight assembly.




6. Turn the socket (A) 45 ° counterclockwise to remove it from the bulb (B).

**Headlight: 35 W**




7. Pull the retaining spring (C) away from the bulb then remove the bulb.
8. Install the new bulb in the reverse order of removal. Make sure the notches in the bulb align with the tabs in the headlight.
9. After reconnecting the battery, enter the anti-theft codes for the radio and the navigation system, then set the clock.

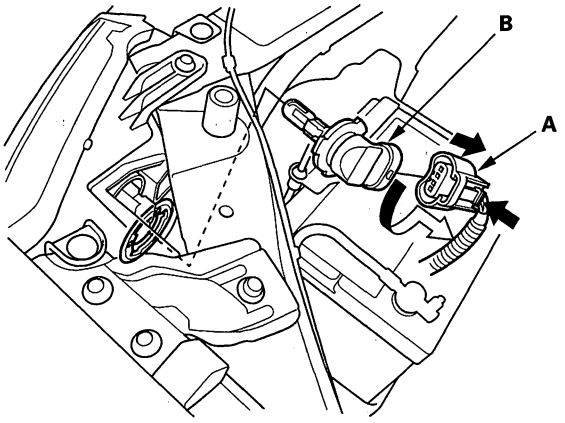
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## Bulb Replacement

### Headlight Bulb (High Beam)

1. Remove the left or right upper fender trim (see page 20-218).
2. For the left headlight, remove the battery cover, remove the battery hold-down by removing the two nuts, then slide the battery to access the bulb.
3. Disconnect the 2P connector (A) from the headlight bulb socket (B).

**Headlight Bulb: 60 W**



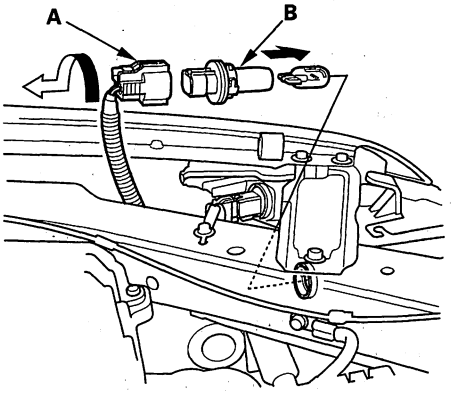

4. Turn the bulb socket 45 ° counterclockwise to remove it from the headlight housing.
5. Install a new bulb in the reverse order of removal. Make sure the notches in the bulb align with the tabs in the headlight.

NOTE: Do not touch the glass of the bulb with your hands. If necessary, clean the glass area with alcohol.

### Front Parking Light Bulb

1. Remove the left or right upper fender trim (see page 20-218).
2. For right parking light, remove the clip from windshield washer reservoir.
3. Disconnect the 2P connector (A) from the front parking light bulb socket (B).

**Front Parking Light Bulb: 3 CP**




4. Turn the bulb socket 45 ° counterclockwise to remove it from the headlight housing.
5. Install a new bulb in the reverse order of removal.

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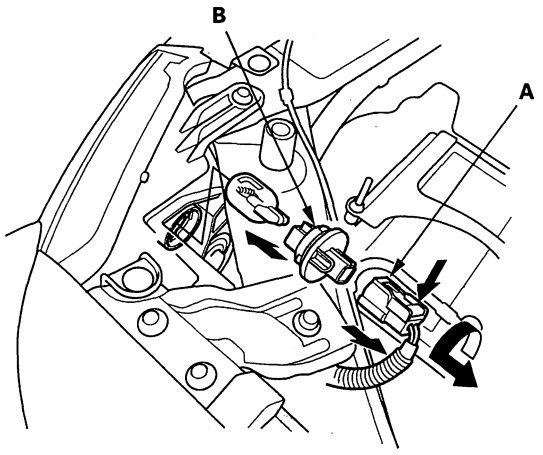


BACK

## Front Turn Signal Light Bulb

1. Remove the left or right upper fender trim (see page 20-218).
2. For the left light, remove the battery cover, remove the battery hold-down by removing the two nuts, then slide the battery to access the bulb.
3. Disconnect the 3P connector (A) from the bulb socket (B).

**Front Turn Signal Light Bulb: 21 W**

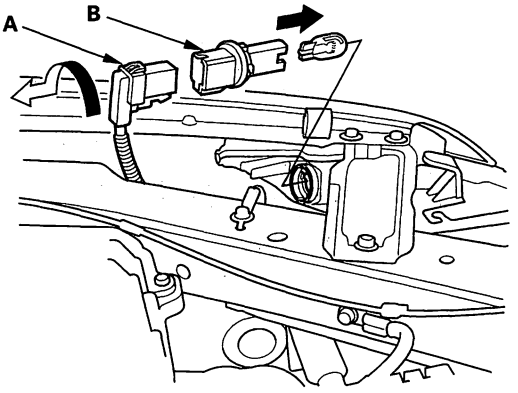



4. Turn the bulb socket 45 °counterclockwise to remove it from the headlight housing.
5. Install a new bulb in the reverse order of removal.

## Front Side Marker Light

1. Disconnect the 2P connector (A) from the front turn signal/front parking light.

**Front Side Marker Light: 3 CP**

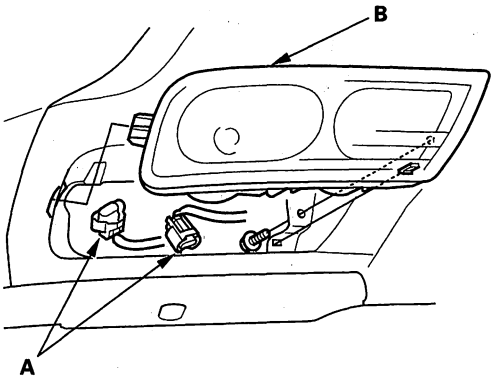



2. Turn the bulb socket (B) 45 °counterclockwise to remove it from the headlight housing.
3. Install a new bulb in the reverse order of removal.

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## Fog Light/Daytime Running Light Replacement

1. Remove the front bumper (see page 20-188).
2. Disconnect the 2P connectors from the fog light and the daytime running light.



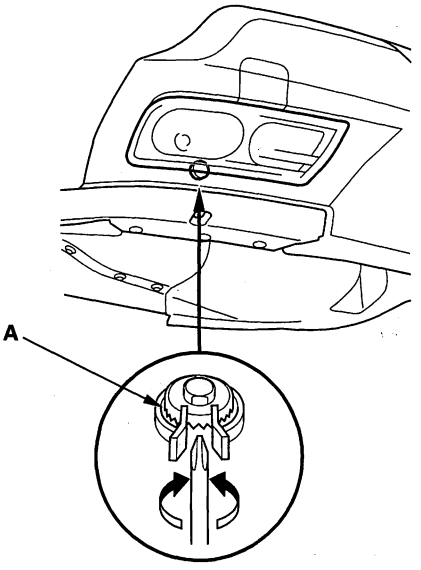

3. Remove the screw, then remove the light.
4. Install the light in the reverse order of removal.
5. After replacement, adjust the fog lights/daytime running lights (see page 22-210).

## Fog Light/Daytime Running Light Adjustment

Before adjusting the fog light/daytime running light:

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

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




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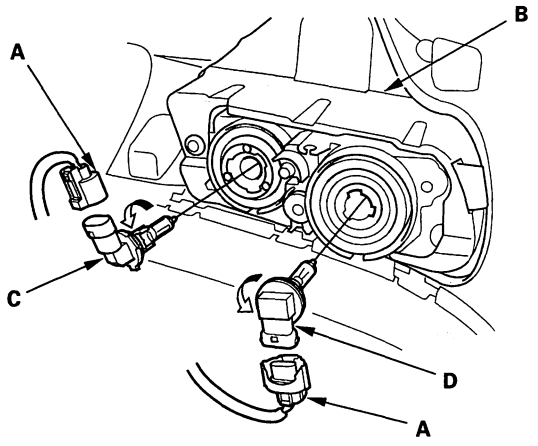
BACK

# Fog Light/Daytime Running Light Bulb Replacement

1. Remove the inner fender (see page 20-217).

2. Disconnect the 2P connectors (A) from the fog lights/daytime running lights (B).

   **Fog Light: 55 W**
   **Daytime Running Light: 60 W**




3. Turn the fog light bulb socket (C) and the daytime running light bulb socket (D) 45 ° counterclockwise to remove them from the housing.

4. Install new bulb(s) in the reverse order of removal.

   NOTE: Do not touch the glass of the bulb with your hands. If necessary, clean the glass area with alcohol.

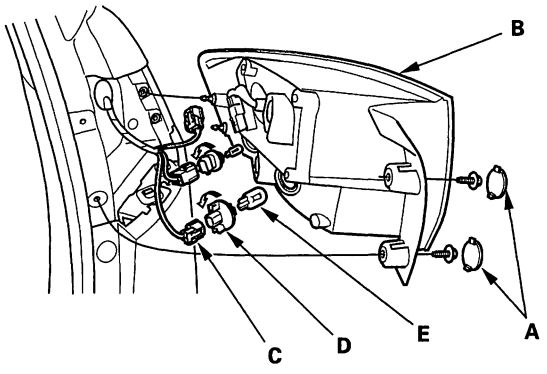
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## Taillight Replacement

### Taillight

1. Remove the covers (A) and two bolts from the taillight (B).

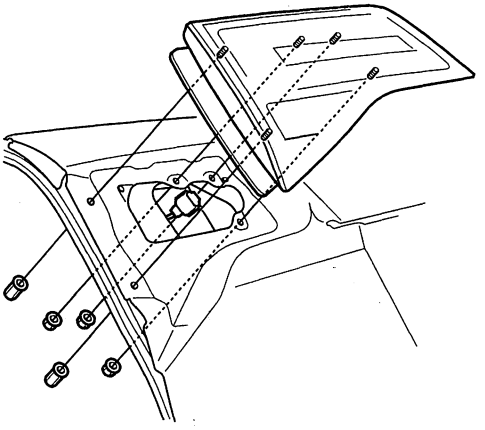
   **Rear Turn Signal Light: 21 W**
   **Rear Side Marker Light: 3 CP**




2. Carefully pull out the taillight.
3. Disconnect the connectors (C) from the taillight.
4. Turn the bulb sockets (D) 45 ° counterclockwise to remove the bulbs (E).
5. Install the light in the reverse order of removal.

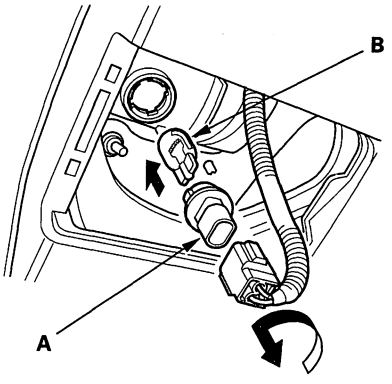
### Inner Taillight

1. Remove the tailgate lid panel (see page 20-96).
2. Disconnect the 2P connector (A) from the inner taillight (B).



3. Remove the five nuts, then remove the inner taillight.
4. Turn the bulb socket (A) 45 ° counterclockwise to remove the bulb (B).

   **Back-up Light: 21 W**




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

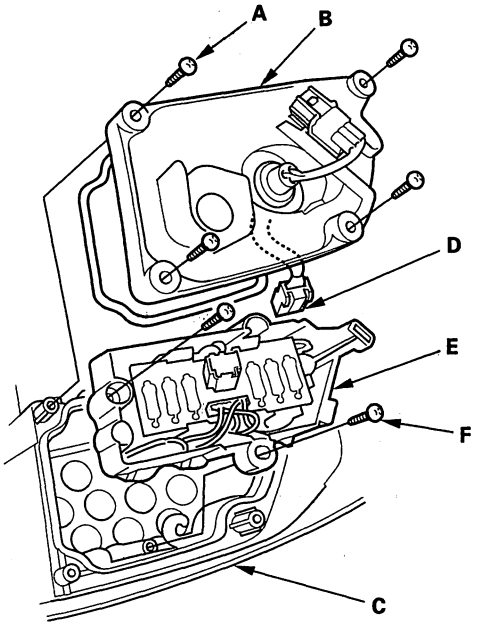
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## Taillight/Brake Light LED Replacement

1. Remove the taillight (see page 22-212).
2. Remove the four screws (A) and the back cover (B) from the taillight (C).

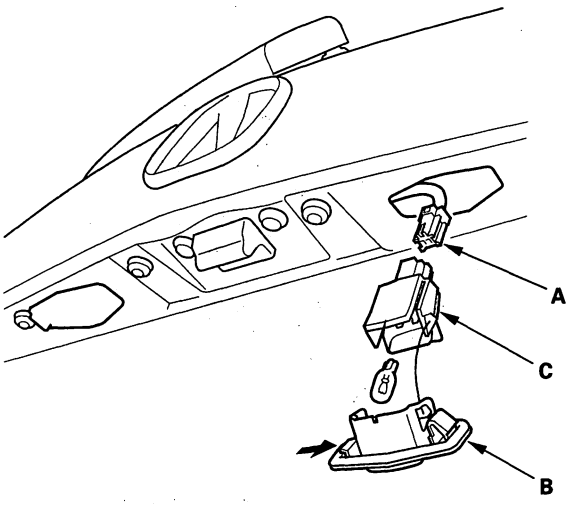



3. Carefully disconnect the connector (D) from the taillight/brake light LED (E).
4. Remove the two screws (F) and the taillight/brake light LED from the taillight housing.
5. Inspect the gasket, if the gasket is distorted or compressed, replace it.
6. Install a new LED in the reverse order of removal.

## License Plate Light Replacement

1. Pull the license plate light assembly out, and disconnect the 2P connector (A) from the light.

**License Plate Light: 3 CP**

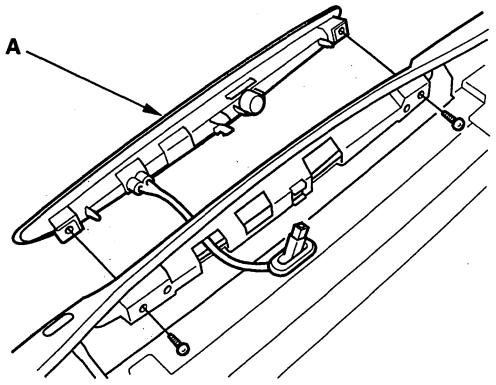



2. Separate the lens (B) and housing (C), then remove the bulb.
3. Install the light in the reverse order of removal.

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## High Mount Brake Light Replacement

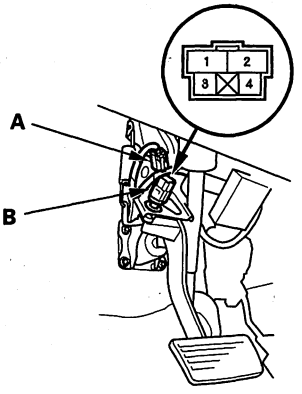
1. Remove the tailgate spoiler (see page 20-213).
2. Remove the two screws from the high mount brake light (A).




3. Disconnect the 2P connector (B) from the high mount brake light.
4. Install the light in the reverse order of removal.

## Brake Pedal Position Switch Test

1. Disconnect the 4P connector (A) from the brake pedal position switch (B).




2. 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.
3. Check for continuity between the No. 3 and No. 4 terminals.
   - There should be no continuity when the brake pedal is pressed.
   - There should be continuity when the brake pedal is released.
4. If necessary, adjust or replace the switch, or adjust the pedal height (see page 19-6).

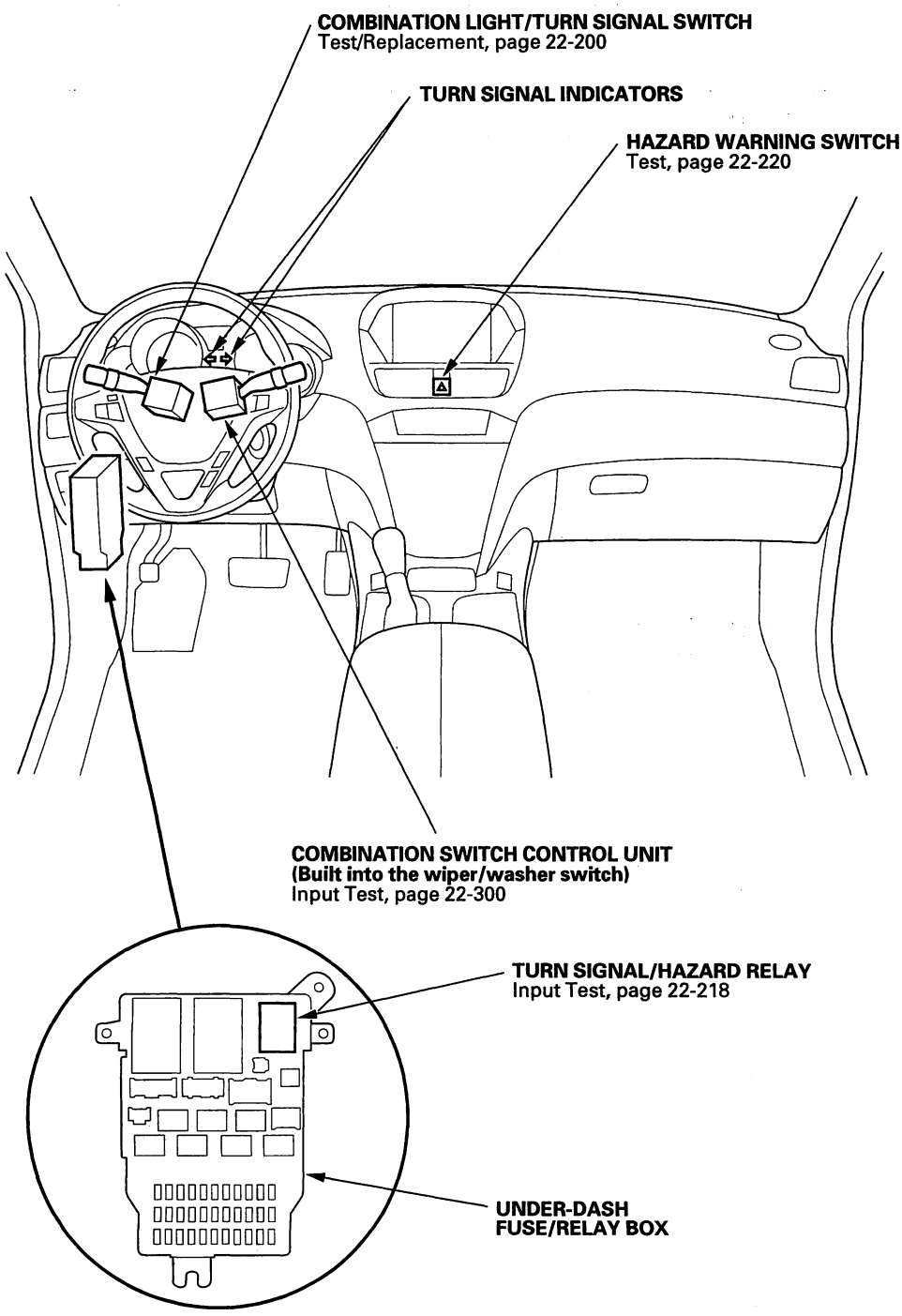
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# Turn Signal/Hazard Flasher

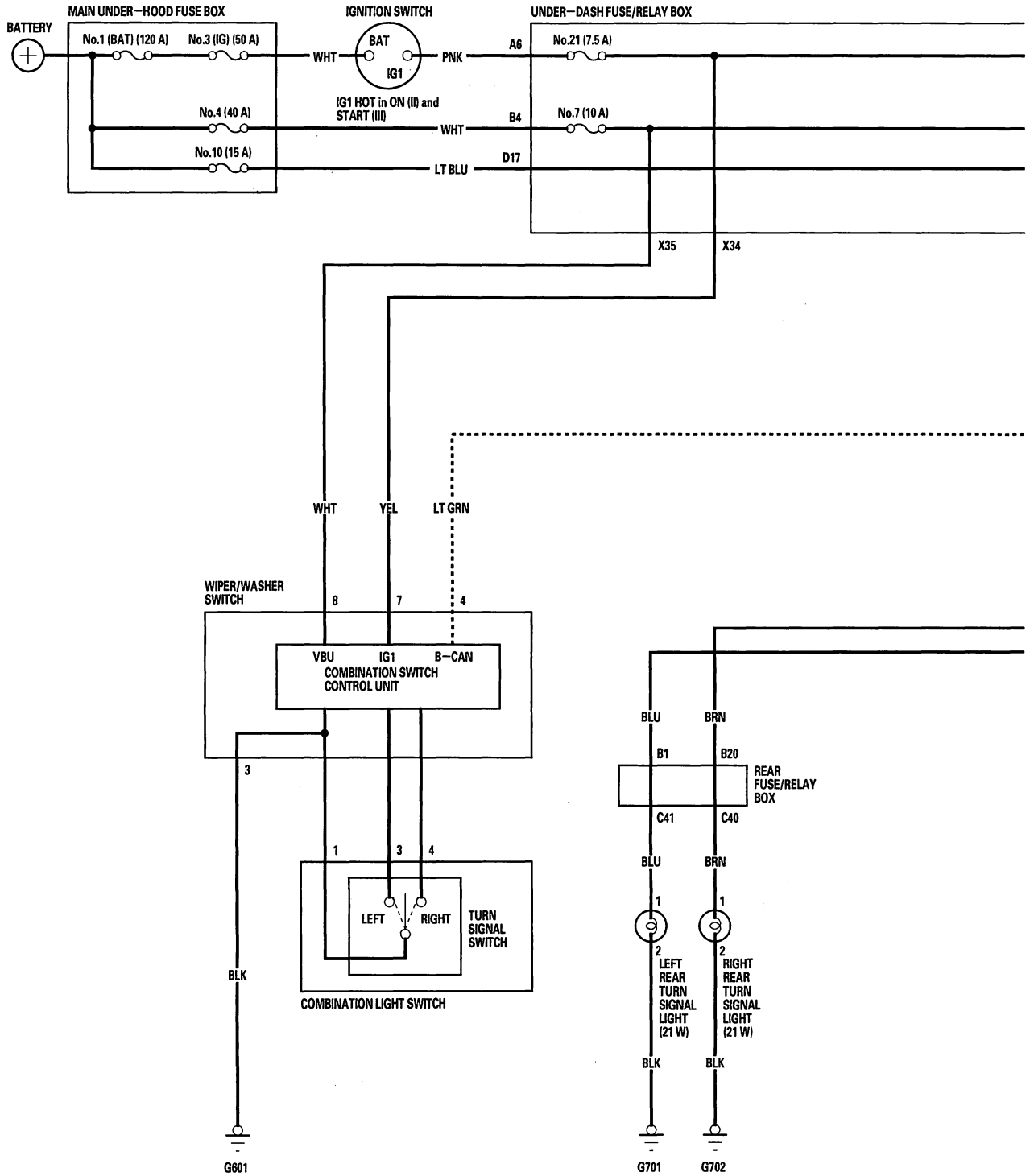
## Component Location Index




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# Turn Signal/Hazard Flasher

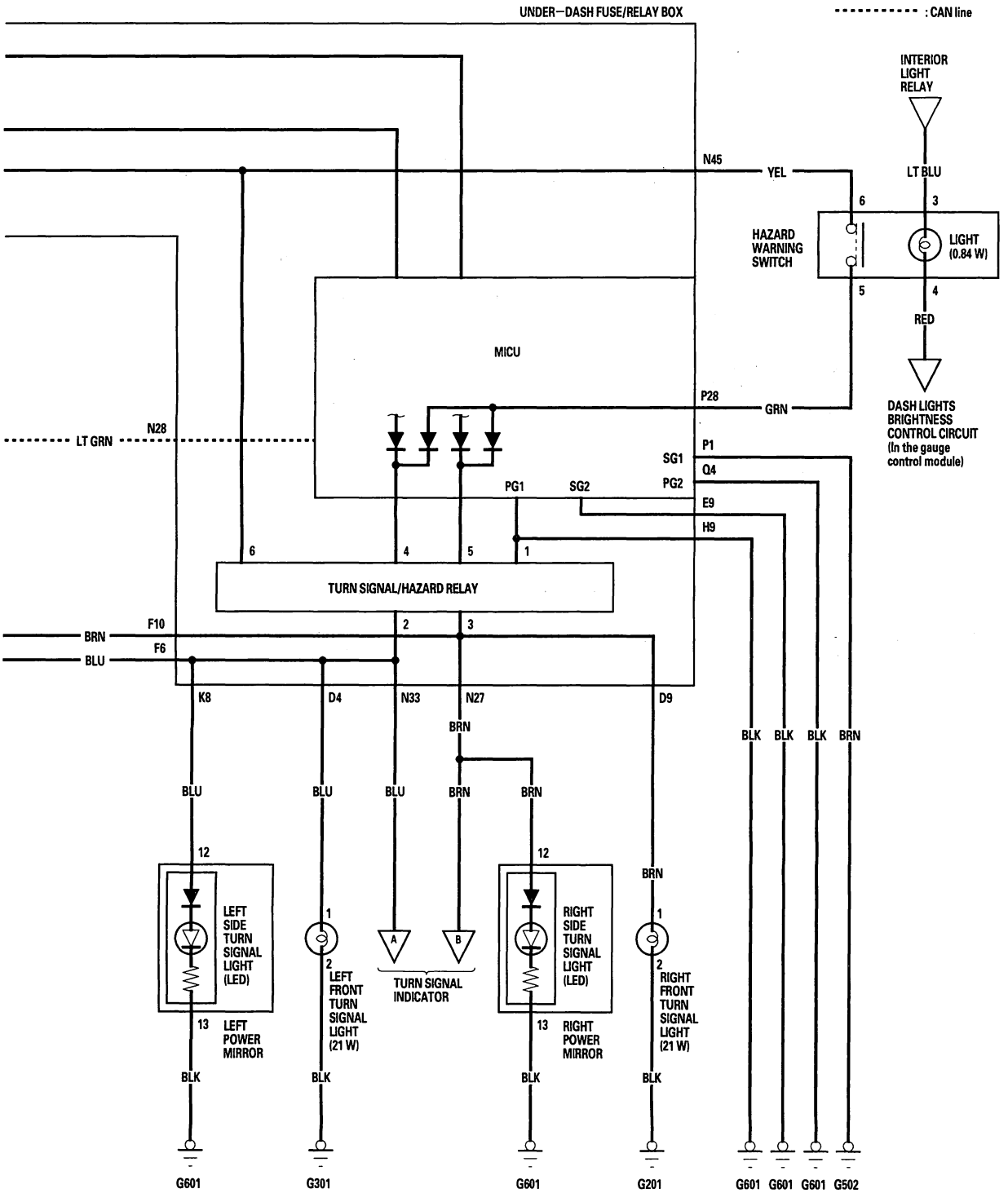
## Circuit Diagram




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BACK

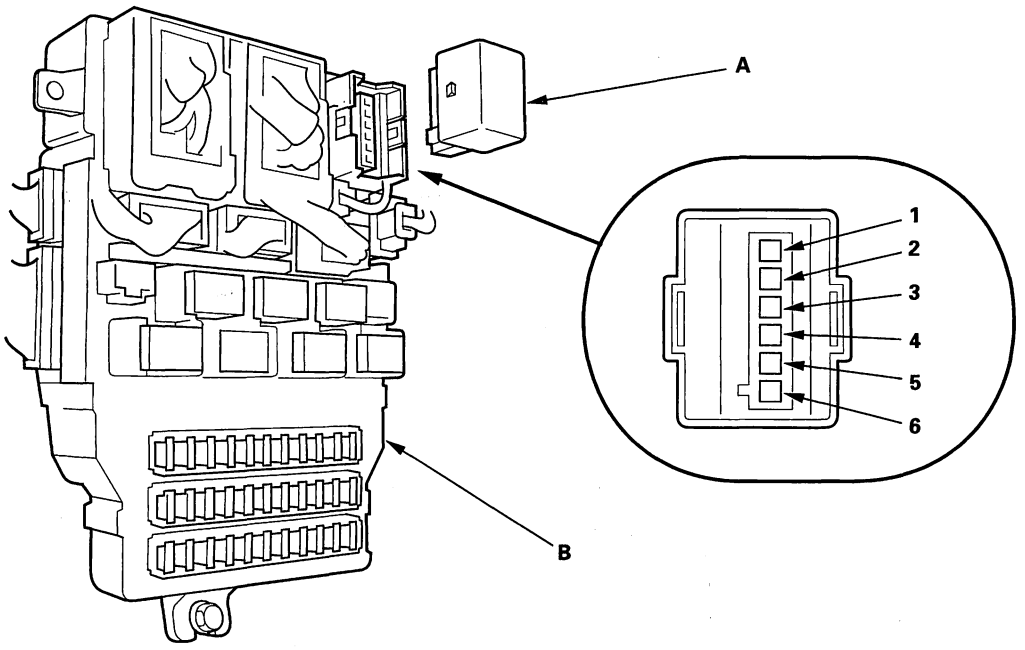



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# Turn Signal/Hazard Flasher

## Turn Signal/Hazard Relay Input Test

1. Remove the turn signal/hazard relay 1 (A) from the driver's 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.

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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 | Teat condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|
| 6 | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 10 (15 A) fuse in the main under-hood fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| 1 | Under all conditions | Check for continuity to ground: There should be continuity. | • Poor ground (G601)<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| 2 | Connect the No. 6 terminal to the No. 2 terminal with a jumper wire. | Check the turn signal lights operation. The left turn signal lights and indicator should come on. | • Blown bulb<br>• Poor ground (G301, G601, G701)<br>• Faulty LED<br>• An open in the wire |
| 3 | Connect the No. 6 terminal to the No. 3 terminal with a jumper wire. | Check the turn signal lights operation. The right turn signal lights and indicator should come on. | • Blown bulb<br>• Poor ground (G201, G601, G701)<br>• Faulty LED<br>• An open in the wire |
| 4 | Ignition switch ON (II) and turn signal switch in Left position. | Measure the voltage to ground. There should be about 10 V or more. | • Poor ground (G601)<br>• Faulty turn signal switch<br>• Faulty under-dash fuse/relay box<br>• An open in the wire<br>• Faulty combination switch control unit*<br>• Faulty MICU* |
| 5 | Ignition switch ON (II) and turn signal switch in Right position. | Measure the voltage to ground. There should be about 10 V or more. | |
| 4 | Hazard warning switch ON | Measure the voltage to ground. There should be about 10 V or more. | • Poor ground (G601)<br>• Blown No. 10 (15 A) fuse in the main under-hood fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Faulty hazard warning switch<br>• An open in the wire<br>• Faulty MICU* |
| 5 | | Measure the voltage to ground. There should be about 10 V or more. | |

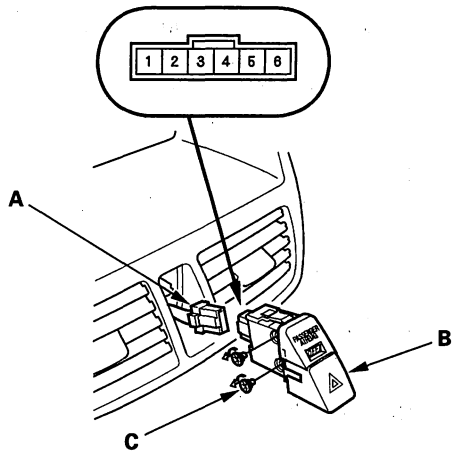
* : Go to the B-CAN System Diagnosis Test Mode A (see page 22-112).

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# Turn Signal/Hazard Flasher

## Hazard Warning Switch Test

1. Remove the center panel (see page 20-121).
2. Disconnect the 6P connector (A) from the hazard warning switch (B).



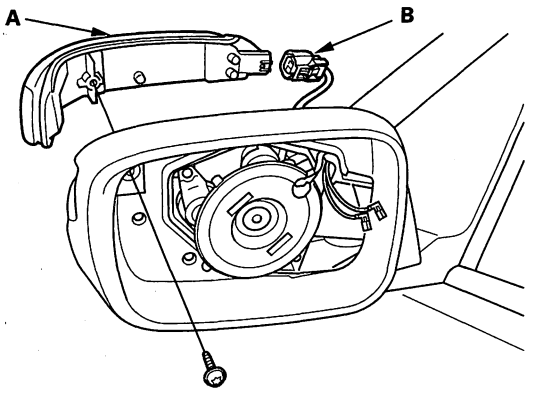

3. Remove the hazard warning switch from behind the center panel.
4. Check for continuity between the terminals in each switch position according to the table.

| Terminal / Position | 5 | 6 | 3 | | 4 |
|---|---|---|---|---|---|
| OFF | | | ○ | ⊓ | ○ |
| ON | ○ | ○ | ○ | ⊓ | ○ |

5. If the continuity is not as specified, replace the bulb (C) or the hazard warning switch.

## Side Turn Signal Light Replacement

1. Remove the mirror holder (see page 20-43).
2. Remove the screw, then pull out the side turn signal light (A).




3. Disconnect the 2P connector (B) from the light.
4. Install in the reverse order of removal.

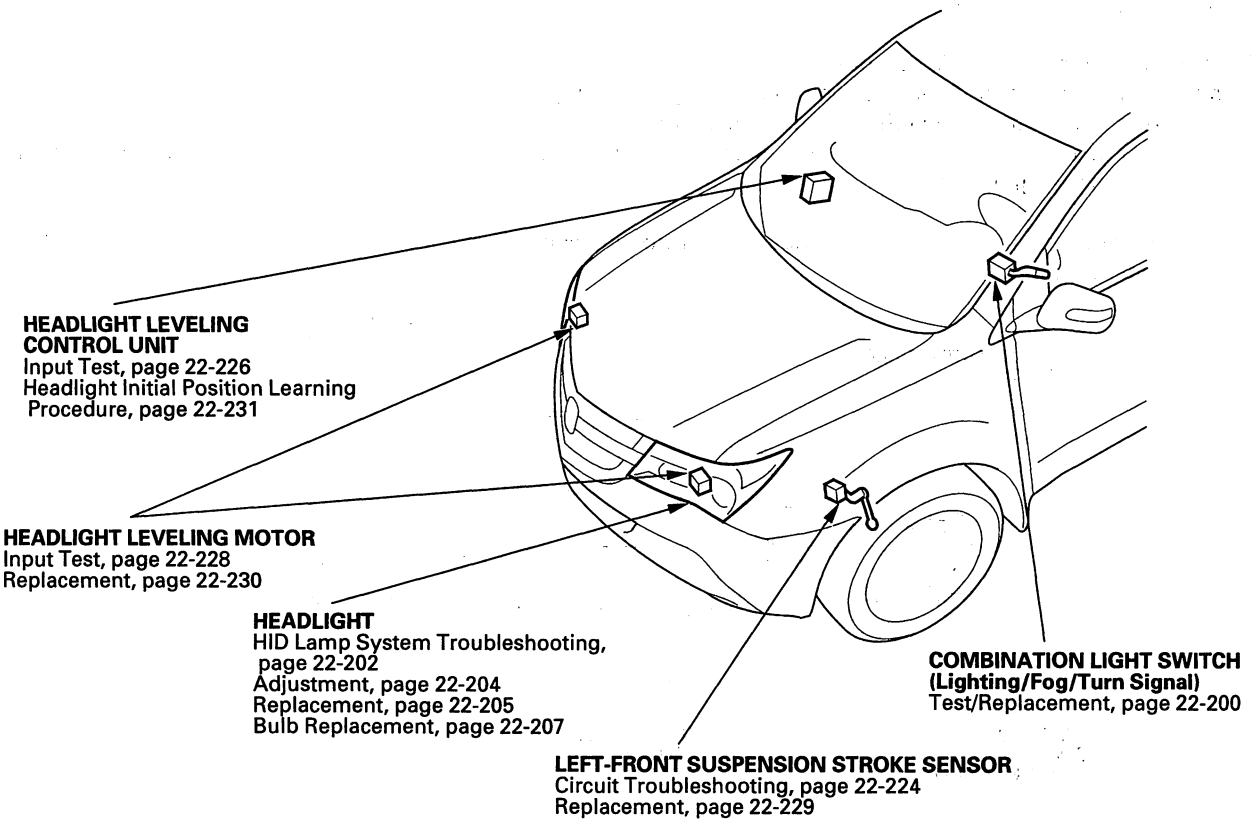
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BACK

# Headlight Leveling System

## Component Location Index



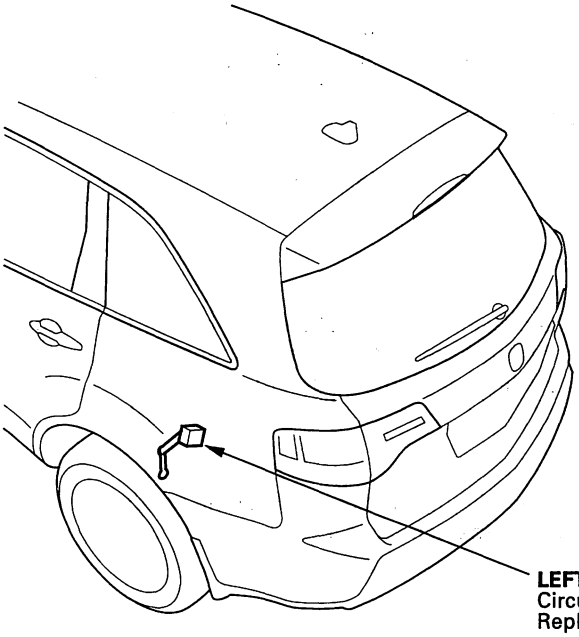
**HEADLIGHT LEVELING CONTROL UNIT**
Input Test, page 22-226
Headlight Initial Position Learning Procedure, page 22-231

**HEADLIGHT LEVELING MOTOR**
Input Test, page 22-228
Replacement, page 22-230

**HEADLIGHT**
HID Lamp System Troubleshooting, page 22-202
Adjustment, page 22-204
Replacement, page 22-205
Bulb Replacement, page 22-207

**COMBINATION LIGHT SWITCH (Lighting/Fog/Turn Signal)**
Test/Replacement, page 22-200

**LEFT-FRONT SUSPENSION STROKE SENSOR**
Circuit Troubleshooting, page 22-224
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**LEFT-REAR SUSPENSION STROKE SENSOR**
Circuit Troubleshooting, page 22-224
Replacement, page 22-229

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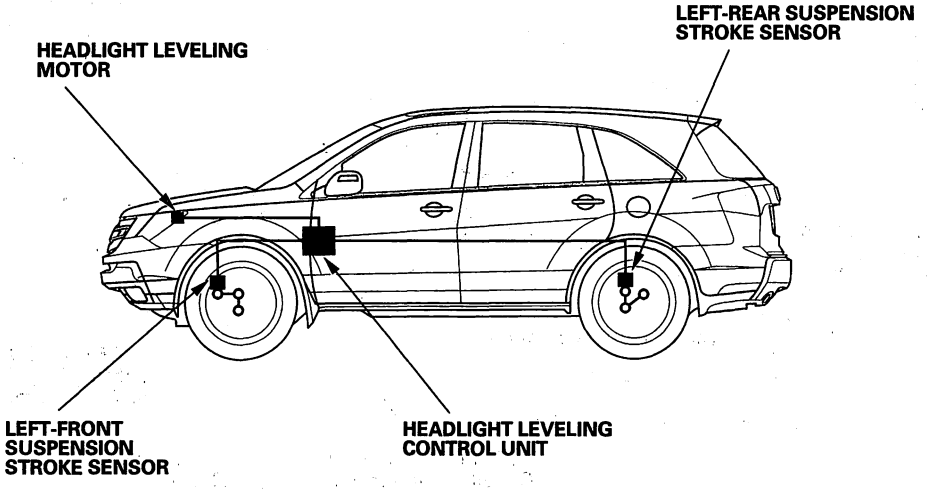
# Headlight Leveling System

## System Description

### Headlight Leveling System (With HID)

The headlights leveling system is composed of the headlight leveling control unit, the left-front and left-rear suspension stroke sensors, and the left and right headlight leveling motors.
The system uses the left-front and left-rear suspension stroke sensors to monitor the vehicle ride height. The ride height is monitored every 3 minutes while the vehicle is running with the headlight switch ON, and 8 seconds after the vehicles stops with the ignition and headlight switches ON.

If the control unit detects the ride height change, the control unit controls the headlight leveling motors to adjust the headlight vertical position.




### Suspension Stroke Sensors

The suspension stroke sensors are also one of the active damper system components. The headlight leveling system uses the left-front and left-rear suspension stroke sensor signals. The left-front suspension stroke sensor is located at the left front suspension area. A short link connects the arm of the sensor to the stabilizer bar. The left-rear suspension stroke sensor is located at the left rear suspension area. A short link connects the arm of the sensor to the damper assembly.
The sensors detect the vehicle ride height and sends a voltage signal (about 0.4—4.6 V) to the headlight leveling control unit.

### Headlight Leveling Control Unit

The headlight leveling control unit is located under the passenger's side of the dashboard. The headlight leveling control unit uses the voltage signals it receives from the left-front and left-rear suspension stroke sensors to determine the voltage signal (about 2—11 V) it sends to control the left and right leveling motors.

### Headlight Leveling Motors

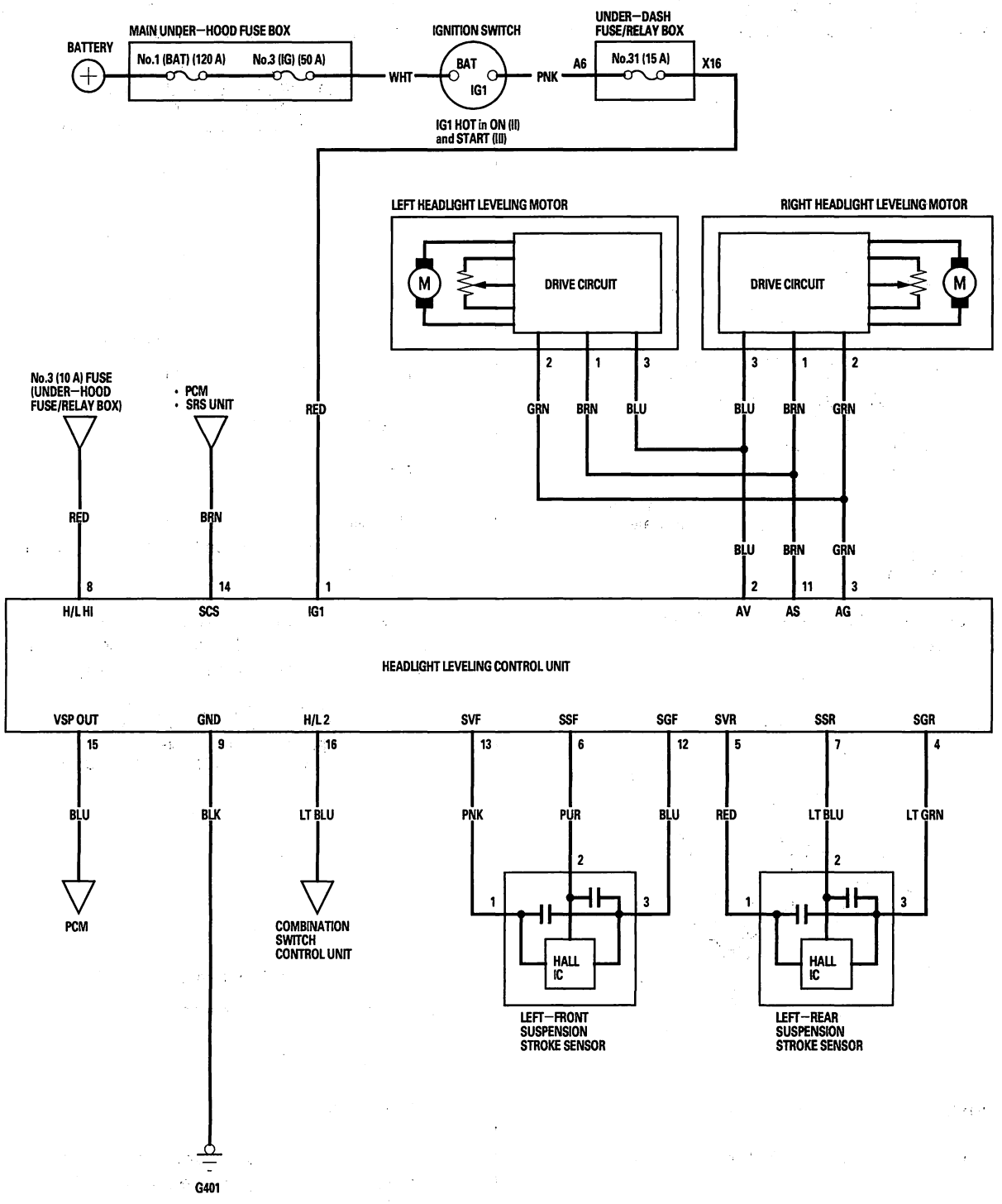
The headlight leveling motors are located behind both headlights, and they adjust the headlights vertically based upon the voltage signals (about 2—11V) they receive from the headlight leveling control unit.

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## Circuit Diagram

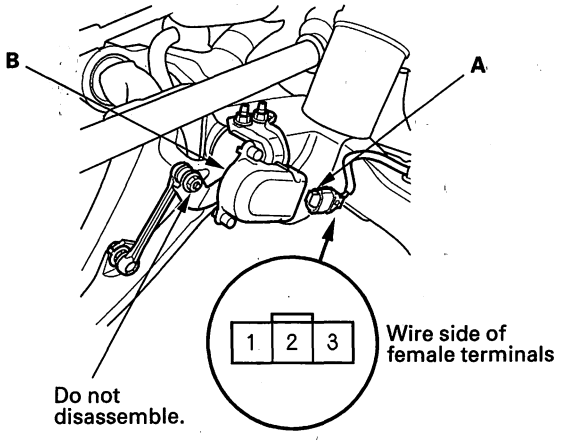



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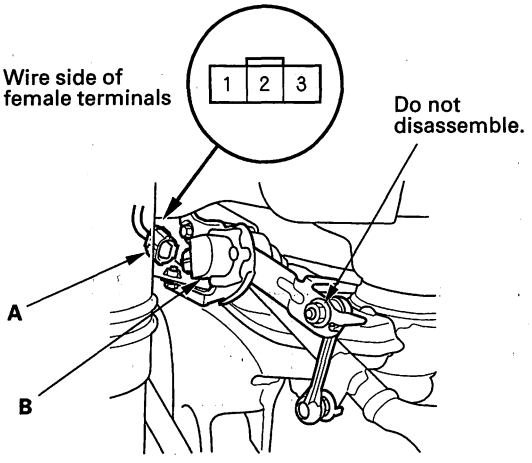
## Suspension Stroke Sensor Circuit Troubleshooting

NOTE: Before troubleshooting, check the No. 31 (15 A) fuse in the under-dash fuse/relay box. Check the active damper system for DTCs and troubleshoot those codes first.

1. Raise the vehicle, make sure it is securely supported.
2. Disconnect the 3P connector (A) from the left-front stroke sensor (B).

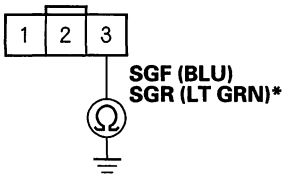



3. Disconnect the 3P connector (A) from the left-rear stroke sensor (B).




4. Turn the ignition switch ON (II).
5. Turn the combination light (headlight) switch ON.
6. Check for continuity between the left-front and left-rear suspension stroke sensors 3P connector No. 3 terminal and body ground individually.

**LEFT-FRONT SUSPENSION STROKE SENSOR 3P CONNECTOR**
**LEFT-REAR SUSPENSION STROKE SENSOR 3P CONNECTOR**




Wire side of female terminals

***: Left-rear suspension stroke sensor**

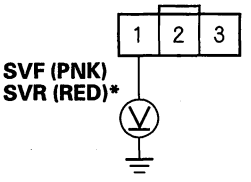
*Is there continuity?*

**YES**—Go to step 7.

**NO**—Repair open in the wire or poor ground (G401), if the wire is OK, replace the headlight leveling control unit. ■

7. Measure the voltage between the left-front and left-rear suspension stroke sensor 3P connector No. 1 terminal and body ground individually.

**LEFT-FRONT SUSPENSION STROKE SENSOR 3P CONNECTOR**
**LEFT-REAR SUSPENSION STROKE SENSOR 3P CONNECTOR**




Wire side of female terminals

***: Left-rear suspension stroke sensor**

*Is there about 5 V?*

**YES**—Go to step 8.

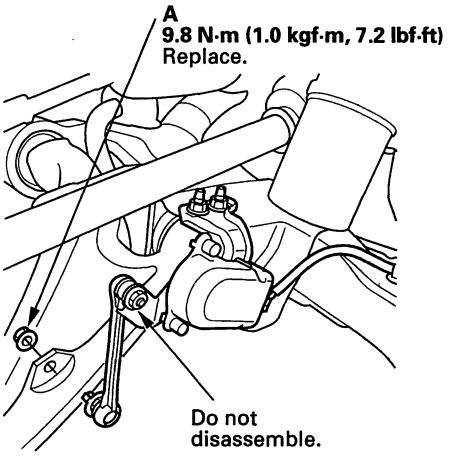
**NO**—Check for an open or a short in the wire between the headlight leveling control unit and the left-front (or left-rear) suspension stroke sensor. If the wire is OK, replace the left-front (or left-rear) suspension stroke sensor. ■

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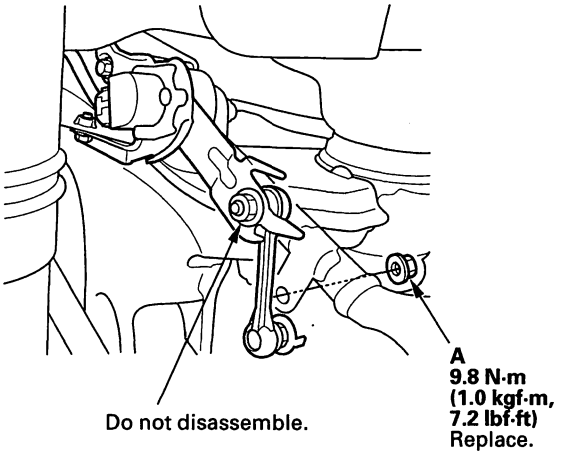


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8. Remove the nut (A) and the left-front suspension stroke sensor from the suspension side.

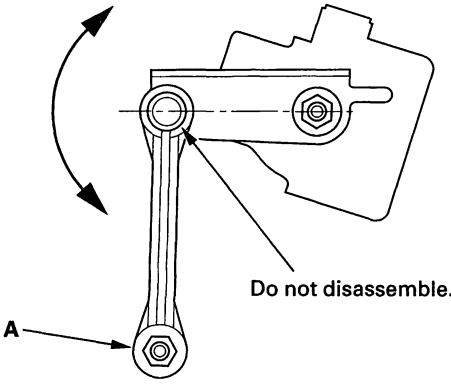



9. Remove the nut (A) and the left-rear suspension stroke sensor from the suspension side.

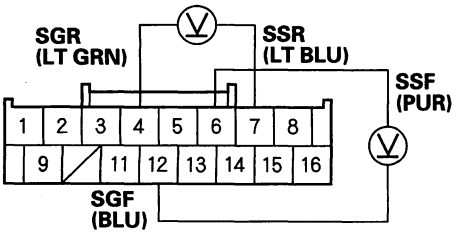



10. Reconnect the 3P connector to the each suspension stroke sensor.

11. Measure the voltage between the headlight auto leveling control unit 16P connector No. 4 and No. 7 terminals, and No. 6 and No. 12 terminals while the suspension stroke sensor arm (A) is moved.




**HEADLIGHT LEVELING CONTROL UNIT 16P CONNECTOR**




Wire side of female terminals

*Is there about 0.5—4.5 V?*

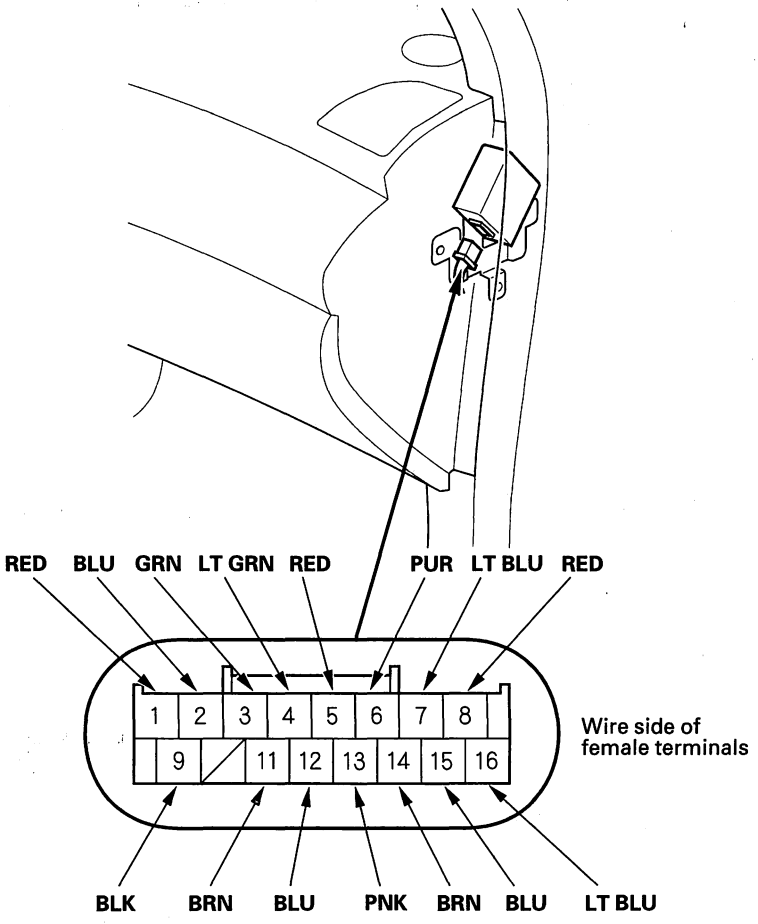
**YES**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the headlight leveling control unit and the left-front (or left-rear) suspension stroke sensor, if the connections are OK, replace the left-front (or left-rear) suspension stroke sensor. ■

**NO**—Check for an open or a short in the wire between the headlight leveling control unit and the left-front (or left-rear) suspension stroke sensor, if the wire is OK, replace the left-front (or left-rear) suspension stroke sensor. ■

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## Headlight Leveling Control Unit Input Test

1. Turn the ignition switch OFF, and remove the glove box (see page 20-125).
2. Disconnect the 16P connector (A) from the headlight leveling 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 are OK, go to step 4.

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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 |
|---|---|---|---|---|
| 15 | BLU | Ignition switch ON (II), raise the vehicle, make sure it is securely supported, and rotate one of the front wheels slowly with the other wheel blocked. | Measure the voltage between the No. 15 (+) and No. 9 (−) terminals:<br>There should be 0—5 V or more and 0—5 V or more repeatedly. | • Faulty PCM<br>• An open in the wire<br>• A short to ground |
| 16 | LT BLU | Under all conditions | Check for continuity between the No. 16 terminal and the No. 2 terminal of the combination switch control unit 8P connector:<br>There should be continuity. | An open in the wire |

5. Reconnect the connector, turn the ignition switch ON (II), 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, replace the headlight leveling control unit.

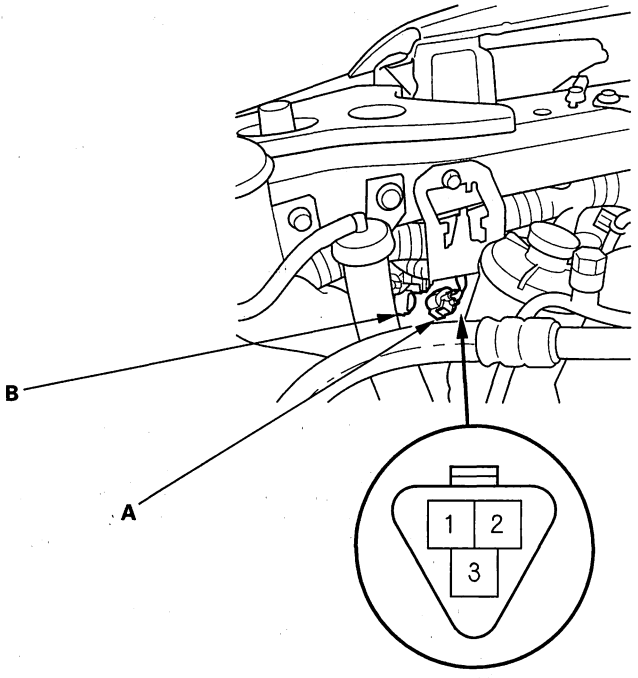
   NOTE: After replacing the control unit, do the headlight initial position learning procedure (see page 22-231).

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 9 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G401)<br>• An open in the wire |
| 3 | GRN | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G401)<br>• An open in the wire |
| 4 | LT GRN | | | |
| 12 | BLU | | | |
| 8 | RED | Under all conditions | Measure the voltage between the No. 8 terminal and body ground:<br>There should be battery voltage. | • Blown No. 3 (10 A) fuse in the main under-hood fuse box<br>• A short to ground |
| 1 | RED | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 31 (15 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 2 | BLU | Ignition switch ON (II), headlight switch ON | Measure the voltage between the No. 2 and No. 3 terminals:<br>There should be battery voltage. | • Faulty headlight leveling motor<br>• An open in the wire |
| 3 | GRN | | | |
| 11 | BRN | Ignition switch ON (II), headlight switch ON | Measure the voltage between the No. 11 and No. 3 terminals:<br>There should be about 2 to 12 V. | • Faulty headlight leveling motor<br>• An open in the wire |
| 3 | GRN | | | |
| 6 | PUR | Under all conditions | • Measure the voltage between the No. 13 and No. 12 terminals:<br>There should be about 5 V.<br>• Measure the voltage between the No. 6 and No. 12 terminals:<br>There should be about 0.5 to 4.5 V. | • Faulty left-front suspension stroke sensor<br>• An open in the wire |
| 12 | BLU | | | |
| 13 | PNK | | | |
| 4 | LT GRN | Under all conditions | • Measure the voltage between the No. 5 and No. 4 terminals:<br>There should be about 5 V.<br>• Measure the voltage between the No. 7 and No. 4 terminals:<br>There should be about 0.5 to 4.5 V. | • Faulty left-rear suspension stroke sensor<br>• An open in the wire |
| 5 | RED | | | |
| 7 | LT BLU | | | |

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## Headlight Leveling Motor Input Test

1. Turn the ignition switch OFF.
2. Disconnect the 3P connector (A) from the headlight leveling motor (B).




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 are OK, go to step 4.
4. Reconnect the connector to the headlight leveling motor, and make these input tests at the connector.
   - If any tests indicate a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, replace the headlight leveling motor (see page 22-230).

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 1 | BRN | Ignition switch ON (II) | Check for voltage to ground: There should be about 2—12 V. NOTE: Depending on the headlight leveling position. | • Faulty headlight leveling control unit<br>• An open in the wire |
| 2 | GRN | Ignition switch ON (II) | Check for voltage to ground: There should be less than 1 V. | • Faulty headlight leveling control unit<br>• An open in the wire |
| 3 | BLU | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Faulty headlight leveling control unit<br>• An open in the wire |

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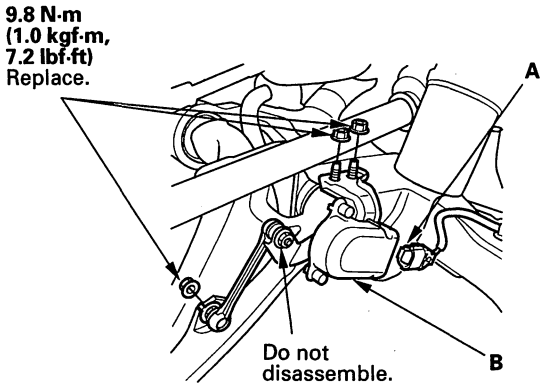
# Suspension Stroke Sensor Replacement

NOTE:
- Right side of suspension stroke sensor for active damper system is the same procedure as left side suspension stroke sensor.
- After install the rear suspension stroke sensor, do the memorizing rear suspension full rebound position (see page 18-54).

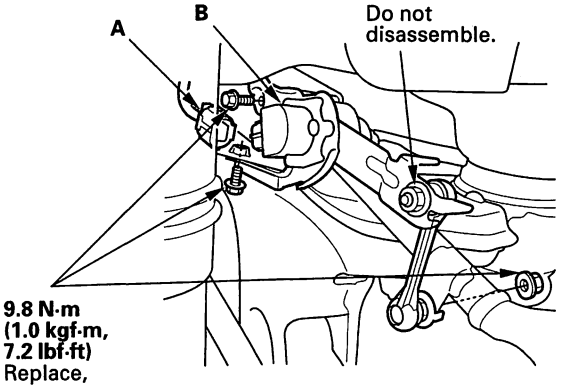
1. Raise the vehicle, make sure it is securely supported.

2. Disconnect the 3P connector (A) from the suspension stroke sensor (B).

**LEFT-FRONT**




**LEFT-REAR**




3. Remove the bolt and nut, then remove the suspension stroke sensor.

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

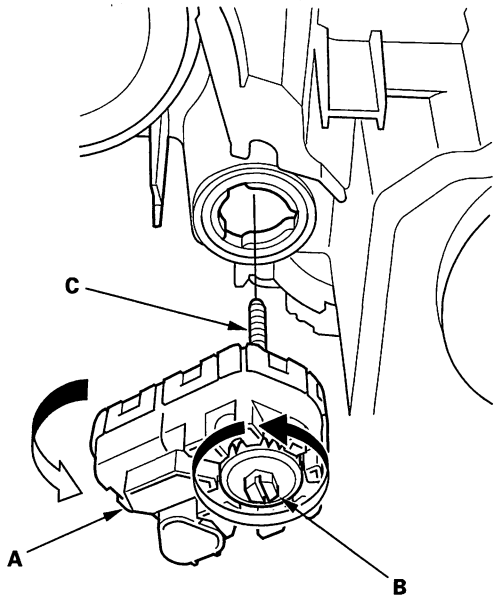
5. After installing, do the headlight initial position learning procedure (see page 22-231).

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## Headlight Leveling Motor Replacement

### Removal

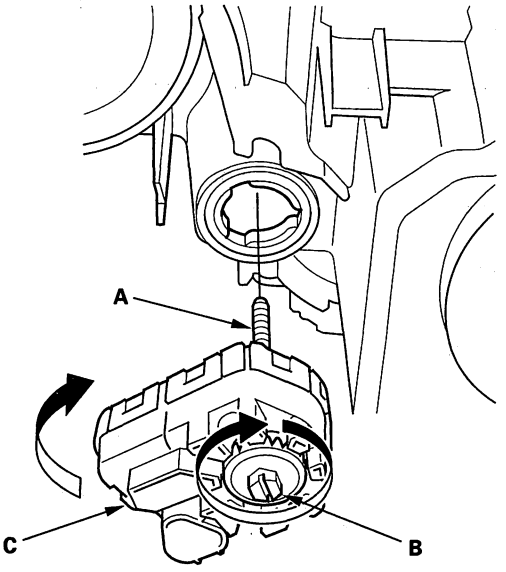
1. Remove the headlight assembly (see page 22-205).
2. Turn the headlight leveling motor (A) 45 ° counterclockwise.




3. Turn the adjuster (B) of the headlight leveling motor until the headlight leveling motor shaft (C) is removed from the headlight.

### Installation

1. Insert the headlight leveling motor shaft (A) into the headlight housing, then turn the adjuster (B) until the shaft connects to the headlight.




2. Turn the headlight leveling motor (C) 45 ° clockwise to install to the headlight.
3. Tighten the adjuster until fully it is secure, but do not over tighten, then back it off 9 turns.
4. Insert the headlight in the reverse order of removal.
5. After installing, do the headlight leveling motor initial position learning procedure (see page 22-231)

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# Headlight Initial Position Learning Procedure

Do the headlight initial position learning when any of the related parts of the headlight auto leveling system shown is replaced:

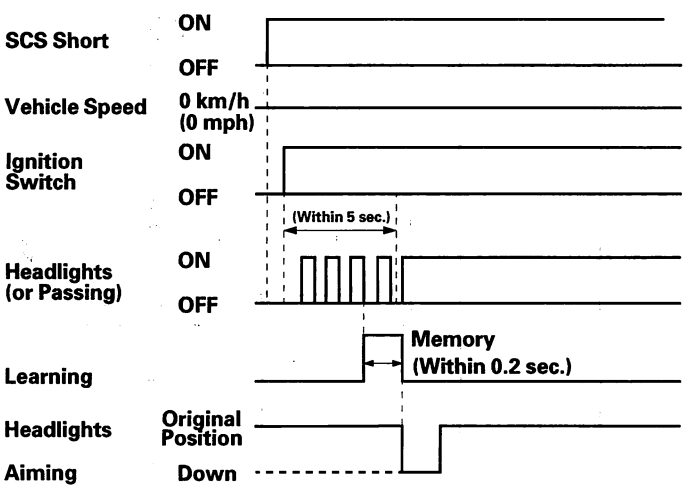
- Headlight
- HID unit
- Left-front suspension stroke sensor
- Left-rear suspension stroke sensor
- Headlight leveling motor
- Headlight auto leveling control unit

## Learning Procedure

Before learning the headlights:

- Park the vehicle on a level surface.
- Make sure the tire pressures are correct.

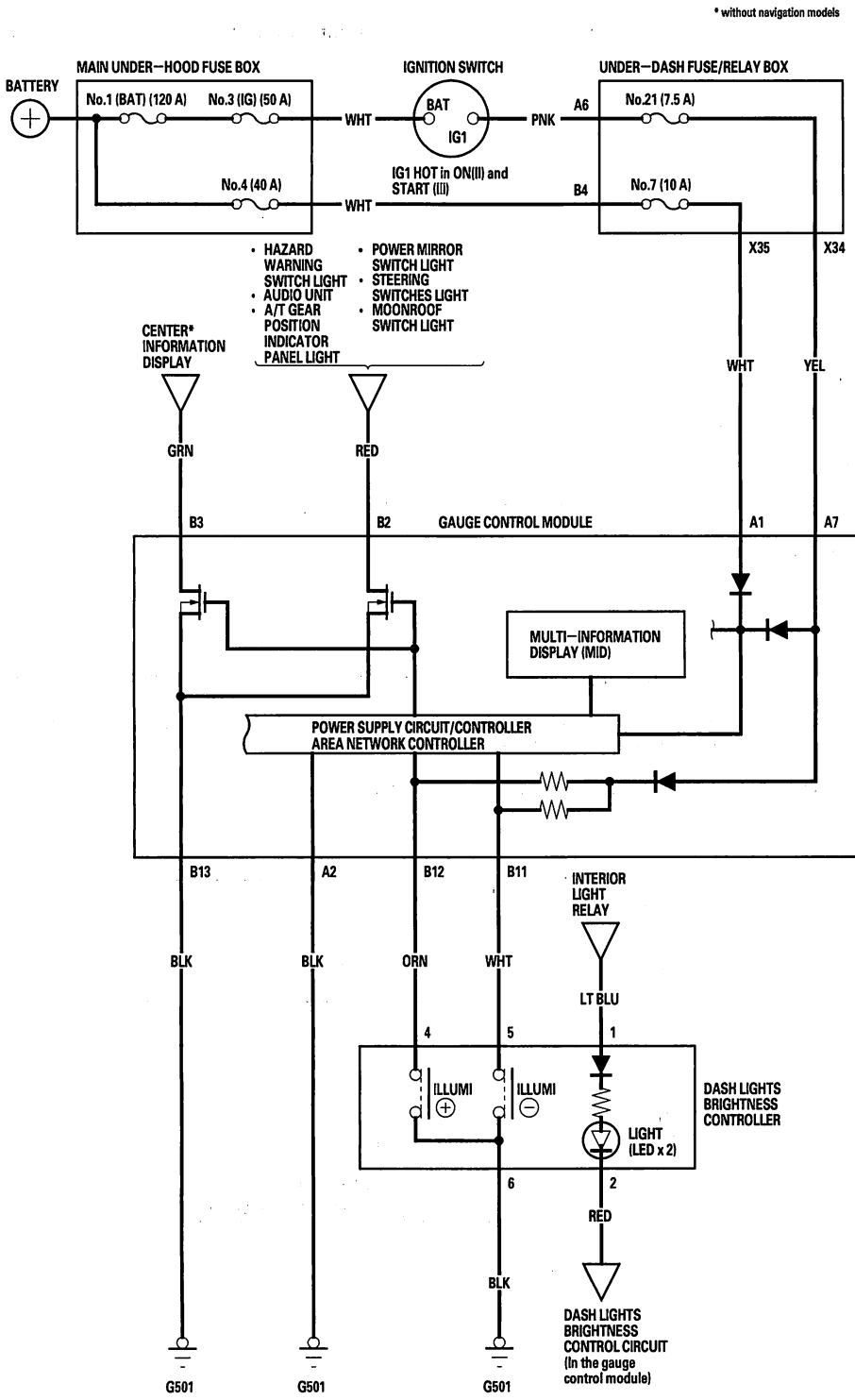
1. Turn the ignition switch OFF.
2. Remove all of the baggage from the vehicle.
3. Slide the front seats backward fully.
4. Have the driver (about 165 lb (75 kg)) or someone who weighs the same sit in the driver's seat.
5. Connect the HDS to the data link connector.
6. Jump the SCS line with the HDS.
7. Turn the ignition switch ON (II).
8. Within 5 seconds, turn the headlights (low beam) or passing switch ON and OFF three times repeatedly, and leave them on.
   - If the headlights aiming move down (about 2 in. at 10 feet), then return to the original position, the initial position learning is complete.
   - If the headlights aiming don't move, go to step 1 and repeat the procedure.
9. Turn the ignition switch OFF, and disconnect the HDS from the data link connector.
10. Adjust the headlight aim to conform with the applicable requirements.




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# Dash Lights Brightness Controller

## Circuit Diagram



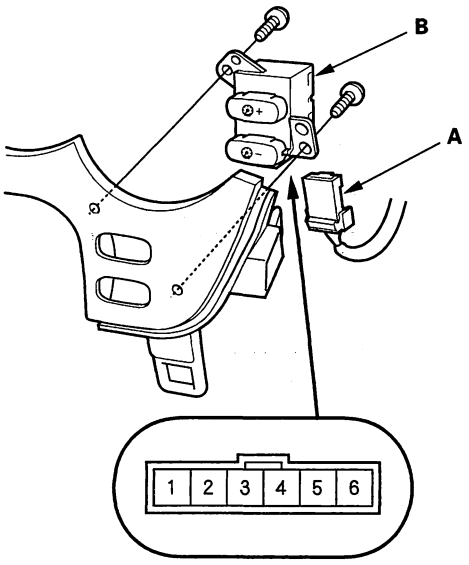

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## Dash Lights Brightness Controller Test/Replacement

1. Remove the instrument fascia (see page 20-118).
2. Disconnect the 6P connector (A) from the dash lights brightness controller (B).

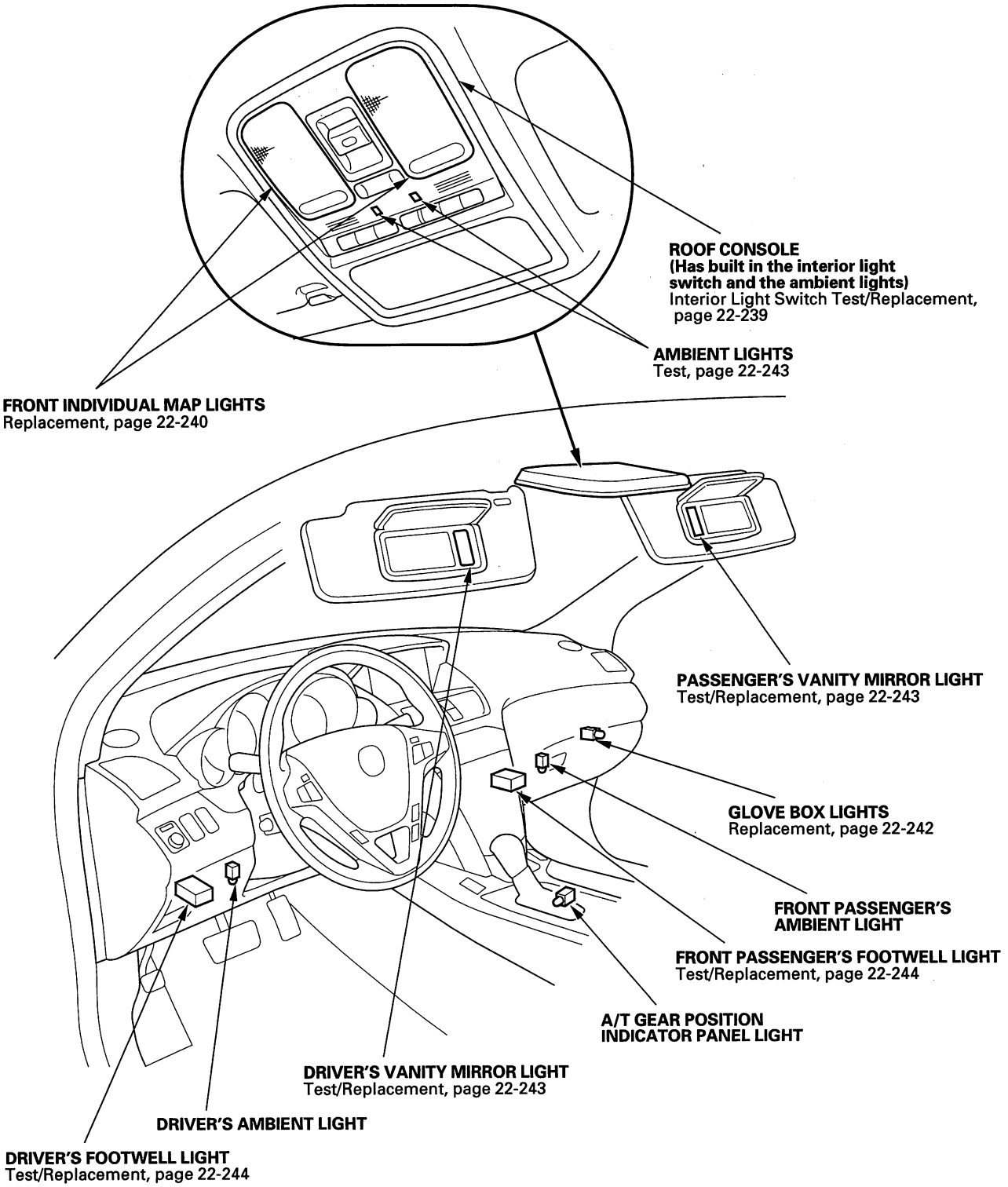



3. Remove the two screws and the dash lights brightness controller.
4. Check for continuity between the No. 5 and No. 6 terminals.
   - There should be continuity when the ILLUMI (—) button is pressed.
   - There should be no continuity when the ILLUMI (—) button is released.
5. Check for continuity between the No. 4 and No. 6 terminals.
   - There should be continuity when the ILLUMI (+) button is pressed.
   - There should be no continuity when the ILLUMI (+) button is released.
6. If the continuity is as not specified, replace the controller.
7. Check the LED by connecting battery power to No. 1 terminal and ground to No. 2 terminal. The LED should come on.
8. If the LED does not work; replace the dash lights brightness controller assembly.

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# Interior Lights

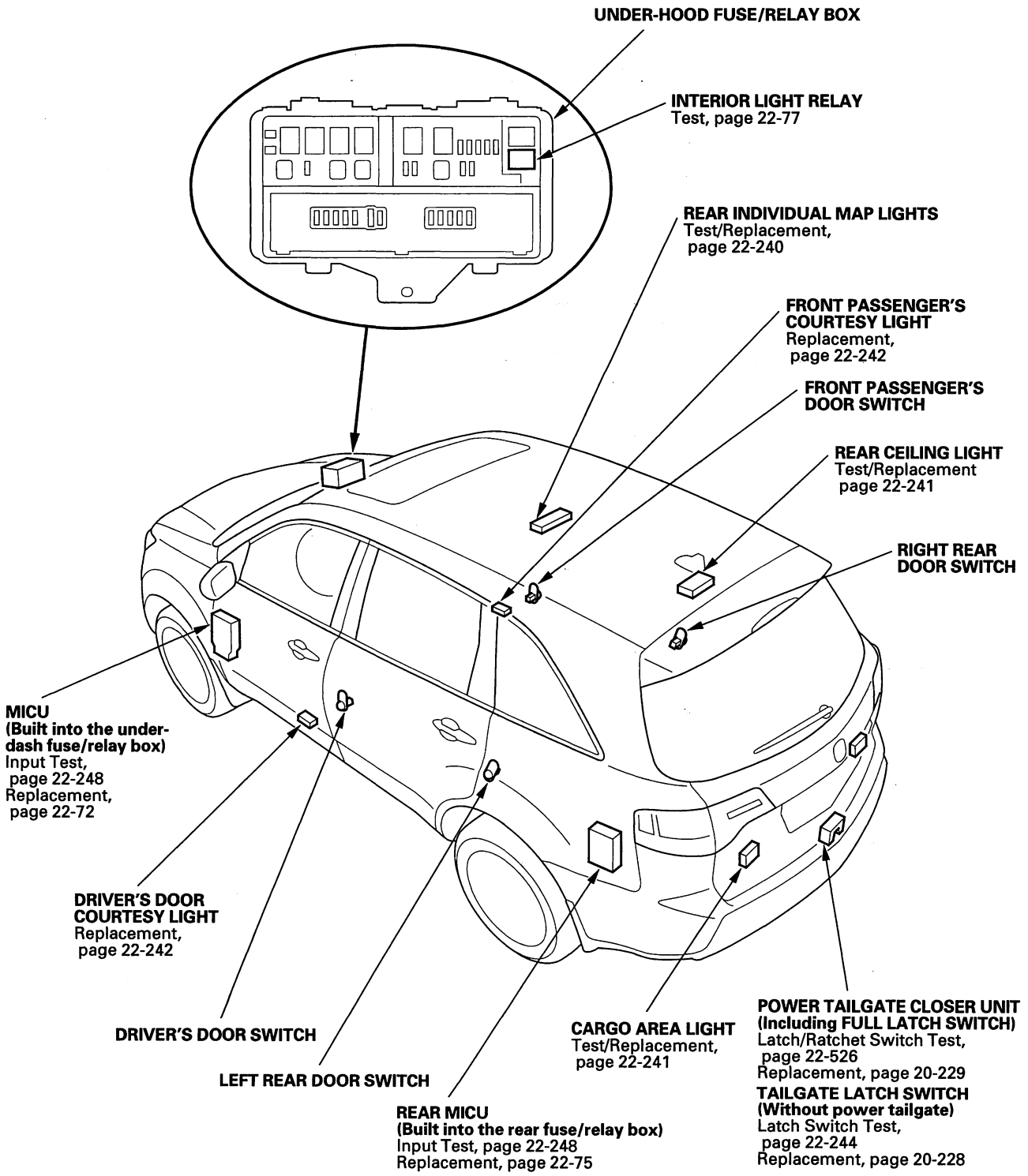
## Component Location Index




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BACK

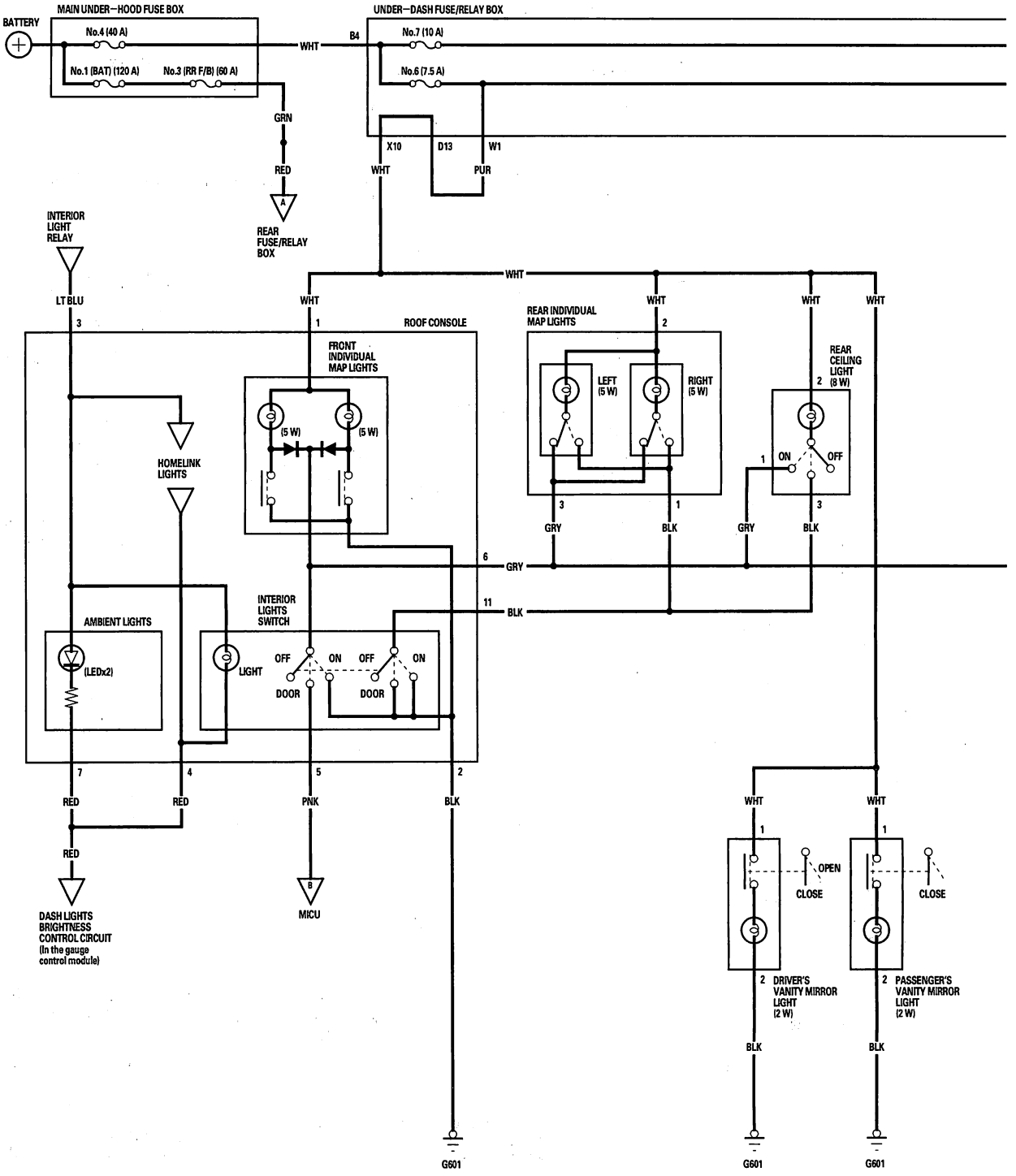



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# Interior Lights

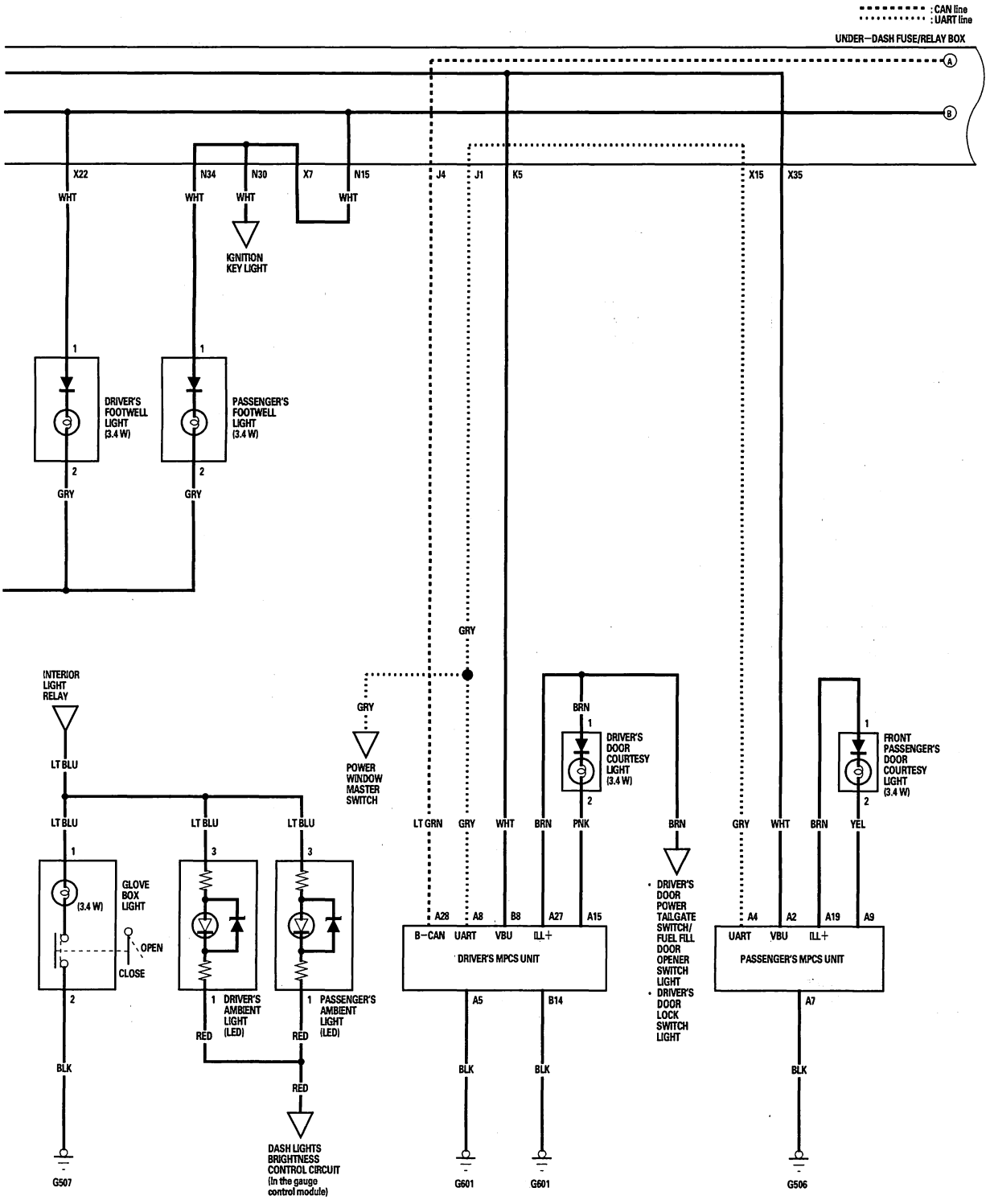
## Circuit Diagram




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BACK



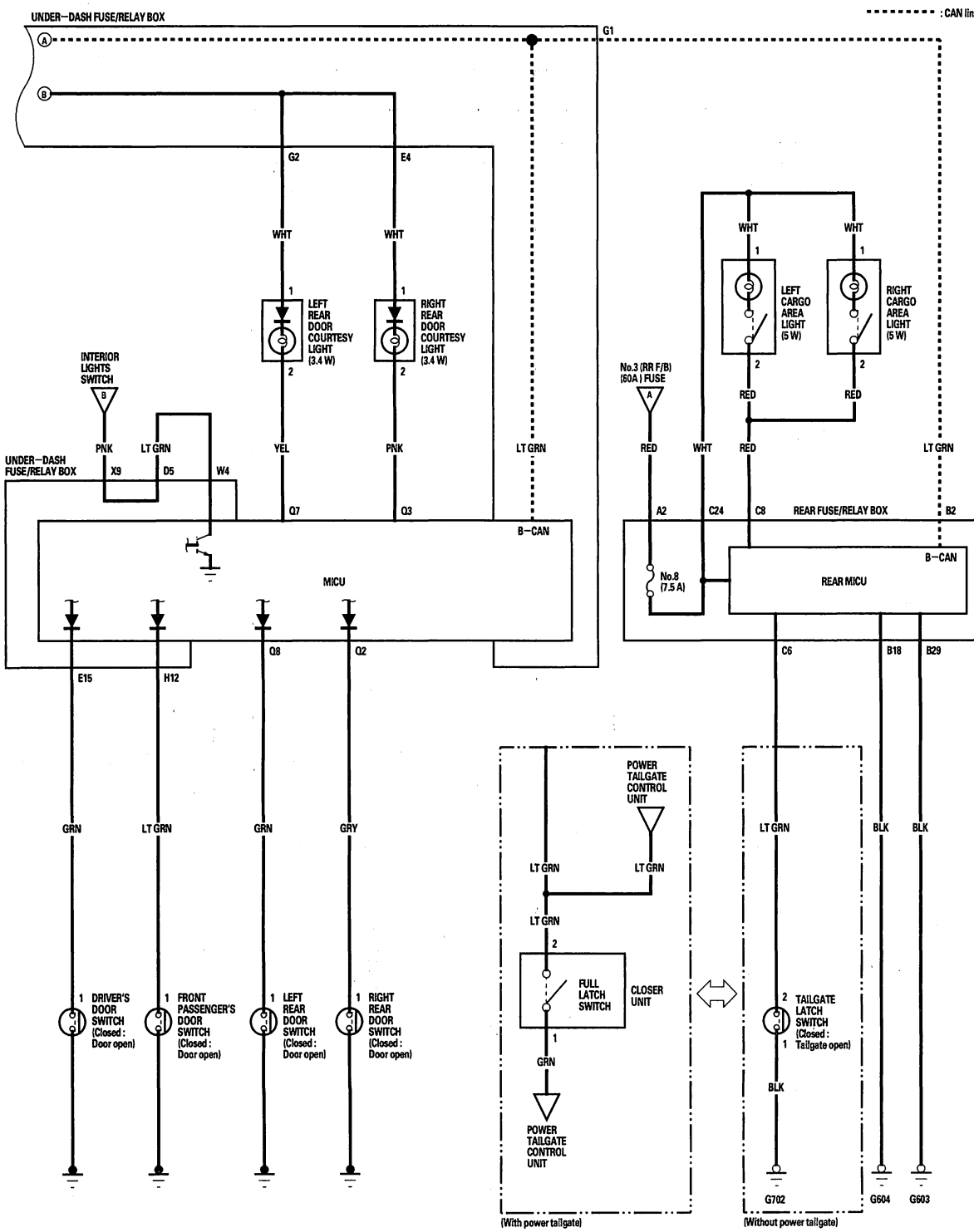

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## Circuit Diagram (cont'd)



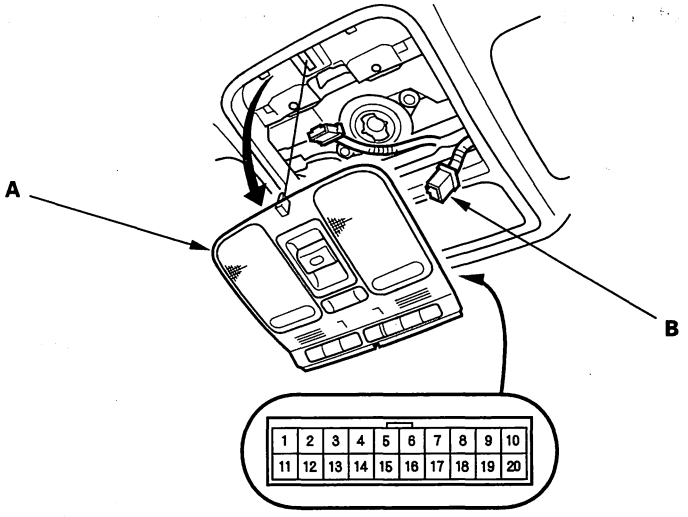

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# Interior Light Switch Test/Replacement

1. Carefully pull down the roof console (A).




2. Disconnect the 20P connector (B) from the roof console.

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

NOTE:
- Before testing, check the front individual map light bulb(s).
- When check for continuity across the diode, use the diode setting (→|←) on the digital volt/ohm meter to check the diode bias.

| Position \ Terminal | 1 | | 2 | 5 | 6 | 11 |
|---|---|---|---|---|---|---|
| OFF | ○ | ○ | | | ○ | |
| OFF (Front map light switch ON) | ○ | ○ | ○ | | ○ | |
| Middle (DOOR) position | ○ | ○ | | ○ | ○ | |
| ON | ○ | ○ | ○ | | ○ | ○ |

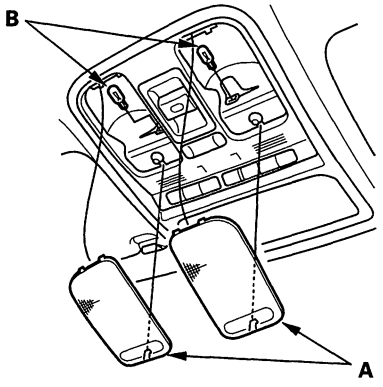
4. If the continuity is not as specified, replace the roof console as an assembly.

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## Front Individual Map Light Replacement

1. Carefully pry off the lens (A) with a small screwdriver.

   **Front Map Light: 5 W x 2**

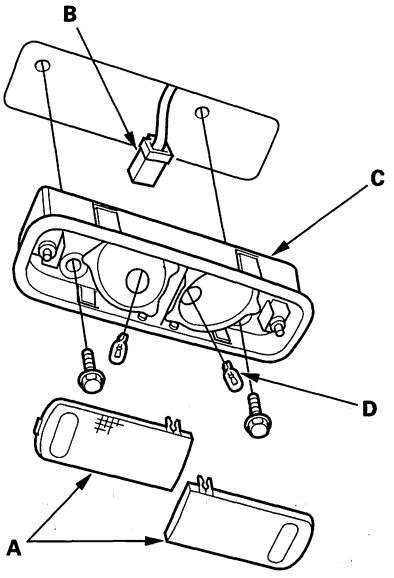



2. Check the bulb(s) (B). If the bulb is OK, but there is a malfunction, check the interior light switch (see page 22-239).

## Rear Individual Map Light Test/ Replacement

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

   **Map Light: 6.2 W × 2**




3. Remove the two mounting screws.
4. Disconnect the 3P connector (B) from the housing (C).
5. Check for continuity between the terminals.
   - There should be continuity between the No. 1 and No. 3 terminals with the left switch ON.
   - There should be continuity between the No. 1 and No. 2 terminals with the right switch ON.
6. If the continuity is not as specified, check the bulb(s) (D). If the bulbs are OK, replace the light.
7. Install in the reverse order of removal.

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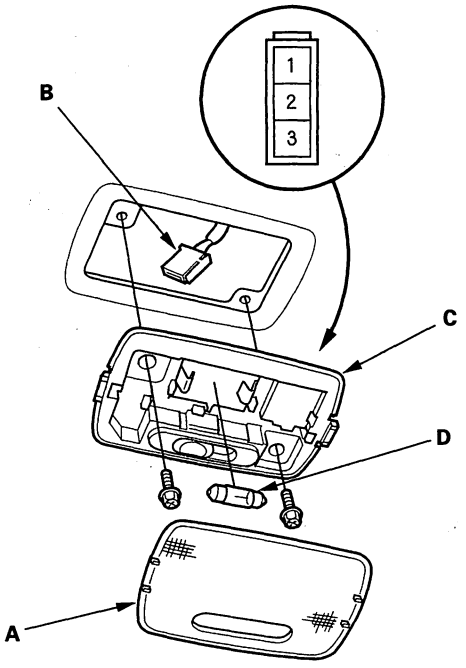


BACK

## Rear 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**

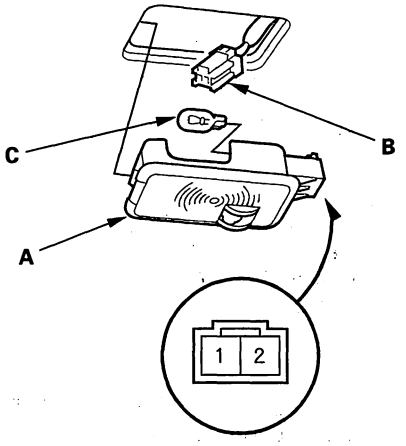



3. Remove the two mounting screws.
4. Disconnect the 3P connector (B) from the housing (C).
5. Check for continuity between the terminals in each switch position according to the table.
   - There should be continuity between the No. 2 and No. 3 terminals with the switch in the MIDDLE position.
   - There should be continuity between the No. 2 and No. 1 terminals with the switch in the ON position.
6. If the continuity is not as specified, check the bulb (D). If the bulb is OK, replace the light.

## Cargo Area Light Test/Replacement

1. Open the tailgate.
2. Carefully pry out the cargo area light (A).

**Cargo Area Light: 5 W**



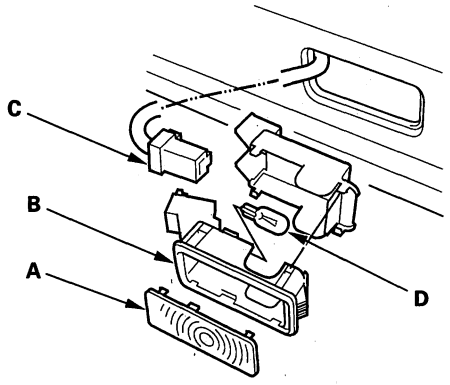

3. Disconnect the 2P connector (B) from the light.
4. Check for continuity between the No. 1 and No. 2 terminals. There should be continuity. If there is no continuity, check the bulb (C). If the bulb is OK, replace the trunk light.

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## Courtesy Light Replacement

1. Carefully pry off the lens (A) with a small screwdriver.

**Courtesy Light: 2 CP**

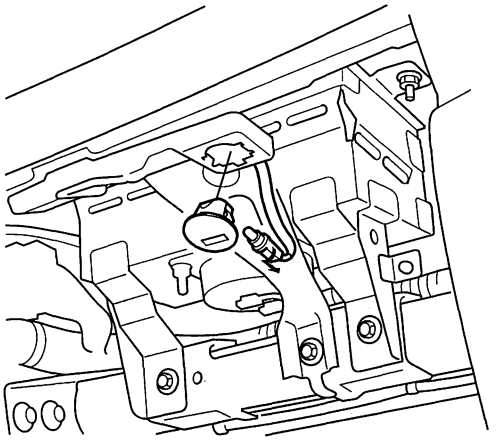



2. Pry out the housing (B) from the door, then disconnect the 2P connector (C).
3. Remove the bulb (D) from the socket.
4. Install in the reverse order of removal.

## Glove Box Light Replacement

1. Remove the glove box stops and damper (see page 20-125).
2. Turn the bulb socket (A) 45° counterclockwise to remove it.

**Glove Box Light: 3.4 W**



3. Remove the bulb (B) from the socket.
4. Install in the reverse order of removal.

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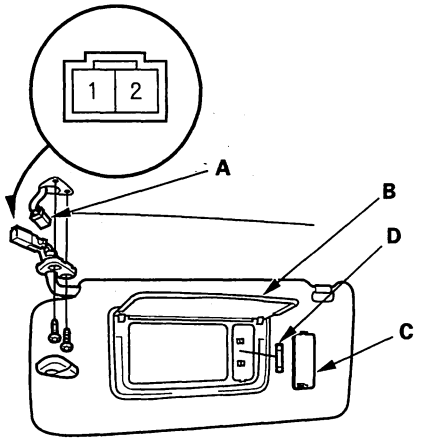


BACK

## Vanity Mirror Light Test/ Replacement

1. Open the sunvisor.
2. Remove the sunvisor (see page 20-98).
3. Disconnect the 2P connector (A) from the vanity mirror light.

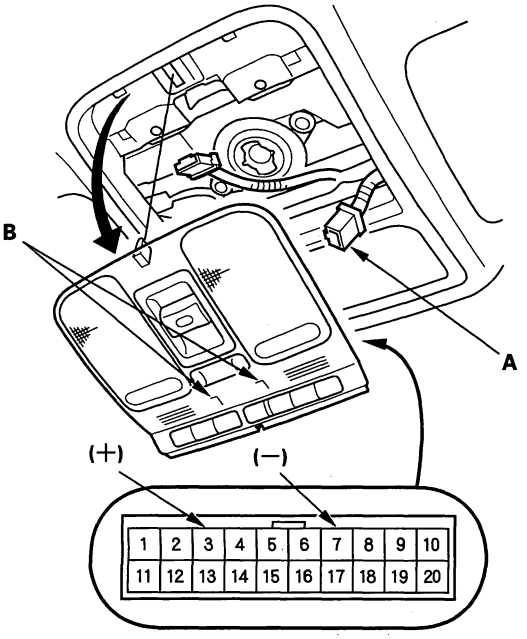
**Vanity Mirror Light: 2 W**




4. Check for continuity between the No. 1 and No. 2 terminals.
   - With the vanity mirror cover (B) opened, there should be continuity.
   - With the vanity mirror cover closed, there should be no continuity.
5. If the continuity is not as specified, remove the lens (C) and replace the bulb (D) or the sunvisor.

## Ambient Light Test

1. Carefully pull down the roof console and disconnect the 20P connector (A).



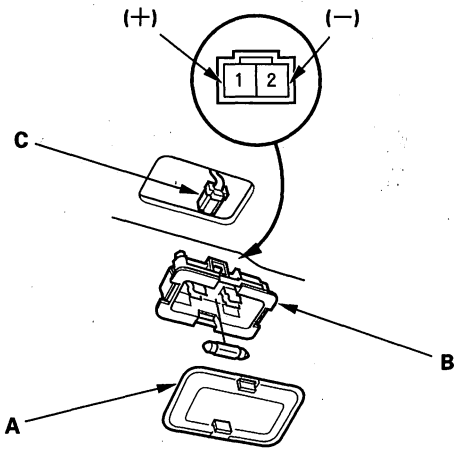

2. Connect the roof console connector terminal No. 3 to battery power and terminal No. 7 to body ground. The ambient lights (B) should turn on. If they do not turn on, replace the roof console.

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## Footwell Light Test/Replacement

1. Carefully pry out the footwell light lens (A) and housing (B).

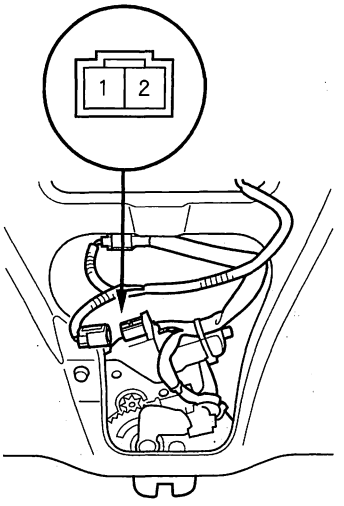
   **Footwell Light: 5 W**




2. Disconnect the 2P connector (C) from the light.
3. Check for continuity between the No. 1 (+) and No. 2 (−) terminals. There should be continuity. If there is no continuity, check the bulb (C). If the bulb is OK, replace the footwell light.
4. Install in the reverse order of removal.

## Tailgate Latch Switch Test

1. Open the tailgate.
2. Remove the tailgate trim panel (see page 20-96).
3. Disconnect the 2P connector from the tailgate latch switch.




4. Check for continuity between the No. 1 and No. 2 terminals.
   - With the tailgate open, there should be continuity.
   - With the tailgate closed, there should be no continuity.
5. If the continuity is not as specified, replace the latch assembly.

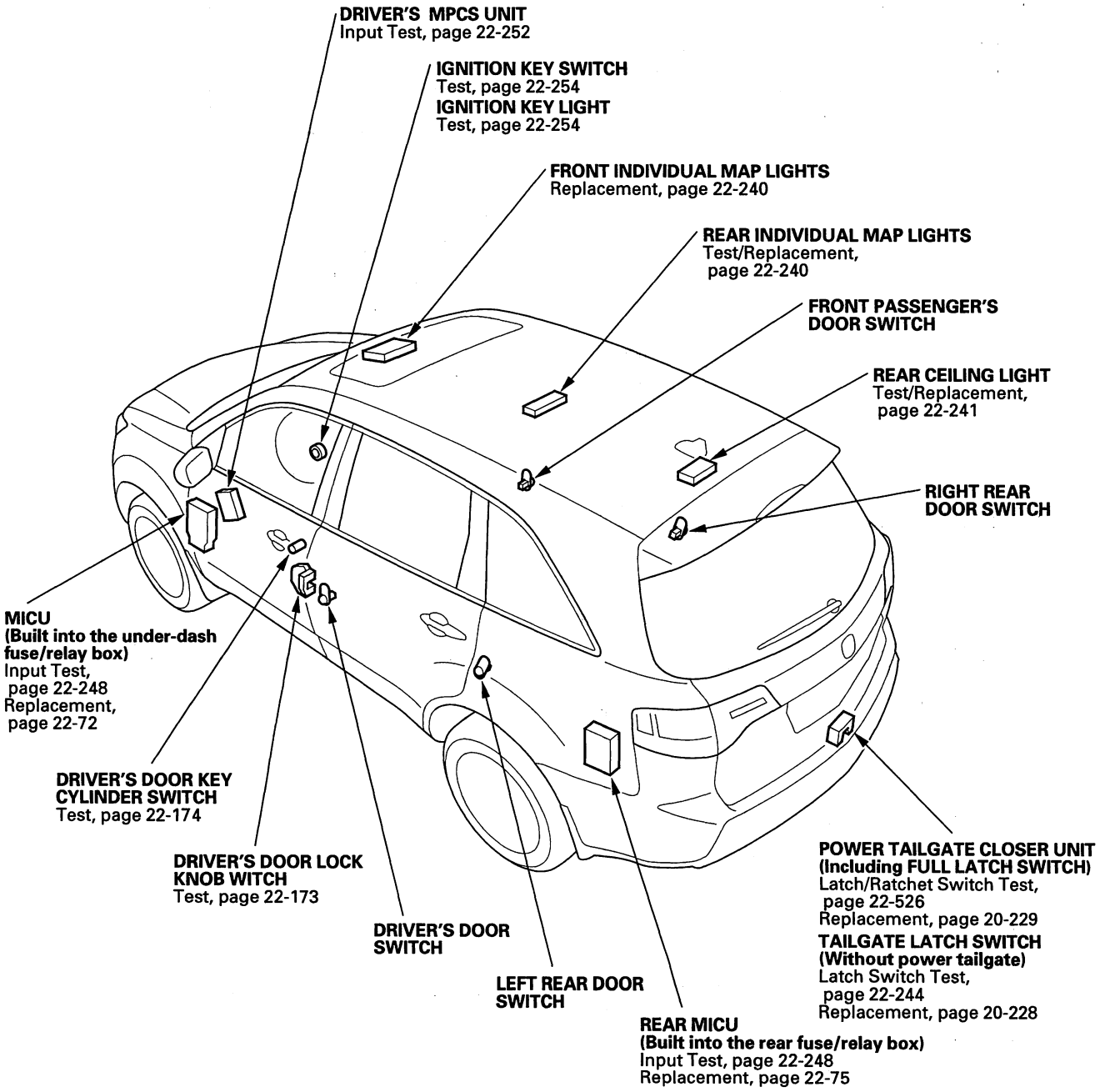
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BACK

# Entry Lights Control System

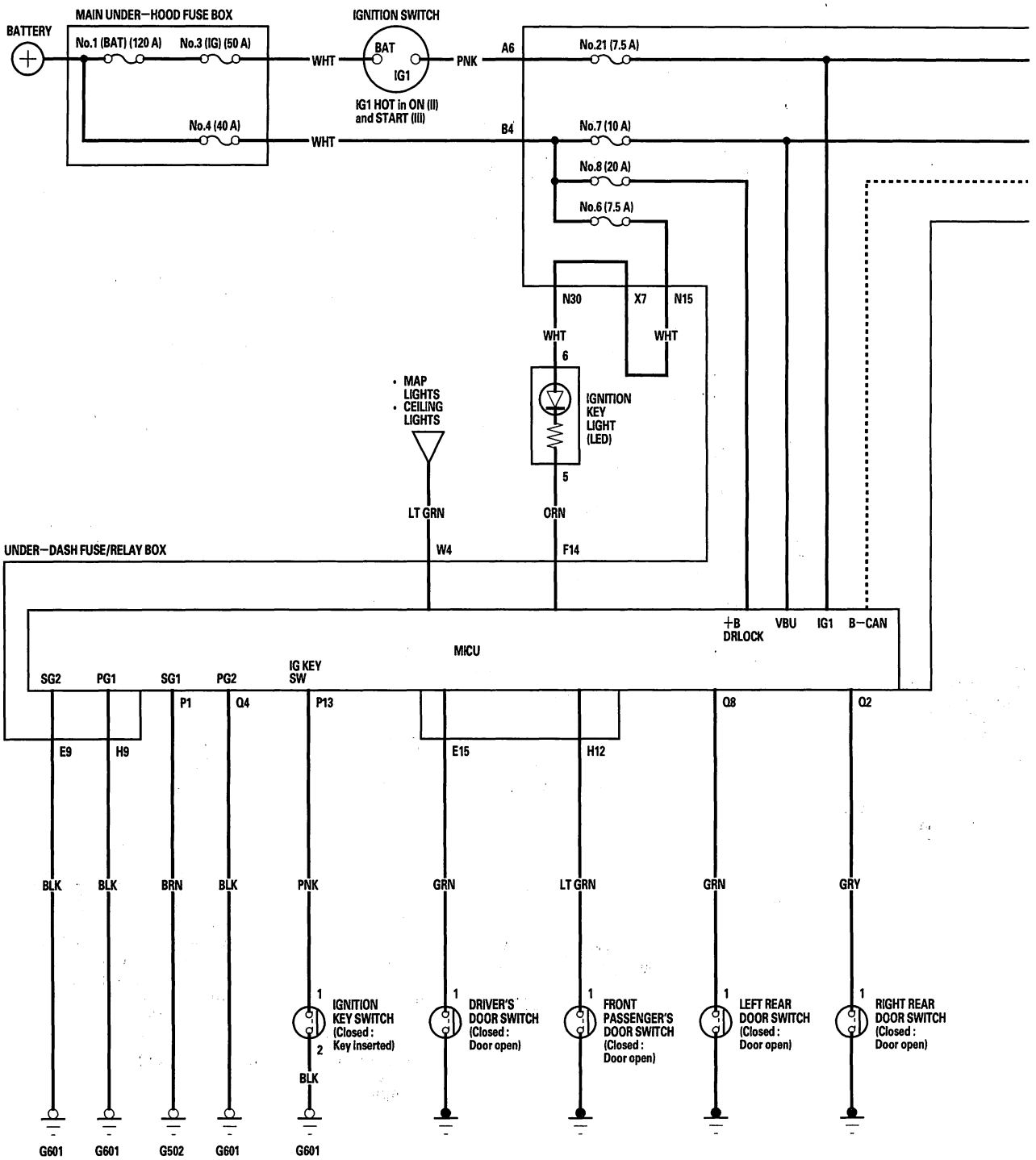
## Component Location Index




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# Entry Lights Control System

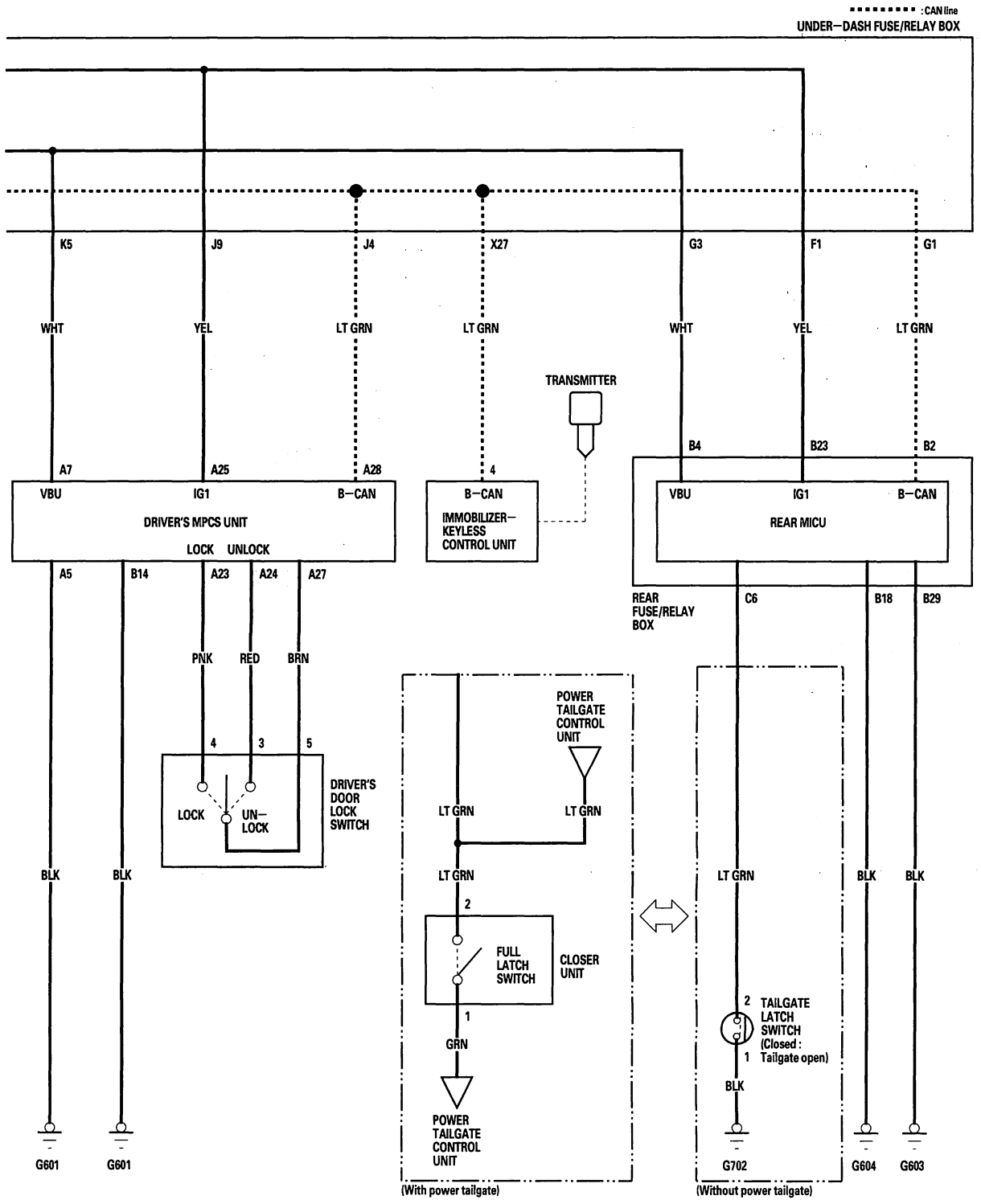
## Circuit Diagram




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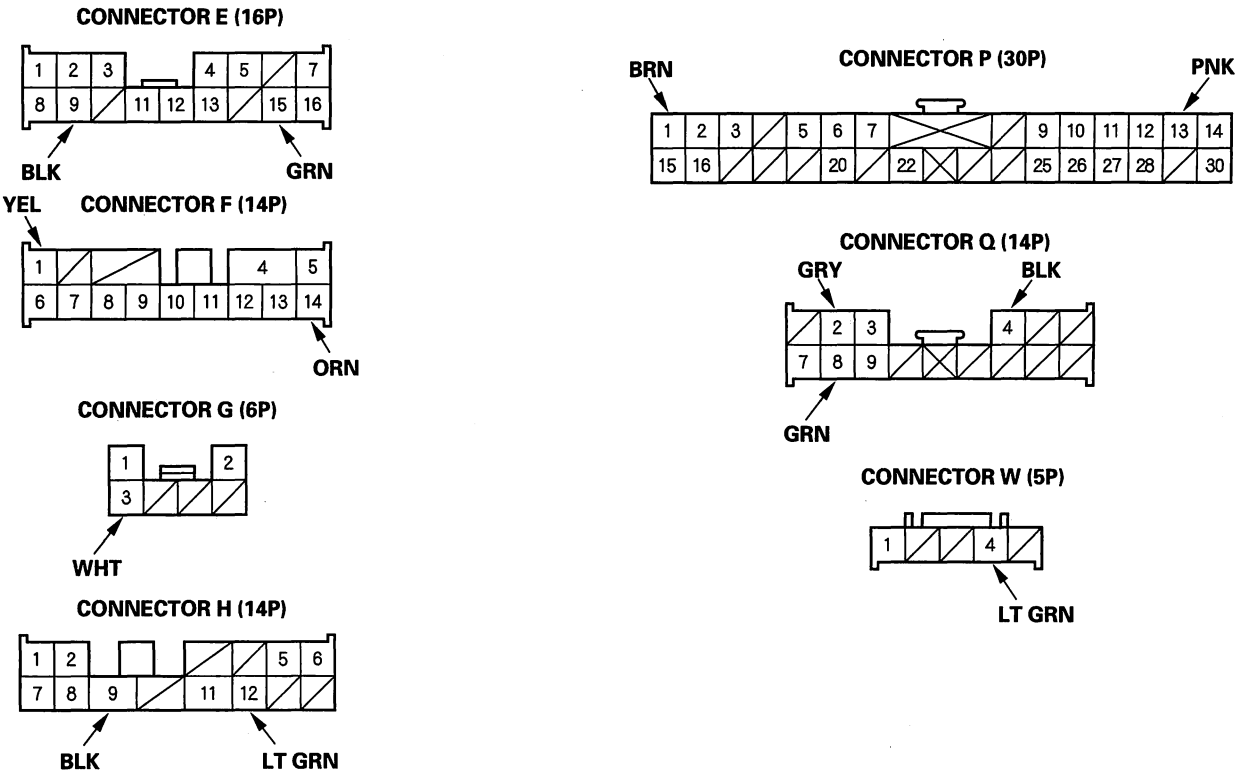

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## Control Unit Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Turn the ignition switch OFF, and remove the left kick panel (see page 20-76).
2. Disconnect the under-dash fuse/relay box connectors E, F, G, H, P, Q, and W.

   NOTE: All connector views 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.

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4. Reconnect the connectors, turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 5.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E9<br>H9<br>Q4 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| P1 | BRN | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G502)<br>• An open in the wire |
| P13 | PNK | Ignition key inserted into the ignition switch | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty ignition key switch<br>• An open in the wire |
| | | Ignition switch OFF and the ignition key removed from the ignition switch | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty ignition key switch<br>• A short to ground in the wire |
| E15 | GRN | Driver's door open | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty driver's door switch<br>• An open in the wire |
| | | Driver's door closed | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty driver's door switch<br>• A short to ground in the wire |
| H12 | LT GRN | Front passenger's door open | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty front passenger's door switch<br>• An open in the wire |
| | | Front passenger's door closed | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty front passenger's door switch<br>• A short to ground in the wire |
| Q2 | GRY | Right rear door open | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty right rear door switch<br>• An open in the wire |
| | | Right rear door closed | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty right rear door switch<br>• A short to ground in the wire |
| Q8 | GRN | Left rear door open | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty left rear door switch<br>• An open in the wire |
| | | Left rear door closed | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty left rear door switch<br>• A short to ground in the wire |
| F14 | ORN | Under all conditions | Attach to ground:<br>The ignition key light should come on. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Faulty ignition key light<br>• An open in the wire |
| W4 | LT GRN | Under all conditions (Interior lights switch in DOOR position) | Attach to ground:<br>The ignition lights should come on. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Blown map lights or ceiling light bulb(s)<br>• An open in the wire |

(cont'd)

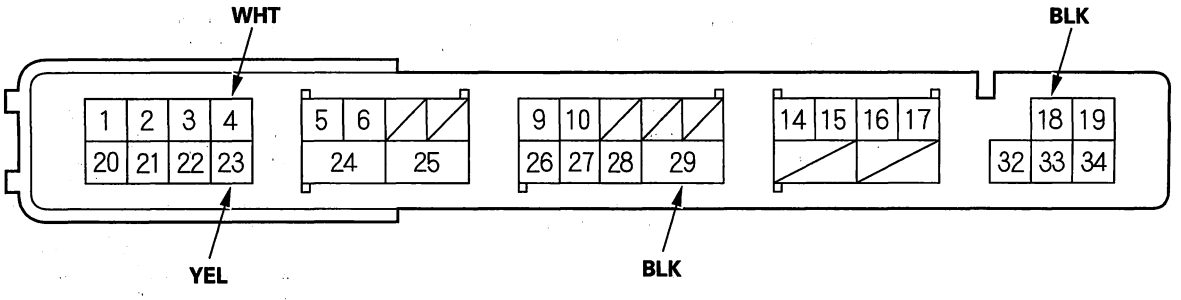
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## Control Unit Input Test (cont'd)

**Rear Fuse/Relay Box**

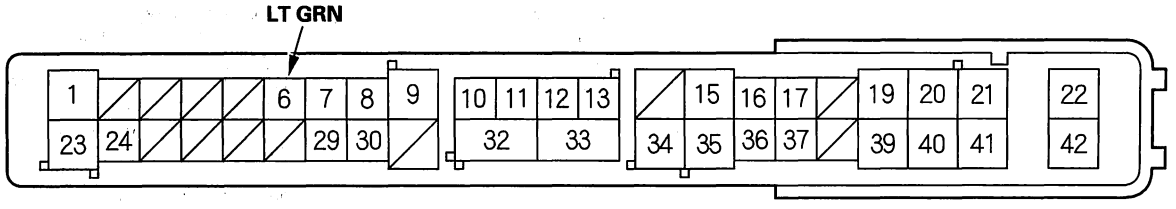
5. Turn the ignition switch OFF.
6. Remove the left rear trim (see page 20-92).
7. Disconnect the rear fuse/relay box connector B (34P) and C (42P).

**CONNECTOR B (34P)**




Wire side of female terminals

**CONNECTOR C (42P)**




Wire side of female terminals

8. 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 9.

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9. Reconnect the connectors, then turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 10.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B18<br>B29 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G603, G604)<br>• An open in the wire |
| B4 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| B23 | YEL | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| C6* | LT GRN | Tailgate open | Measure the voltage to ground:<br>There should be less than 1 V. | • Poor ground (G702)<br>• Faulty tailgate latch switch<br>• An open in the wire |
| | | Tailgate closed | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty tailgate latch switch<br>• A short to ground in the wire |

*: Without power tailgate

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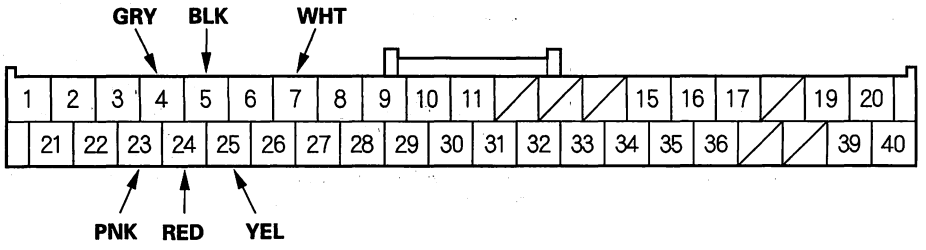
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## Control Unit Input Test (cont'd)

**Driver's MPCS Unit**

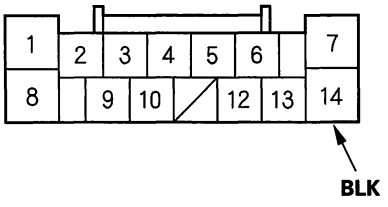
10. Turn the ignition switch OFF.
11. Remove the driver's door panel (see page 20-8).
12. Disconnect the driver's MPCS unit connections.

**CONNECTOR A (40P)**




Wire side of female terminals

**CONNECTOR B (14P)**




Wire side of female terminals

13. 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 14.

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14. With the connectors still disconnected, make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 15.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A23<br>·<br>A27 | PNK<br>·<br>BRN | Driver's door lock switch in LOCK | Check for continuity:<br>There should be continuity. | • Faulty driver's door lock switch<br>• An open in the wire |
| | | Driver's door lock switch in neutral or UNLOCK | Check for continuity:<br>There should be no continuity. | • Faulty driver's door lock switch<br>• A short to ground in the wire |
| A24<br>·<br>A27 | RED<br>·<br>BRN | Driver's door lock switch in UNLOCK | Check for continuity:<br>There should be continuity. | • Faulty driver's door lock switch<br>• An open in the wire |
| | | Driver's door lock switch in neutral or LOCK | Check for continuity:<br>There should be no continuity. | • Faulty driver's door lock switch<br>• A short to ground in the wire |

15. Reconnect the connectors, and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to step 16.

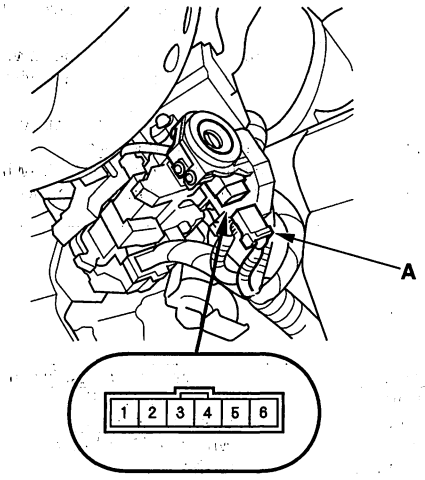
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A5<br>B14 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| A7 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A25 | YEL | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |

16. If multiple failures are found on more than one control unit, replace the under-dash fuse/relay box (includes the MICU) (see page 22-72). If input failures are related to a particular control unit, replace the control unit.

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## Ignition Key Switch Test

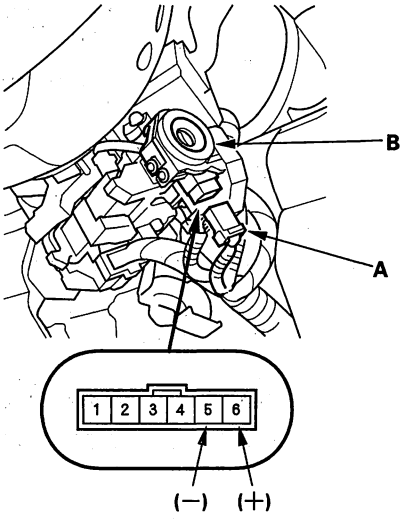
1. Remove the steering column upper and lower covers (see page 20-129).
2. Disconnect the 6P connector (A).




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 ignition switch.

## Ignition Key Light Test

1. Remove the steering column upper and lower covers (see page 20-129).
2. Disconnect the 6P connector (A).




3. The LED (B) should come on when power is connected to the No. 6 terminal and ground is connected to No. 5 terminal.
4. If the LED does not come on, replace the ignition switch.

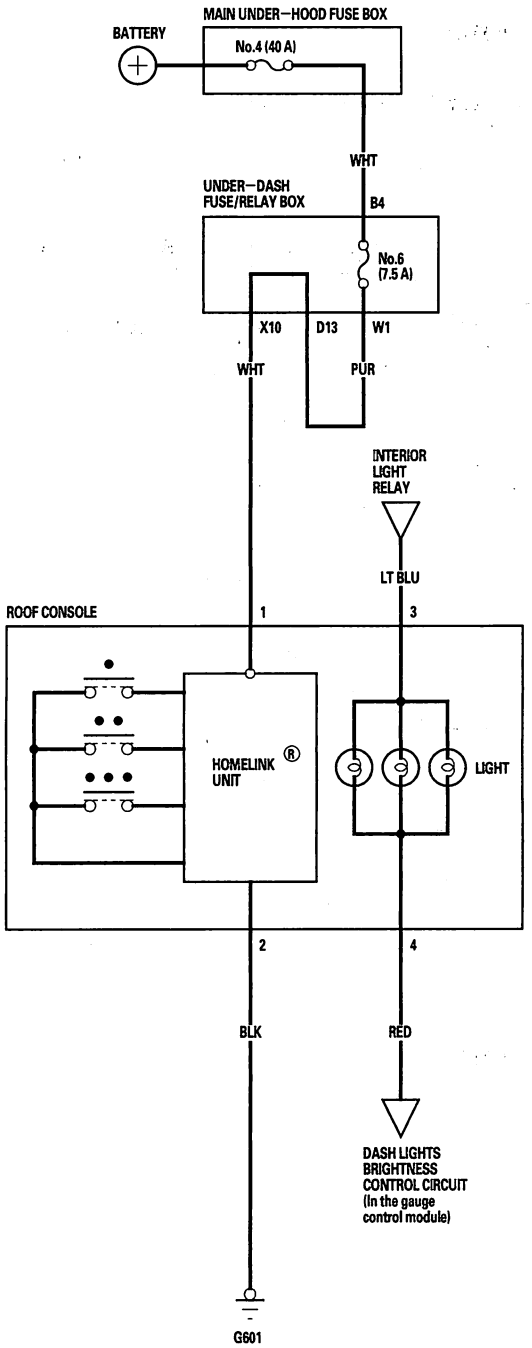
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BACK

# HomeLink Remote Control System

## Circuit Diagram



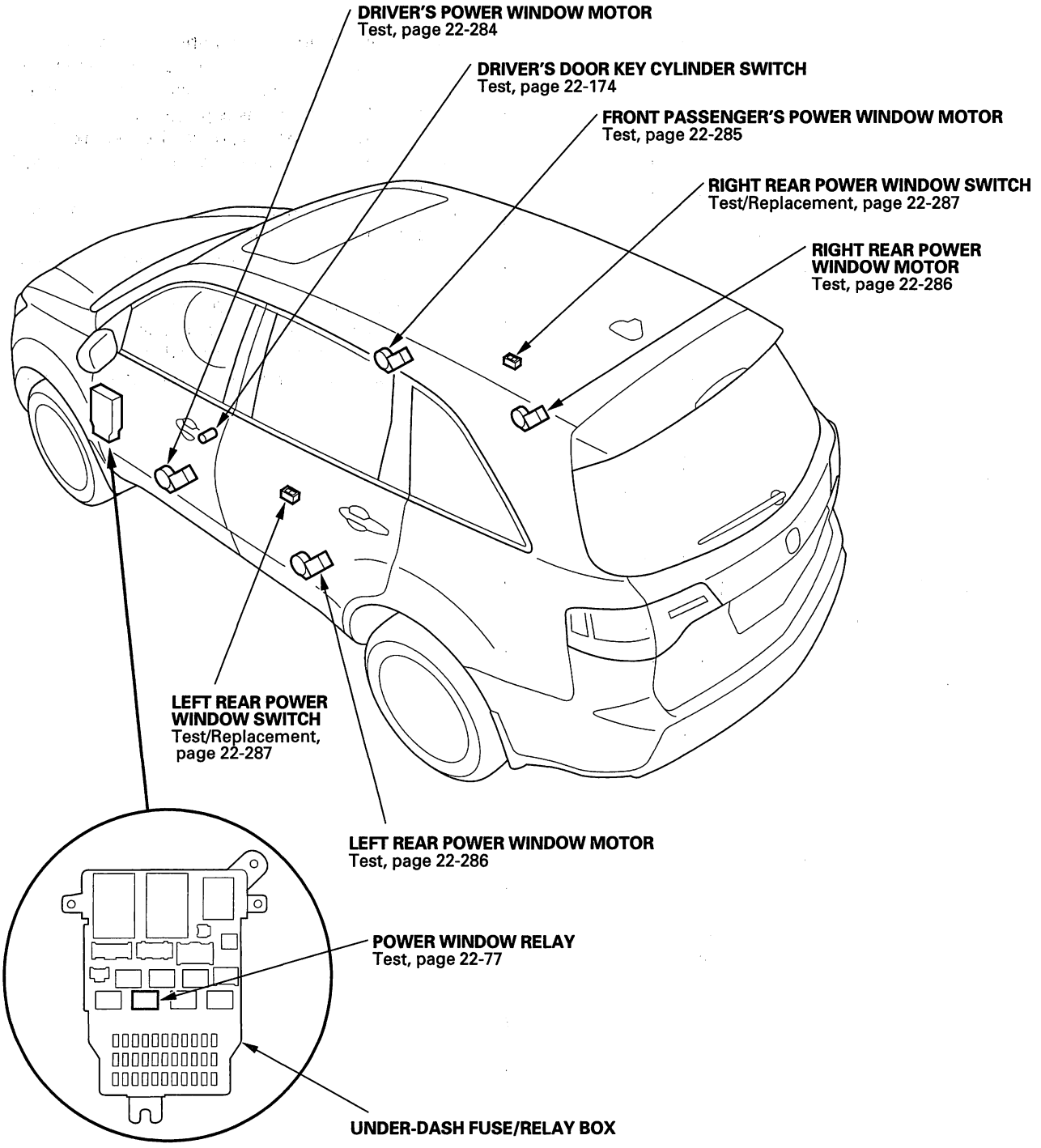

## Test

Turn on the front individual map lights at the interior light switch ON position.

- If the front individual map lights come on, the HomeLink's power and ground circuits are OK. If the HomeLink will not open the client's garage door, check that the HomeLink is programmed properly (see the owner's manual) or call HomeLink at 800-355-3515. On the internet, go to www. homelink. com.
- If the front individual map lights do not come on, check for these problems:
  - A blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box.
  - A faulty under-dash fuse/relay box.
  - An open in the WHT wire between the driver's under-dash fuse/relay box and roof console.
  - An open in the BLK wire between the roof console and G601.

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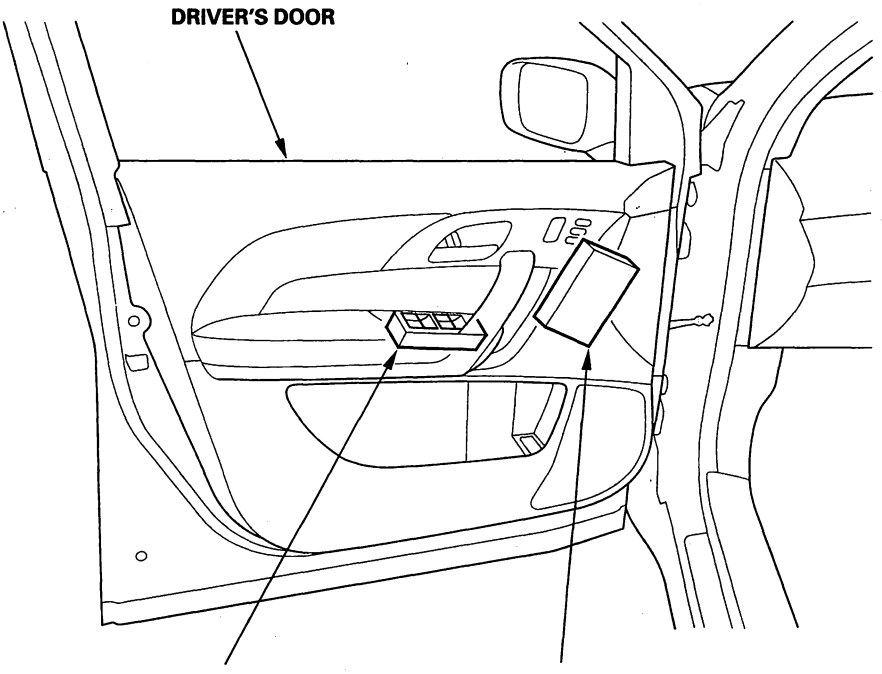
## Component Location Index

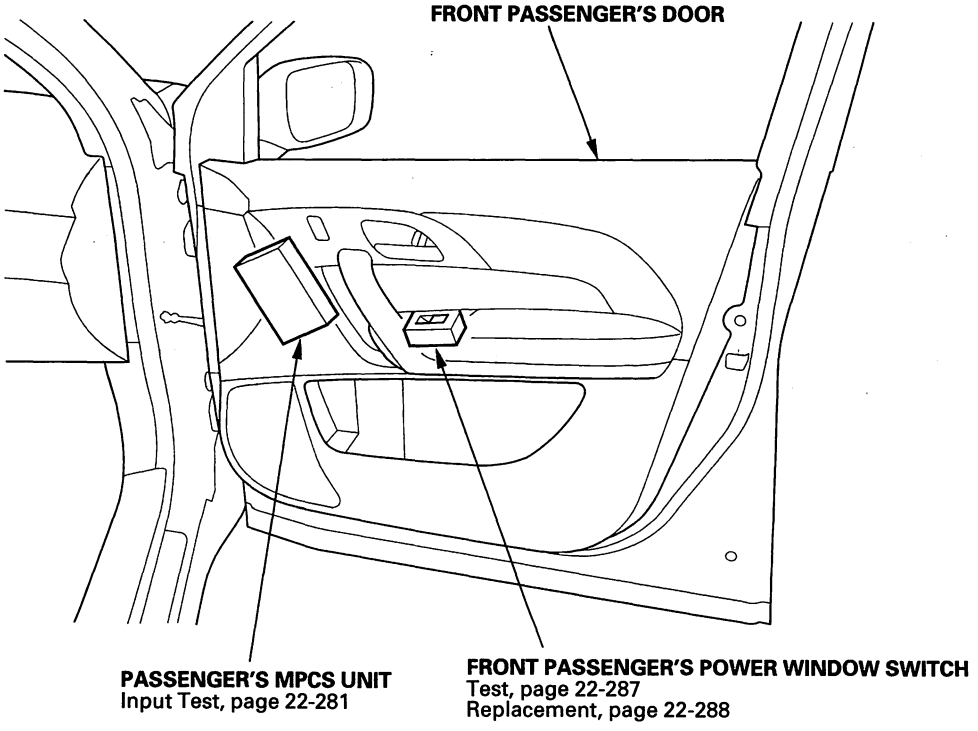



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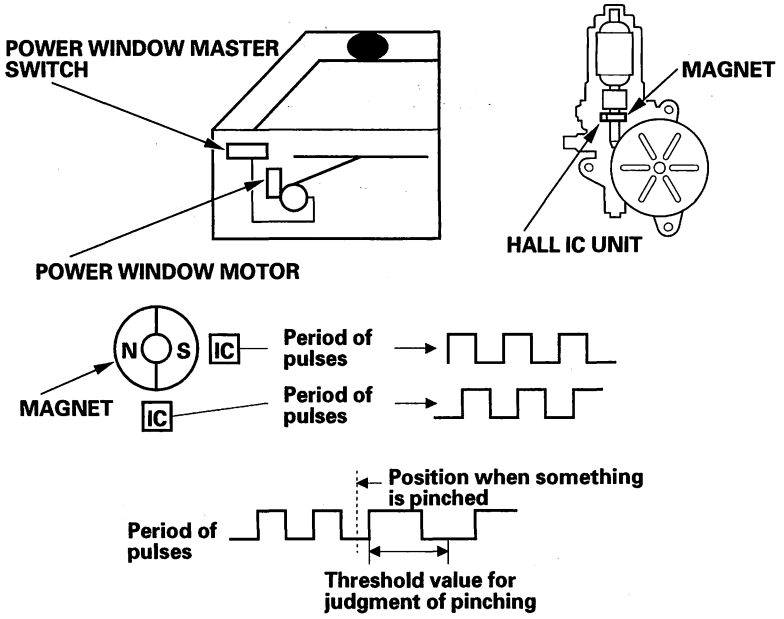

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## System Description

### Anti-pinch Power Window Operation

The system is composed of the driver's MPCS unit, passenger's MPCS unit, power window master switch, passenger's switches, and power window motors.

The power window motor incorporates a pulser which generates pulses during the motor's operation and sends pulses to the driver's and passenger's MPCS units. As soon as the power window control unit detects a change in the pulse frequency from the pulser, the power window control unit makes the power window motor stop and reverse. This is prevent pinching your hand or fingers during auto-up operation.




**Key Cylinder Operation**
With the key inserted in the driver's door key cylinder, turn the key a second time within 15 seconds and hold it to operate the windows and moonroof (clockwise to open, counterclockwise to close). The windows and moonroof stop moving when the key is released. The anti-pinch operation is not active when closing the windows and moonroof with the key cylinder.

**Keyless Operation**
By pressing and holding the UNLOCK button of the keyless transmitter a second time within 15 seconds, the windows and moonroof open. The windows and moonroof stop moving when the UNLOCK button is released. The windows do not close with the LOCK button.

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# Resetting the Power Window Control Unit

Resetting the power windows are required when any of the following have occurred:

- Power window regulator replacement or repair
- Power window motor replacement or repair
- Window run channel replacement
  - Driver's MPCS unit replacement
  - Passenger's MPCS unit replacement or repair
- Door glass replacement or repair
- Power is removed from the driver's or passenger's MPCS unit while the power window timer is ON.

NOTE: If the passenger's window has lost power when the key off timer is ON, it cannot be operated from the driver's switch and must be reset from the passenger's power window switch.

## Using the HDS

1. Connect the HDS to the data link connector.
2. Turn the ignition switch ON (II), then enter the vehicle's VIN and mileage at the prompts.
3. Select "BODY ELECTRICAL" from the "SYSTEM SELECT" menu.
4. From the "BODY ELECTRICAL SYSTEM SELECT" menu, select "POWER WINDOWS".
5. From the "MODE" menu, select "ADJUSTMENTS".
6. From the "ADJUSTMENT" menu, select "WINDOW P RESET" for driver's side (passenger's side) window.
7. Follow the prompts on the screen.
8. Confirm that the power window control unit is reset by using the window AUTO UP and AUTO DOWN function.

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(cont'd)

## Resetting the Power Window Control Unit (cont'd)

### Without the HDS

NOTE: Do each bullet in step 4 within 5 seconds of each other.

1. Turn the ignition switch ON (II).
2. Move the window all the way down by using the window DOWN switch.
3. Open the driver's door.
4. Do the following 3 times before going to step 5:
   - Turn the ignition switch OFF.
   - Push and hold the window DOWN switch.
   - Turn the ignition switch ON (II).
   - Release the window DOWN switch.
5. Confirm that AUTO UP no longer works. If AUTO UP still works, go back to step 1.
6. Move the window all the way down using the window DOWN switch.
7. Pull up and hold the window UP switch until the window is all the way up, then continue to hold the switch for 1 second.
8. Confirm that the power window control unit is reset by using the window AUTO UP and AUTO DOWN function.

   If the window still does not work in AUTO, repeat the procedure several times, paying close attention to the 5 second time limit between steps. If it still does not work, go to B-CAN System Diagnosis Test Mode A (see page 22-112).

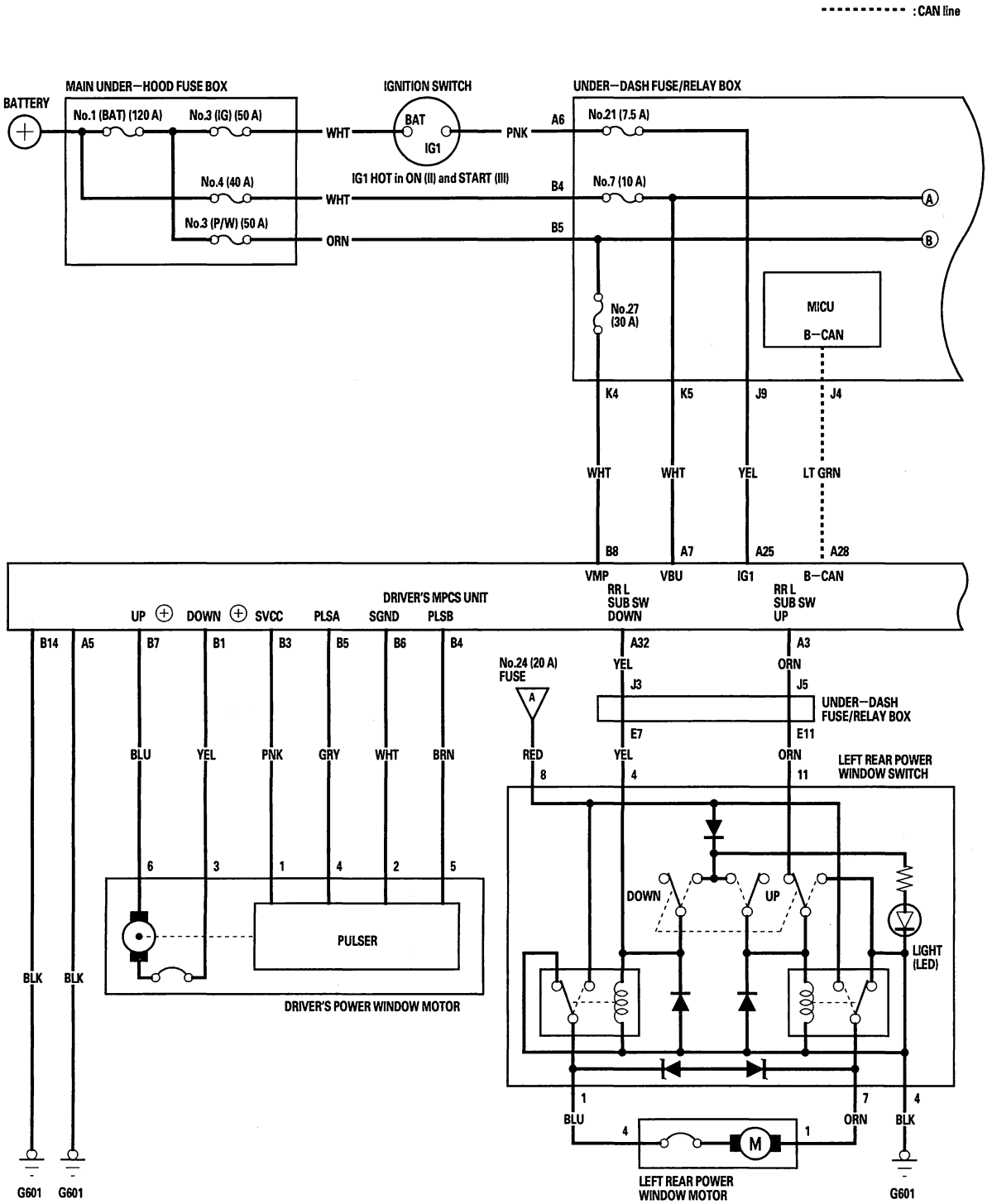
   NOTE: The passenger's window must be rest from the passenger's power window switch.

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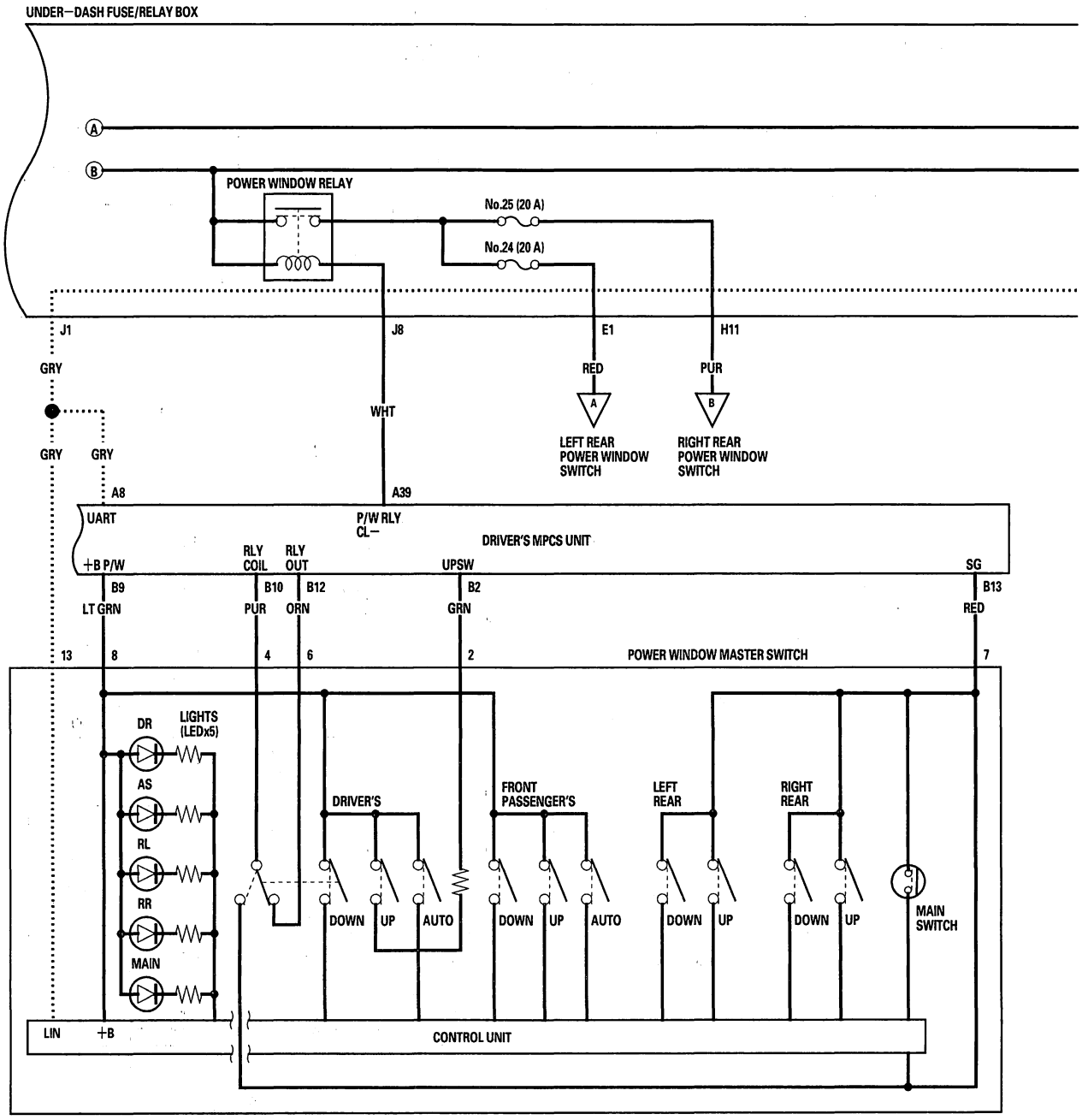
## Circuit Diagram




(cont'd)

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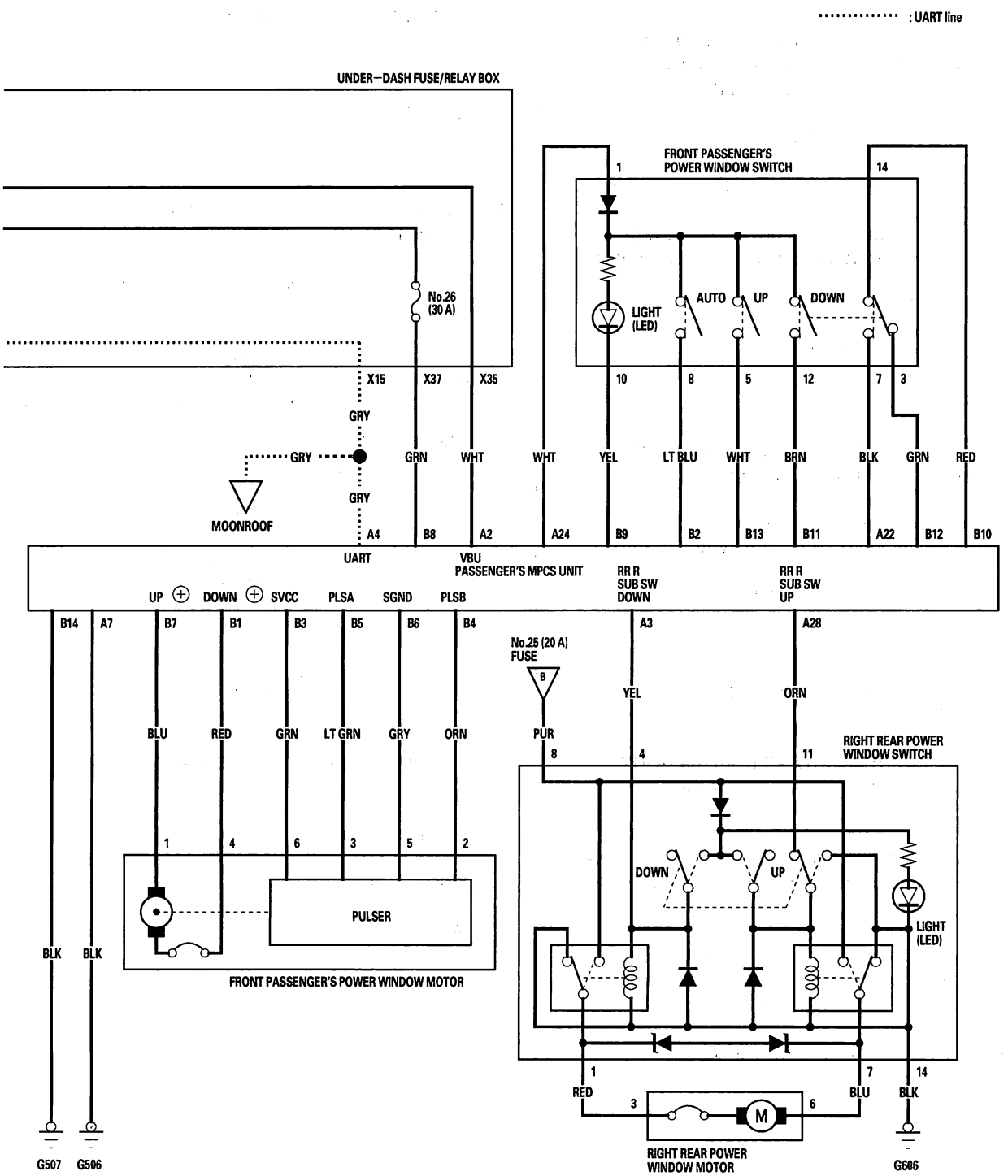
## Circuit Diagram (cont'd)




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## DTC Troubleshooting

### DTC B2175: Driver's Power Window Motor Pulse A Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the driver's power window by using the power window master switch manually.
4. Check for DTCs with the HDS.

   *Is DTC B2175 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Open and close the driver's power window by using the power window master switch manually.

   *Does the window motor operate?*

   **YES**—Go to step 6.

   **NO**—Test the driver's power window motor (see page 22-284).■
6. Select the POWER WINDOWS from the BODY ELECTRICAL system select menu and enter the DATA LIST.
7. Check the DETECT/NONE information of the Driver's window motor A-phase pulse signal in the DATA LIST.

   *Does the information indicator display DETECT while the window is moving, and display NONE when the window is stopped?*

   **YES**—Replace the driver's MPCS unit.■

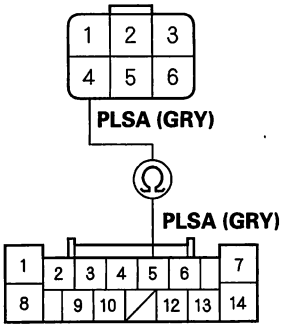
   **NO**—Go to step 8.
8. Check for DTCs with the HDS.

   *Is DTC B2176 also indicated?*

   **YES**—Go to step 15.

   **NO**—Go to step 9.■
9. Turn the ignition switch OFF.
10. Disconnect the 14P connector from the driver's MPCS unit.
11. Disconnect the 6P connector from the driver's power window motor.
12. Check for continuity between driver's MPCS unit connector B (14P) No. 5 terminal and driver's power window motor 6P connector No. 4 terminal.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**DRIVER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.

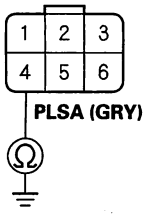
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13. Check for continuity between driver's power window motor 6P connector No. 4 terminal and body ground.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Replace the driver's power window. ■

14. Test the driver's power window motor (see page 22-284).

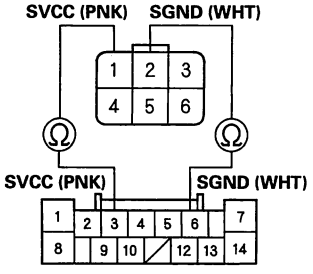
*Is the motor OK?*

**YES**—Replace the driver's MPCS unit. ■

**NO**—Replace the driver's power window motor. ■

15. Check for continuity between the driver's MPCS unit connector B (14P) No. 3 and No. 6 terminals and the driver's power window motor 6P connector No. 1 and No. 2 terminals respectively.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**DRIVER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

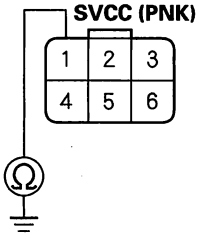
*Is there continuity?*

**YES**—Go to step 16.

**NO**—Repair an open in the wire. ■

16. Check for continuity between the driver's power window motor 6P connector No. 1 terminal and body ground.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Replace the driver's power window motor. ■

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## DTC Troubleshooting (cont'd)

### DTC B2176: Driver's Power Window Motor Pulse B Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the driver's power window by using the power window master switch manually.
4. Check for DTCs with the HDS.

   *Is DTC B2176 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Open and close the driver's power window by using the power window master switch manually.

   *Does the window motor operate?*

   **YES**—Go to step 6.

   **NO**—Test the driver's power window motor (see page 22-284).■
6. Select the POWER WINDOWS from the BODY ELECTRICAL system select menu and enter the DATA LIST.
7. Check the DETECT/NONE information of the Driver's window motor B-phase pulse signal in the DATA LIST.

   *Does the information indicator display DETECT while the window is moving, and display NONE when the window is stopped?*

   **YES**—Replace the driver's MPCS unit.■

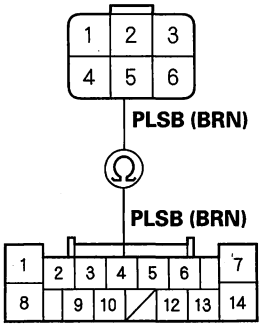
   **NO**—Go to step 8.
8. Check for DTCs with the HDS.

   *Is DTC B2175 also indicated?*

   **YES**—Go to step 15.

   **NO**—Go to step 9.
9. Turn the ignition switch OFF.
10. Disconnect the 14P connector from the driver's MPCS unit.
11. Disconnect the 6P connector from the driver's power window motor.
12. Check for continuity between driver's MPCS unit connector B (14P) No. 4 terminal and driver's power window motor 6P connector No. 5 terminal.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**DRIVER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.

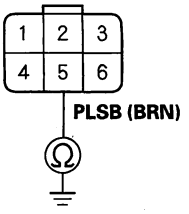
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BACK

13. Check for continuity between driver's power window motor 6P connector No. 5 terminal and body ground.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 14.

14. Test the driver's power window motor (see page 22-284).

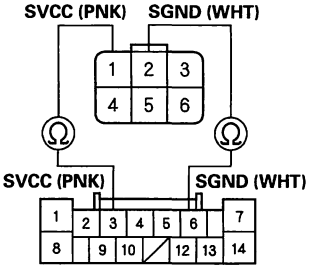
*Is the motor OK?*

**YES**—Replace the driver's MPCS unit.■

**NO**—Replace the driver's power window motor.■

15. Check for continuity between the driver's MPCS unit connector B (14P) No. 3 and No. 6 terminals and the driver's power window motor 6P connector No. 1 and No. 2 terminals respectively.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**DRIVER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

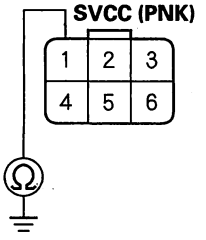
*Is there continuity?*

**YES**—Go to step 16.

**NO**—Repair an open in the wire.■

16. Check for continuity between the driver's power window motor 6P connector No. 1 terminal and body ground.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire.■

**NO**—Replace the driver's power window motor.■

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## DTC Troubleshooting (cont'd)

### DTC B2177: Front Passenger's Power Window Motor Pulse A Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the front passenger's power window by using the front passenger's power window switch manually.
4. Check for DTCs with the HDS.

   *Is DTC B2177 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Open and close the driver's power window by using the power window master switch manually.

   *Does the window motor operate?*

   **YES**—Go to step 6.

   **NO**—Test the front passenger's power window motor (see page 22-285).■
6. Select the POWER WINDOWS from the BODY ELECTRICAL system select menu and enter the DATA LIST.
7. Check the DETECT/NONE information of the Front passenger's window motor A-phase pulse signal in the DATA LIST.

   *Does the information indicator display DETECT while the window is moving, and display NONE when the window is stopped?*

   **YES**—Replace the driver's MPCS unit.■

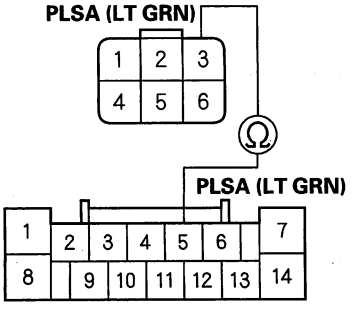
   **NO**—Go to step 8.
8. Check for DTCs with the HDS.

   *Is DTC B2178 also indicated?*

   **YES**—Go to step 15.

   **NO**—Go to step 9.
9. Turn the ignition switch OFF.
10. Disconnect the passenger's MPCS unit connector B (14P).
11. Disconnect the 6P connector from the passenger's power window motor.
12. Check for continuity between front passenger's MPCS unit connector B (14P) No. 5 terminal and front passenger's power window motor 6P connector No. 3 terminal.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**PASSENGER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.

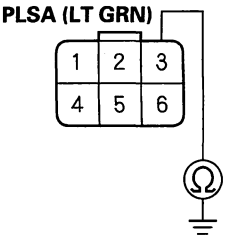
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BACK

13. Check for continuity between front passenger's power window motor 6P connector No. 3 terminal and body ground.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 14.

14. Test the front passenger's power window motor (see page 22-285).

*Is the motor OK?*

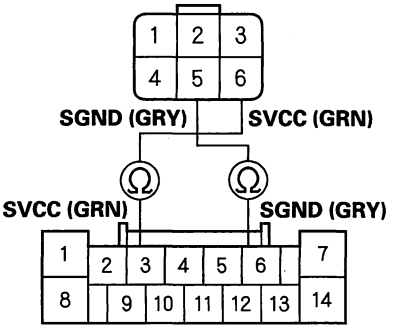
**YES**—Replace the passenger's MPCS unit.■

**NO**—Replace the front passenger's power window motor.■

15. Check for continuity between the passenger's MPCS unit connector B (14P) No. 3 and No. 6 terminals and the front passenger's power window motor 6P connector No. 5 and No. 6 terminals respectively.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**

Wire side of female terminals




**PASSENGER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

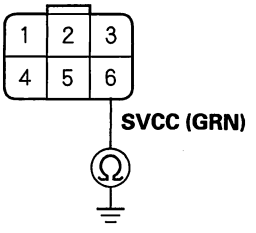
*Is there continuity?*

**YES**—Go to step 16.

**NO**—Repair open in the wire.■

16. Check for continuity between the front passenger's power window motor 6P connector No. 6 terminal and body ground.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire.■

**NO**—Replace the front passenger's power window motor.■

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## DTC Troubleshooting (cont'd)

### DTC B2178: Front Passenger's Power Window Motor Pulse B Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the front passenger's power window by using the front passenger's power window switch manually.
4. Check for DTCs with the HDS.

   *Is DTC B2178 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Open and close the driver's power window by using the power window master switch manually.

   *Does the window motor operate?*

   **YES**—Go to step 6.

   **NO**—Test the front passenger's power window motor (see page 22-285).■
6. Select the POWER WINDOWS from the BODY ELECTRICAL system select menu and enter the DATA LIST.
7. Check the DETECT/NONE information of the Front passenger's window motor B-phase pulse signal in the DATA LIST.

   *Does the information indicator display DETECT while the window is moving, and display NONE when the window is stopped?*

   **YES**—Replace the driver's MPCS unit.■

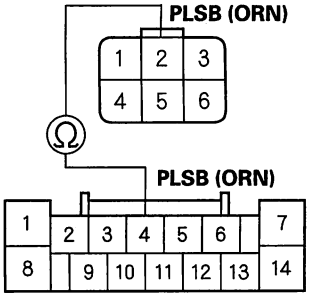
   **NO**—Go to step 8.
8. Check for DTCs with the HDS.

   *Is DTC B2177 also indicated?*

   **YES**—Go to step 15.

   **NO**—Go to step 9.
9. Turn the ignition switch OFF.
10. Disconnect the passenger's MPCS unit connector B (14P).
11. Disconnect the 6P connector from the passenger's power window motor.
12. Check for continuity between front passenger's MPCS unit connector B (14P) No. 4 terminal and front passenger's power window motor 6P connector No. 2 terminal.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**PASSENGER'S MPCS UNIT CONNECTOR B (14P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.■

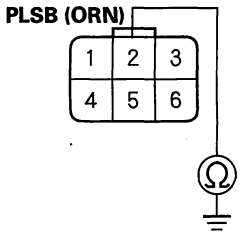
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13. Check for continuity between front passenger's power window motor 6P connector No. 2 terminal and body ground.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 14.

14. Test the front passenger's power window motor (see page 22-285).

*Is the motor OK?*

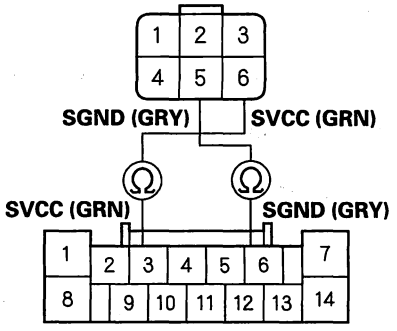
**YES**—Replace the passenger's MPCS unit. ■

**NO**—Replace the front passenger's power window motor. ■

15. Check for continuity between the passenger's MPCS unit connector B (14P) No. 3 and No. 6 terminals and the front passenger's power window motor 6P connector No. 5 and No. 6 terminals respectively.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**

Wire side of female terminals




**PASSENGER'S MPCS UNIT CONNECTOR B (14P)**

Wire side of female terminals

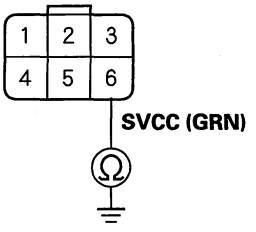
*Is there continuity?*

**YES**—Go to step 16.

**NO**—Repair open in the wire. ■

16. Check for continuity between the front passenger's power window motor 6P connector No. 6 terminal and body ground.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire. ■

**NO**—Replace the front passenger's power window motor. ■

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## DTC Troubleshooting (cont'd)

### DTC B2187: Communication Line (UART Line) Driver's MPCS Unit cannot send UART messages.

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B2187 indicated?*

   **YES**—Go to step 4.

   **NO**—Intermittent failure, the system is OK at this time. ■
4. Turn the ignition switch OFF.
5. Disconnect the passenger's MPCS unit connector A (28P).
6. Turn the ignition switch ON (II).
7. Clear the DTCs with the HDS.
8. Turn the ignition switch OFF, and then back ON (II).
9. Check for DTCs with the HDS.

   *Is DTC B2187 indicated?*

   **YES**—Go to step 10.

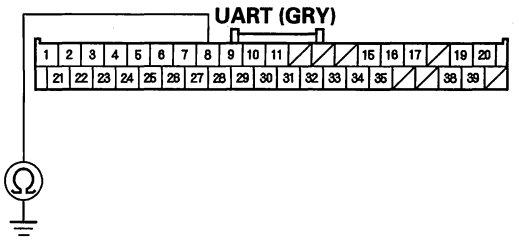
   **NO**—Do the passenger's MPCS unit input test, step No. 6. If OK, replace the passenger's MPCS unit. ■
10. Turn the ignition switch OFF.
11. Disconnect the moonroof control unit/motor 10P connector.
12. Turn the ignition switch ON (II).
13. Clear the DTCs with the HDS.
14. Turn the ignition switch OFF, and then back ON (II).
15. Check for DTCs with the HDS.

    *Is DTC B2187 indicated?*

    **YES**—Go to step 16.

    **NO**—Replace the moonroof control unit/motor. ■
16. Turn the ignition switch OFF.
17. Disconnect the driver's MPCS unit connector A (40P).
18. Check for continuity between the driver's MPCS unit connector A (40P) No. 8 terminal and body ground.

**DRIVER'S MPCS UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 19.

19. Turn the ignition switch ON (II).

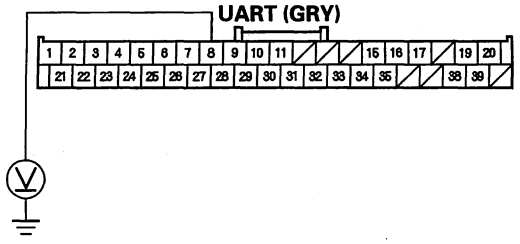
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20. Measure the voltage between the driver's MPCS unit connector A (40P) No. 8 terminal and body ground.

**DRIVER'S MPCS UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there voltage?*

**YES**—Repair short to power in the wire. ■

**NO**—Replace the driver's MPCS unit. ■

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## DTC Troubleshooting (cont'd)

### DTC B2188: Communication Line (UART Line) Driver's MPCS Unit cannot receive UART messages from Pasenger's MPCS Unit.

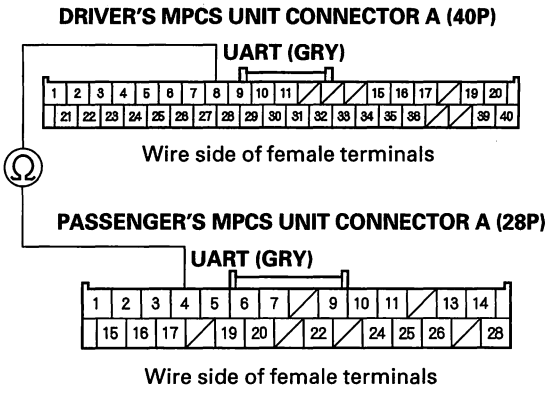
NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the driver's and front passenger's windows by operating the power window master switch.
4. Check for DTCs with the HDS.

   *Is DTC B2188 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time.■
5. Turn the ignition switch OFF.
6. Disconnect the driver's MPCS unit connector A (40P).
7. Disconnect the passenger's MPCS unit connector A (28P).
8. Check for continuity between the driver's MPCS unit connector A (40P) No. 8 terminal and the passenger's MPCS unit connector A (28P) No. 4 terminal.




*Is there continuity?*

**YES**—Substitute a known-good driver's MPCS unit and recheck. If the DTC goes away, replace the original driver's MPCS unit. If the DTC is still present, replace the passenger's MPCS unit.

**NO**—Repair open in the wire.■

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## **DTC B2189:** Driver's Power Window Position Detect Circuit Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the driver's power window by using the power window master switch manually.
4. Check for DTCs with the HDS.

   *Is DTC B2175 or B2176 also indicated?*

   **YES**—Troubleshoot the indicated DTC(s) first. ■

   **NO**—Go to step 5.
5. Reset the power window control unit (see page 22-259).
6. Clear the DTCs with the HDS.
7. Turn the ignition switch OFF, and then back ON (II).
8. Open and close the driver's power window by using the power window master switch manually.
9. Check for DTCs with the HDS.

   *Is DTC B2189 indicated?*

   **YES**—Go to step 10.

   **NO**—The system is OK at this time. ■
10. Turn the ignition switch OFF.
11. Substitute a known-good driver's MPCS unit.
12. Clear the DTCs with the HDS.
13. Turn the ignition switch OFF, and then back ON (II).
14. Open and close the driver's power window by using the power window master switch manually.
15. Check for DTCs with the HDS.

    *Is DTC B2189 indicated?*

    **YES**—Replace the driver's power window motor. ■

    **NO**—Replace the driver's MPCS unit. ■

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## DTC Troubleshooting (cont'd)

### DTC B2190: Front Passenger's Power Window Position Detect Circuit Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Open and close the front passenger's window by using the front passenger's power window switch manually.
4. Check for DTCs with the HDS.

   *Is DTC B2177 or B2178 also indicated?*

   **YES**—Troubleshoot the indicated DTC(s) first. ■

   **NO**—Go to step 5.
5. Reset the power window control unit (see page 22-259).
6. Clear the DTCs with the HDS.
7. Turn the ignition switch OFF, and then back ON (II).
8. Open and close the front passenger's power window by using the front passenger's power window switch manually.
9. Check for DTCs with the HDS.

   *Is DTC B2190 indicated?*

   **YES**—Go to step 10.

   **NO**—The system is OK at this time. ■
10. Turn the ignition switch OFF.
11. Substitute a known-good passenger's MPCS unit.
12. Clear the DTCs with the HDS.
13. Turn the ignition switch OFF, and then back ON (II).
14. Open and close the front passenger's power window by using the front passenger's power window switch manually.
15. Check for DTCs with the HDS.

    *Is DTC B2190 indicated?*

    **YES**—Replace the front passenger's window motor. ■

    **NO**—Replace the passenger's MPCS unit. ■

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## **DTC B2191:** Passenger's MPCS Unit Internal (EEPROM) Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B2191 indicated?*

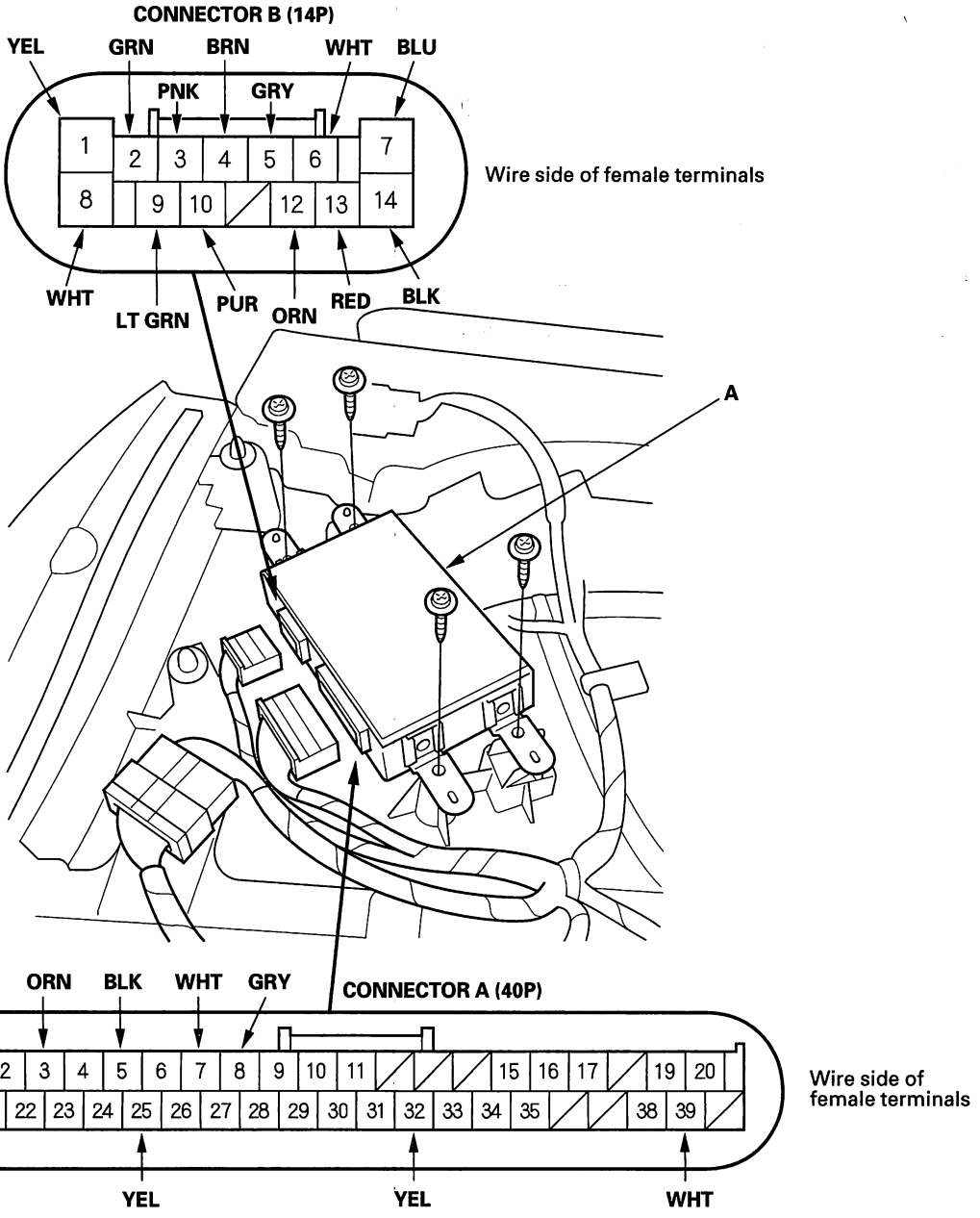
   **YES**—Replace the passenger's MPCS unit. ■

   **NO**—Intermittent failure, the system is OK at this time. ■

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## Driver's MPCS Unit Input Test

1. Turn the ignition switch OFF.
2. Remove the driver's door panel (see page 20-8).
3. Disconnect the driver's MPCS unit (A) connectors A (40P) and B (14P).




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.

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5. 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 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A8 | GRY | Under-dash fuse/relay box connector J (21P) and power window master switch connector B (14P) disconnected | Check for continuity between the A8 terminal and under-dash fuse/relay box connector J (12P) No. 1 terminal, and A8 terminal and power window master switch connector B (14P) No. 13 terminal:<br>There should be continuity. | An open in the wire |
| | | | Check for continuity to ground:<br>There should be no continuity. | Short to ground in the wire |
| A39 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 3 (P/W) (50 A) fuse in the main under-hood fuse box<br>• Faulty power window relay<br>• An open in the wire |
| A3 | ORN | Connect the A39 terminal to body ground, and connect the A3 and B 8 terminals with a jumper wire. | Check the left rear power window motor operation:<br>The motor should run (the power window should go up). | • Blown No. 24 (20 A) fuse in the under-dash fuse/relay box<br>• Poor ground (G601)<br>• Faulty power window relay<br>• Faulty left rear power window switch<br>• Faulty left rear power window motor<br>• An open in the wire |
| A32 | YEL | Connect the A39 terminal to body ground, and connect the A32 and B8 terminals with a jumper wire. | Check the left rear power window motor operation:<br>The motor should run (the power window should go down). | |
| B1 | YEL | Connect the B8 and B1 terminals, and the B7 and B14 terminals with jumper wires. | Check the driver's power window motor operation:<br>The motor should run (the power window should go down). | • Blown No. 27 (30 A) fuse in the under-dash fuse/relay box<br>• Faulty driver's power window motor<br>• An open in the wire |
| B7 | BLU | Connect the B8 and B7 terminals, and the B1 and B14 terminals with jumper wires. | Check the driver's power window motor operation:<br>The motor should run (the power window should go up). | |
| B9 • B2 | LT GRN • GRN | Driver's power window switch in UP position | Check for continuity between the terminals:<br>There should be continuity. | • Faulty power window master switch<br>• An open in the wire |
| | | Driver's power window switch released | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty power window master switch<br>• A short to ground in the wire |
| B10 • B12 | PUR • ORN | Under all condition (except pressing the driver's power window switch DOWN position) | Check for continuity between the terminals:<br>There should be continuity. | • Faulty power window master switch<br>• An open in the wire |
| | | Driver's power window switch in DOWN position | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty power window master switch<br>• A short to ground in the wire |
| B10 • B13 | PUR • RED | Driver's power window switch in DOWN position | Check for continuity between the terminals:<br>There should be continuity. | • Faulty power window master switch<br>• An open in the wire |
| | | Driver's power window switch released | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty power window master switch<br>• A short to ground in the wire |

(cont'd)

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## Driver's MPCS Unit Input Test (cont'd)

6. 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, replace the driver's MPCS unit, then go to step 7.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A5<br>B14 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| A7 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| B8 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 3 (P/W) (50 A) fuse in the main under-hood fuse box<br>• Blown No. 27 (30 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| A25 | YEL | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| B3 | PNK | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Faulty driver's MPCS unit<br>• An open in the wire |
| B4 | BRN | Ignition switch ON (II), and driver's power window motor runs by connecting the B8 and B1 terminals and the B7 and B14 terminals with jumper wires. | Measure the voltage between the B4 and B6 terminals:<br>There should be 0—about 5 V — 0—about 5 V repeatedly<br>(a digital voltmeter reads about 2.5 V while the power window moves). | • Blown No. 27 (30 A) fuse in the under-dash fuse/relay box<br>• Faulty driver's MPCS unit<br>• Faulty driver's power window motor<br>• An open in the wire |
| B5 | GRY | Ignition switch ON (II), and driver's power window motor runs by connecting the B8 and B1 terminals and the B7 and B14 terminals with jumper wires. | Measure the voltage between the B5 and B6 terminals:<br>There should be 0—about 5 V — 0—about 5 V repeatedly<br>(a digital voltmeter reads about 2.5 V while the power window moves). | • Blown No. 27 (30 A) fuse in the under-dash fuse/relay box<br>• Faulty driver's MPCS unit<br>• Faulty driver's power window motor<br>• An open in the wire |
| B6 | WHT | Ignition switch ON (II) | Check for continuity to ground:<br>There should be continuity. | • Poor ground (G601)<br>• Faulty driver's MPCS unit<br>• An open in the wire |
| B9 | LT GRN | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Faulty driver's MPCS unit<br>• Faulty power window master switch<br>• An open in the wire<br>• A short to ground in the wire |

7. Reset the power window control unit (see page 22-259).

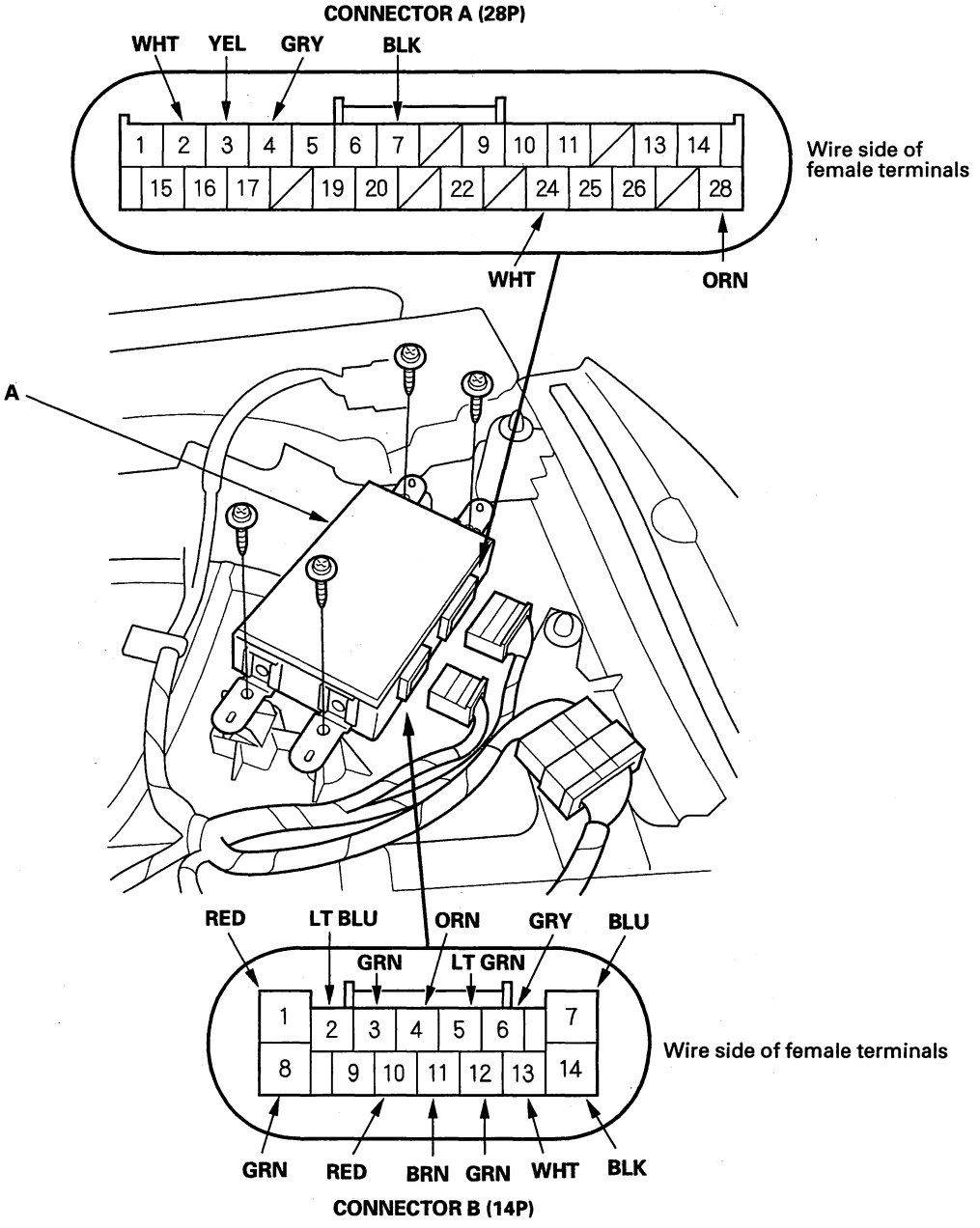
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## Passenger's MPCS Unit Input Test

1. Turn the ignition switch OFF.
2. Remove the front passenger's door panel (see page 20-8).
3. Disconnect the passenger's MPCS unit (A) connectors A (28P) and B (14P).




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)



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## Passenger's MPCS Unit Input Test (cont'd)

5. 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 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A4 | GRY | Under-dash fuse/relay box connector X (39P) and moonroof control unit/motor 10P connector disconnected | Check for continuity between the A4 terminal and under-dash fuse/relay box connector X (39P) No. 15 terminal:<br>There should be continuity. | An open in the wire |
| | | | Check for continuity to ground:<br>There should be no continuity. | Short to ground in the wire |
| A3 | YEL | Ignition switch ON (II), connect the A3 and B8 terminals with a jumper wire. | Check the right rear power window motor operation:<br>The motor should run (the power window should go down). | • Blown No. 26 (30 A) fuse in the under-dash fuse/relay box<br>• Poor ground (G606)<br>• Faulty power window relay<br>• Faulty right rear power window switch<br>• Faulty right rear power window motor<br>• An open in the wire |
| A28 | ORN | Ignition switch ON (II), connect the A28 and B8 terminals with a jumper wire. | Check the right rear power window motor operation:<br>The motor should run (the power window should go up). | |
| B1 | RED | Connect the B8 and B1 terminals, and the B7 and B14 terminals with jumper wires. | Check the front passenger's power window motor operation:<br>The motor should run (the power window should go down). | • Blown No. 26 (30 A) fuse in the under-dash fuse/relay box<br>• Faulty front passenger's power window motor<br>• An open in the wire |
| B7 | BLU | Connect the B8 and B7 terminals, and the B1 and B14 terminals with jumper wires. | Check the front passenger's power window motor operation:<br>The motor should run (the power window should go up). | |
| A24 • B2 | WHT • LT BLU | Front passenger's power window switch in AUTO position | Check for continuity between the terminals:<br>There should be continuity. | • Faulty passenger's power window switch<br>• An open in the wire |
| | | Front passenger's power window switch released | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty passenger's power window switch<br>• A short to ground in the wire |
| A24 • B11 | WHT • BRN | Front passenger's power window switch in DOWN position | Check for continuity between the terminals:<br>There should be continuity. | • Faulty passenger's power window switch<br>• An open in the wire |
| | | Front passenger's power window switch released | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty passenger's power window switch<br>• A short to ground in the wire |
| A24 • B13 | WHT • WHT | Front passenger's power window switch in UP position | Check for continuity between the terminals:<br>There should be continuity. | • Faulty passenger's power window switch<br>• An open in the wire |
| | | Front passenger's power window switch released | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty passenger's power window switch<br>• A short to ground in the wire |
| A22 • B10 | BLK • RED | Front passenger's power window switch in DOWN position | Check for continuity between the terminals:<br>There should be continuity. | • Faulty passenger's power window switch<br>• An open in the wire |
| | | Front passenger's power window switch released | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty passenger's power window switch<br>• A short to ground in the wire |
| B10 • B12 | RED • GRN | Under all condition (except pressing the front passenger's power window switch DOWN position) | Check for continuity between the terminals:<br>There should be continuity. | • Faulty passenger's power window switch<br>• An open in the wire |
| | | Front passenger's power window switch in DOWN position | Check for continuity between the terminals:<br>There should be no continuity. | • Faulty passenger's power window switch<br>• A short to ground in the wire |

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6. 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, replace the passenger's MPCS unit, then go to step 7.

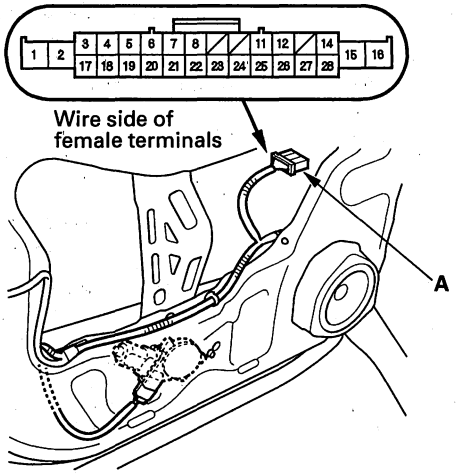
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A7 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G506)<br>• An open in the wire |
| B14 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G507)<br>• An open in the wire |
| A2 | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| B8 | GRN | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 3 (P/W) (50 A) fuse in the main under-hood fuse box<br>• Blown No. 26 (30 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| B3 | GRN | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Faulty passenger's MPCS unit<br>• An open in the wire |
| B4 | ORN | Ignition switch ON (II), and front passenger's power window motor runs by connecting the B8 and B1 terminals and the B7 and B14 terminals with jumper wires. | Measure the voltage between the B4 and B6 terminals: There should be 0—about 5 V — 0—about 5 V repeatedly (a digital voltmeter reads about 2.5 V while the power window moves). | • Blown No. 26 (30 A) fuse in the under-dash fuse/relay box<br>• Faulty passenger's MPCS unit<br>• Faulty front passenger' s power window motor<br>• An open in the wire |
| B5 | LT GRN | Ignition switch ON (II), and front passenger's power window motor runs by connecting the B8 and B1 terminals and the B7 and B14 terminals with jumper wires. | Measure the voltage between the B5 and B6 terminals: There should be 0—about 5 V — 0—about 5 V repeatedly (a digital voltmeter reads about 2.5 V while the power window moves). | • Blown No. 26 (30 A) fuse in the under-dash fuse/relay box<br>• Faulty passenger's MPCS unit<br>• Faulty front passenger's power window motor<br>• An open in the wire |
| B6 | GRY | Ignition switch ON (II) | Check for continuity to ground: There should be continuity. | • Poor ground (G506, G507)<br>• Faulty passenger's MPCS unit<br>• An open in the wire |

7. Reset the power window control unit (see page 22-259).

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## Driver's Power Window Motor Test

1. Remove the door panel (see page 20-8), and disconnect the driver's door wire harness B 28P connector (A) from the driver's door wire harness A.

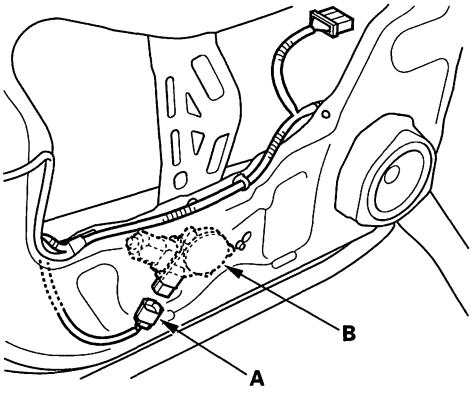



2. At the driver's door wire harness B 28P connector, test the power window motor in each direction by connecting battery power and ground according to the table.When the motor stops running, disconnect one lead immediately.

| Terminal / Direction | 15 | 16 |
|---|---|---|
| UP | ⊕ | ⊖ |
| DOWN | ⊖ | ⊕ |

3. If the motor does not run or fails to run smoothly, Go to step 4.

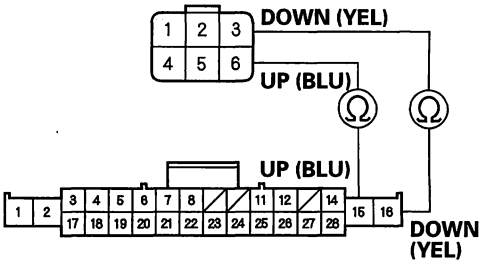
4. Disconnect the 6P connector (A) from the driver's power window motor (B).




5. Check for continuity between the driver's power window motor 6P connector No. 3 and No. 6 terminals and the driver's door wire harness B 28P connector No. 15 and No. 16 terminals respectively. There should be continuity.

   - If there is no continuity, repair open in the wire.
   - If there is continuity, replace the power window motor.

**DRIVER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals




**DRIVER'S DOOR WIRE HARNESS B 28P CONNECTOR**
Wire side of female terminals

6. After replacing the power window motor, reset the power window control unit (see page 22-259).

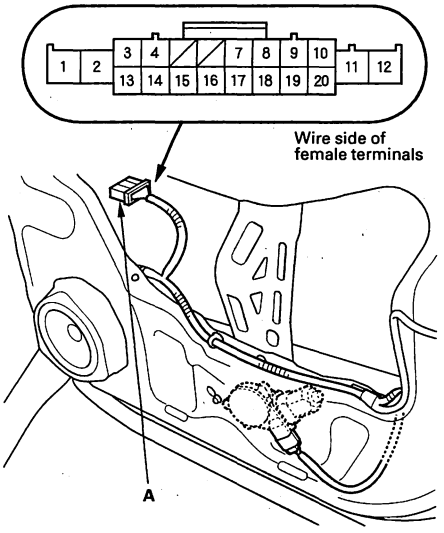
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BACK

# Front Passenger's Power Window Motor Test

1. Remove the door panel (see page 20-8), and disconnect the front passenger's door wire harness 20P connector (A) from the front passenger's door subharness.

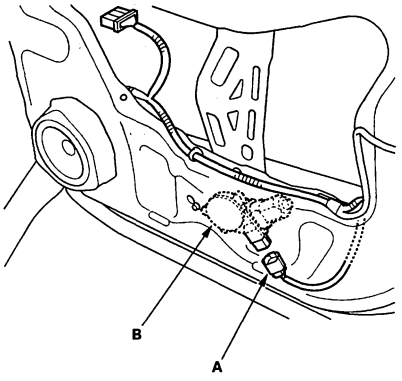



2. At the front passenger's door wire harness 20P connector, test the power window motor in each direction by connecting battery power and ground according to the table.When the motor stops running, disconnect one lead immediately.

| Terminal / Direction | 2 | 12 |
|---|---|---|
| UP | ⊖ | ⊕ |
| DOWN | ⊕ | ⊖ |

3. If the motor does not run or fails to run smoothly, go to step 4.

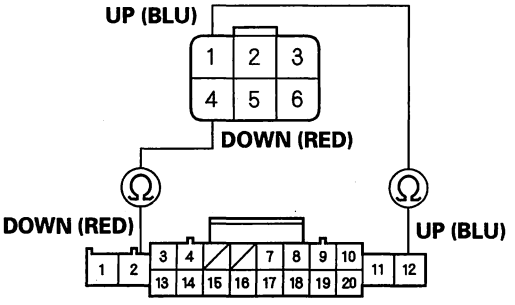
4. Disconnect the 6P connector (A) from the front passenger's power window motor (B).




5. Check for continuity between the front passenger's power window motor 6P connector No. 1 and No. 4 terminals and the front passenger's door wire harness 20P connector No. 2 and No. 12 terminals respectively. There should be continuity.

- If there is no continuity, repair open in the wire.
- If there is continuity, replace the power window motor.

**FRONT PASSENGER'S POWER WINDOW MOTOR 6P CONNECTOR**
Wire side of female terminals



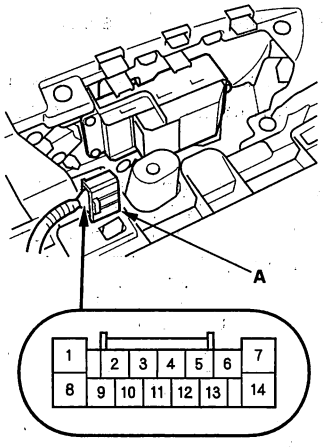

**FRONT PASSENGER'S DOOR WIRE HARNESS 20P CONNECTOR**
Wire side of female terminals

6. After replacing the power window motor, reset the power window control unit (see page 22-259).

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## Rear Power Window Motor Test

1. Remove the door panel (see page 20-8), and disconnect the rear power window switch 14P connector (A).




Wire side of female terminals

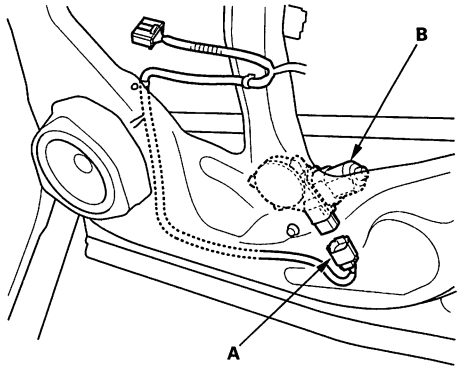
2. Test the power window motor in each direction by connecting battery power and ground according to the table. When the motor stops running, disconnect one lead immediately.

| Terminal / Direction | 1 [6] | 4 [3] |
|---|---|---|
| UP | ⊕ | ⊖ |
| DOWN | ⊖ | ⊕ |

[ ] : **Right rear power window**

3. If the motor does not run or fails to run smoothly, Go to step 4.

4. Disconnect the 6P connector (A) from the rear power window motor (B).



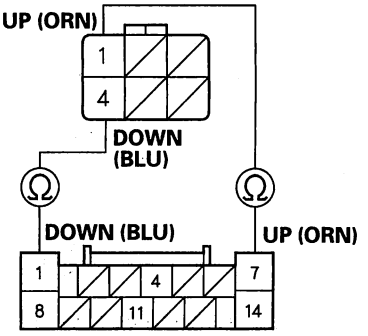

The illustration shows the right rear door, the left rear door is symmetrical.

5. Check for continuity between the rear power window motor 6P connector No. 1 [No. 3] and No. 4 [No. 6] terminals and the front rear power window switch 14P connector No. 1 and No. 7 terminals respectively. There should be continuity.
[ ] : Right rear power window

- If there is no continuity, repair open in the wire.
- If there is continuity, replace the power window motor.

**LEFT REAR POWER WINDOW MOTOR 6P CONNECTOR**

Wire side of female terminals

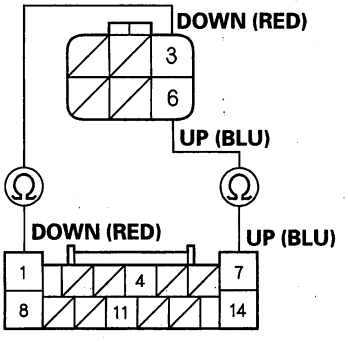



**LEFT REAR POWER WINDOW SWITCH 14P CONNECTOR**

Wire side of female terminals

**RIGHT REAR POWER WINDOW MOTOR 6P CONNECTOR**

Wire side of female terminals




**RIGHT REAR POWER WINDOW SWITCH 14P CONNECTOR**

Wire side of female terminals

6. After replacing the power window motor, reset the power window control unit (see page 22-259).

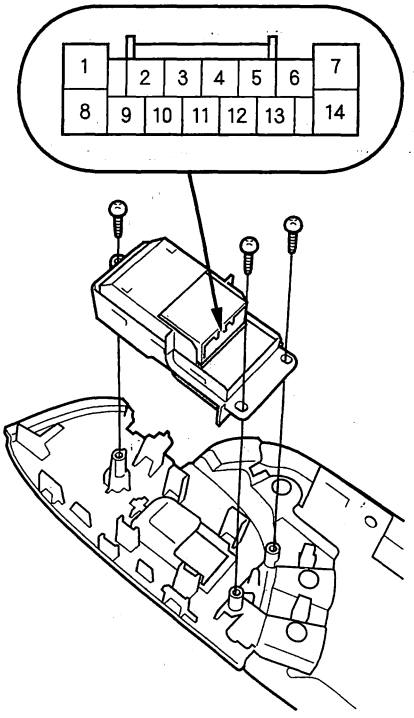
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BACK

## Front Passenger's Power Window Switch Test

1. Remove the front passenger's door panel (see page 20-8), and disconnect the 14P connector from the front passenger's power window switch.



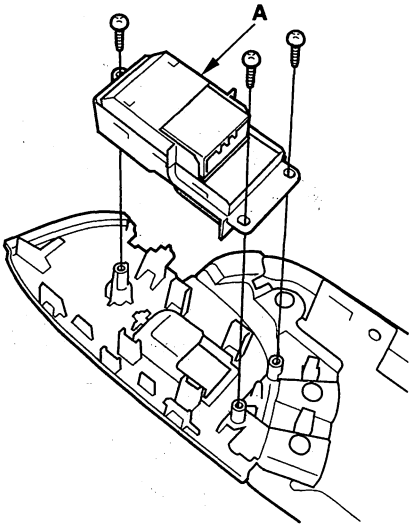

2. Check for continuity between the terminals in each switch position according to the table.

| Position \ Terminal | 1 | 5 | 8 | 12 | 3 | 7 | 14 |
|---|---|---|---|---|---|---|---|
| UP | ○ | ○ | | | ○ | | ○ |
| DOWN | ○ | | | ○ | | ○ | ○ |
| AUTO | ○ | | ○ | | ○ | | ○ |

3. If the continuity is not as specified, replace the switch (see page 22-288).

## Rear Power Window Switch Test/ Replacement

1. Remove the rear door panel (see page 20-22), and disconnect the 14P connector from the rear power window switch.
2. Remove the power window switch panel (see page 20-22).
3. Remove the three mounting screws and the rear power window switch (A).

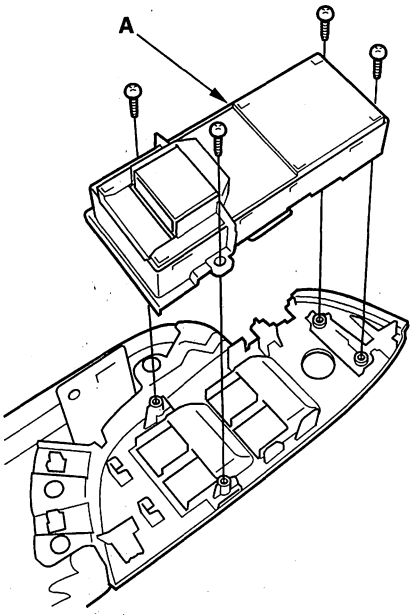



4. Swap the rear power window switch with another known-good power window switch and test. If the original power window switch is faulty; replace it.
5. Install the switch in the reverse order of removal.
6. Reset the power window control unit (see page 22-259).

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## Power Window Master Switch Replacement

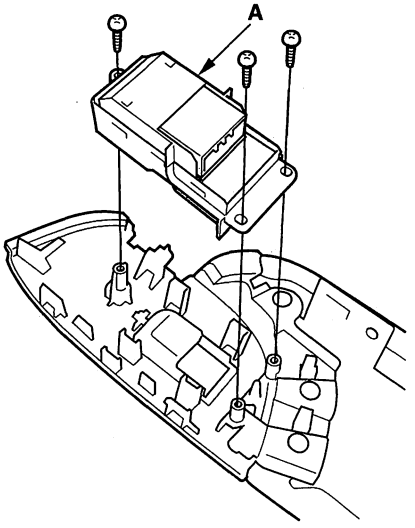
1. Remove the driver's door panel (see page 20-8), and disconnect the 14P connector from the power window master switch.
2. Remove the power window switch panel (see page 20-8).
3. Remove the four mounting screws and the power window master switch (A).




4. Install the switch in the reverse order of removal.
5. Reset the power window control unit (see page 22-259).

## Front Passenger's Power Window Switch Replacement

1. Remove the front passenger's door panel (see page 20-8), and disconnect the 14P connector from the front passenger's power window switch.
2. Remove the power window switch panel (see page 20-8).
3. Remove the three mounting screws and the front passenger's power window switch (A).



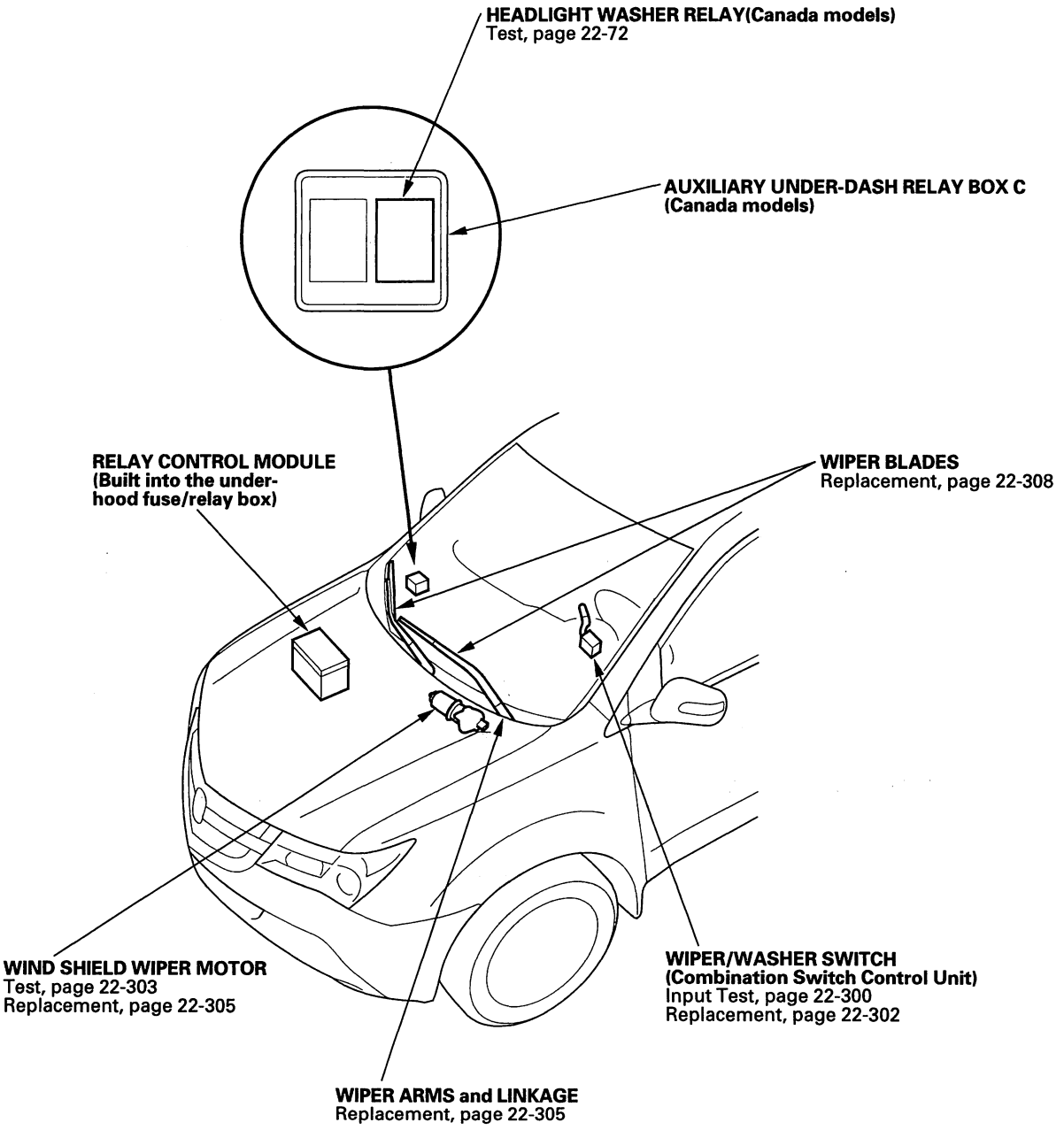

4. Install the switch in the reverse order of removal.
5. Reset the power window control unit (see page 22-259).

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## Component Location Index

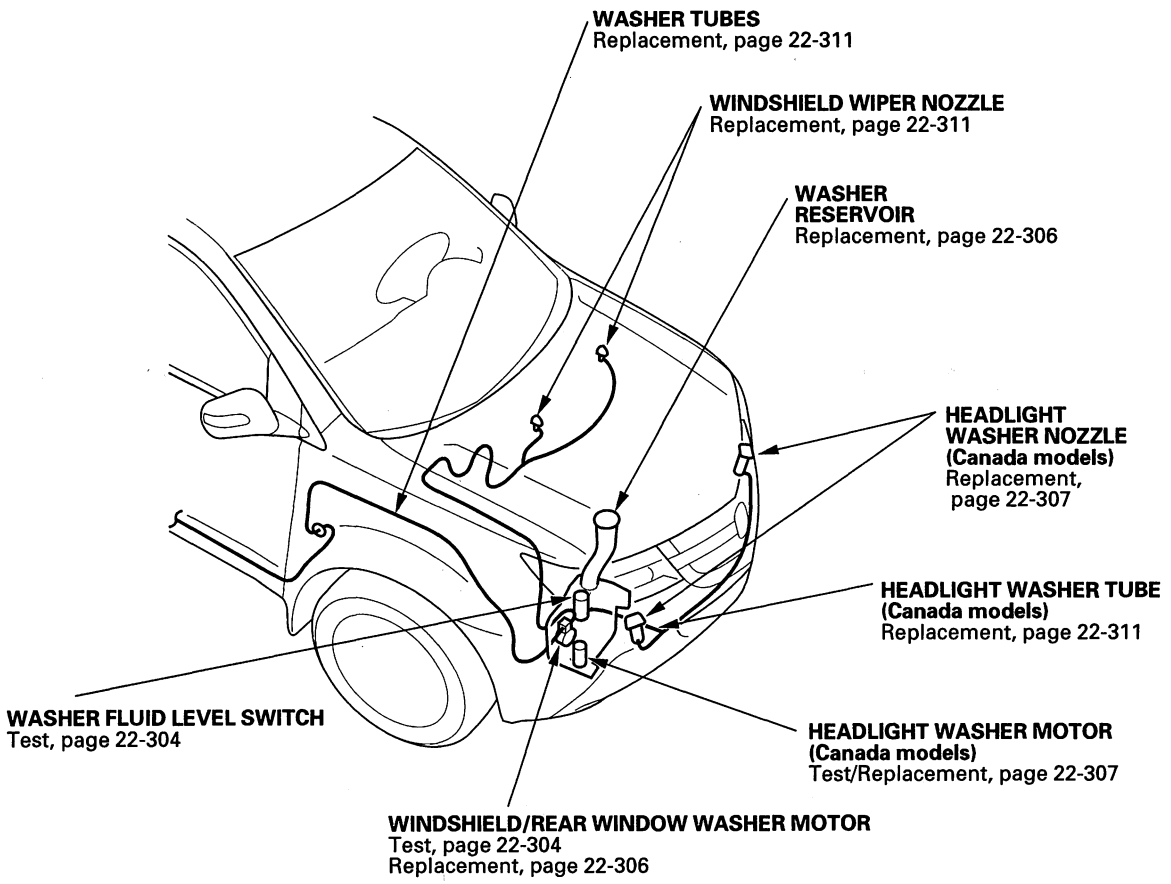



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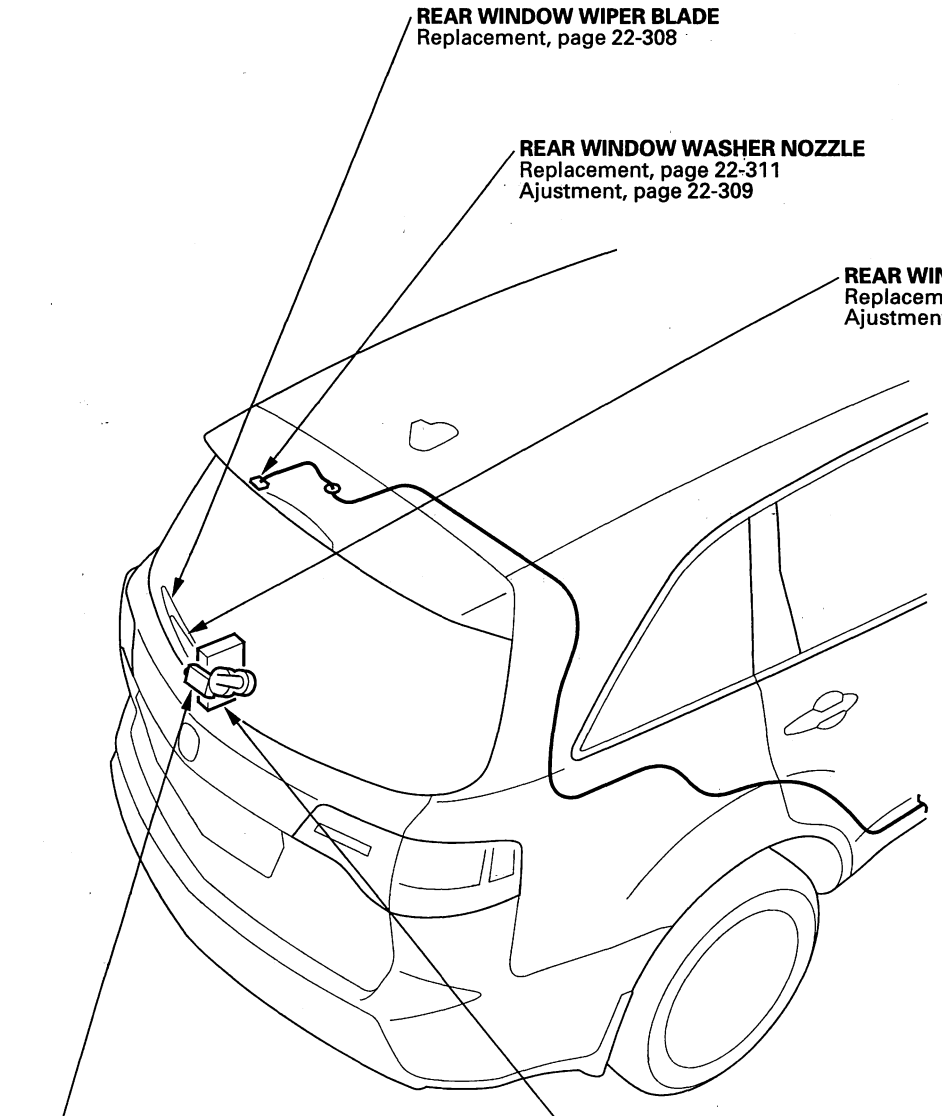
## Component Location Index (cont'd)




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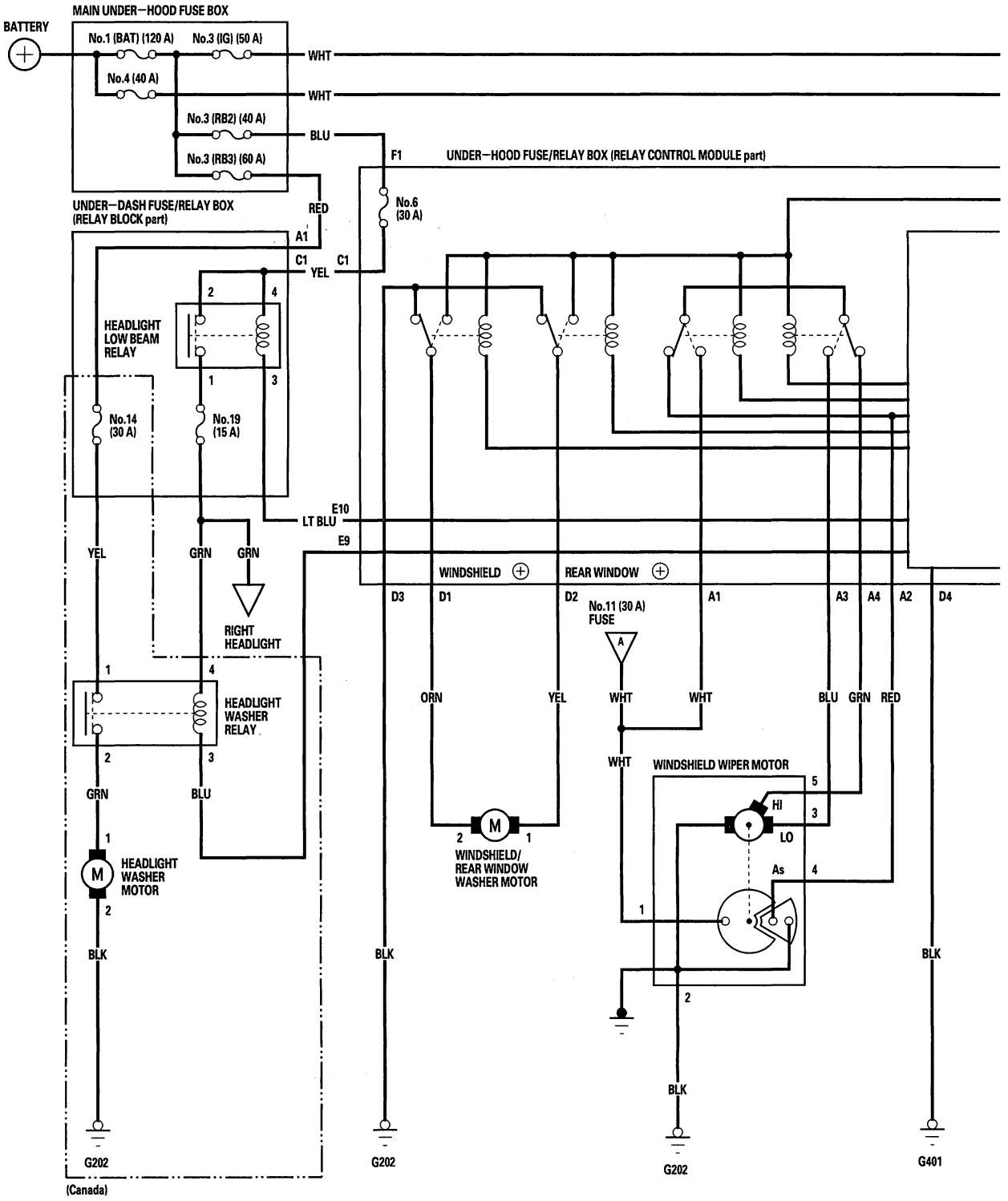


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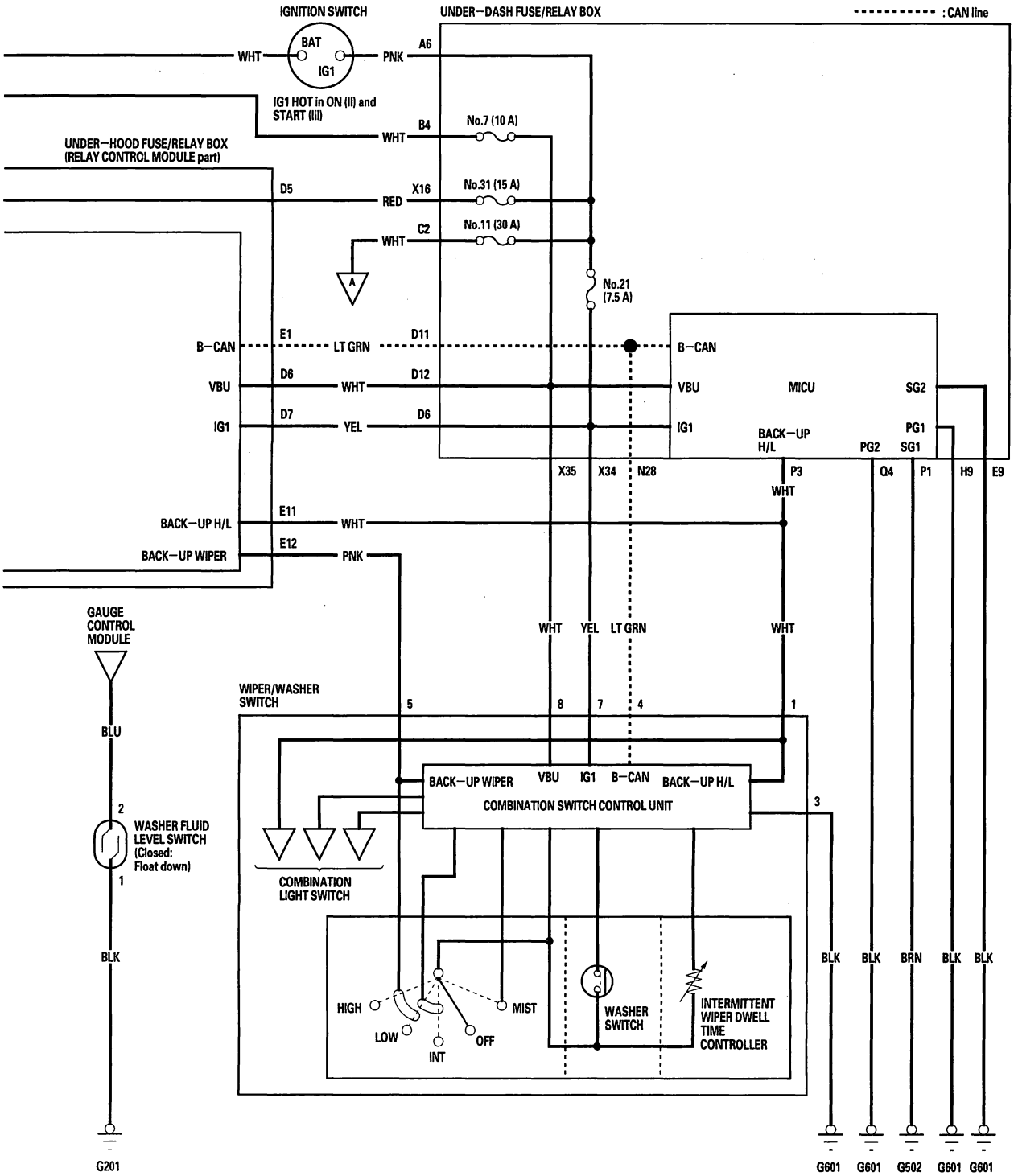
## Circuit Diagram - Windshield, Headlight Washer




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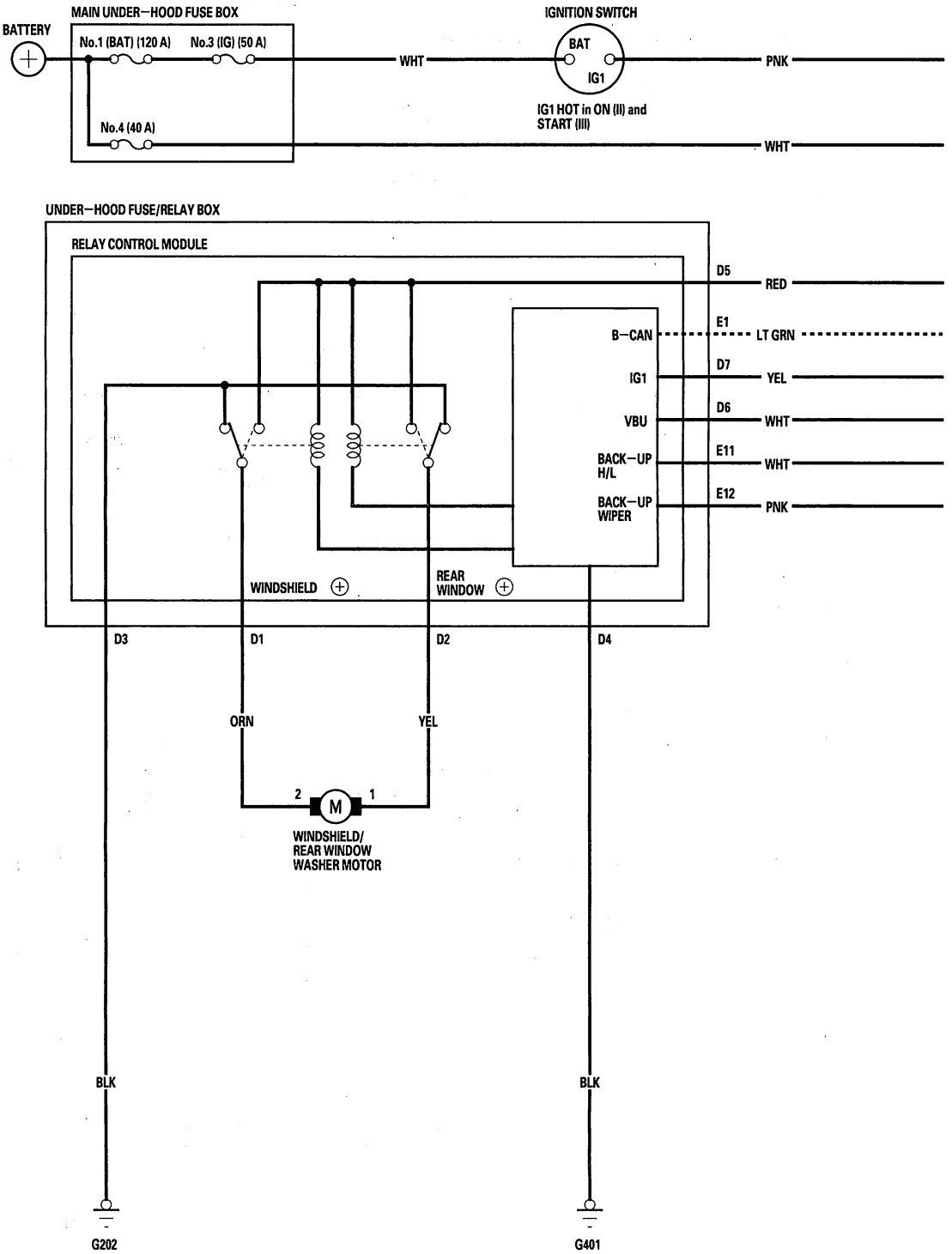


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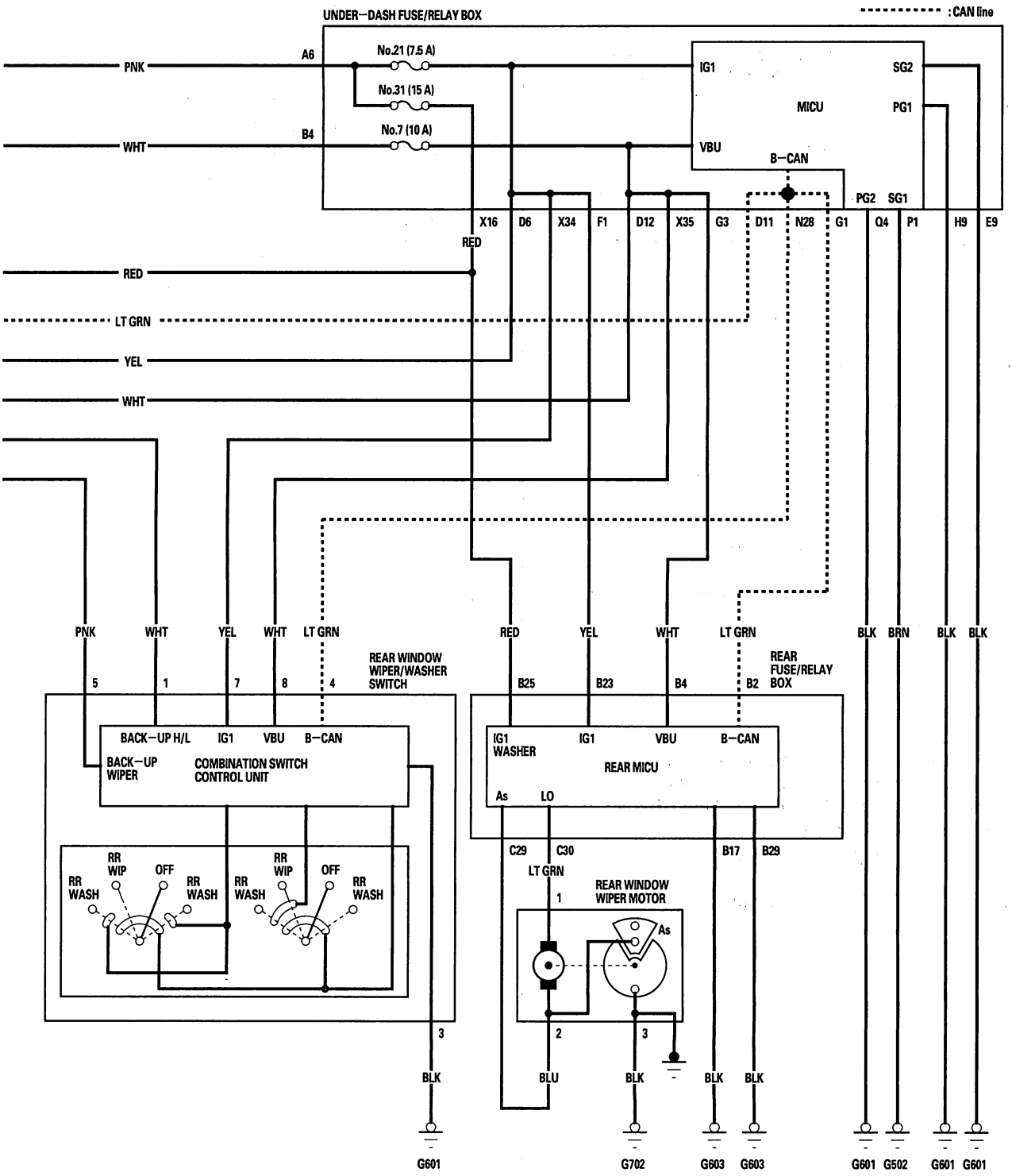
## Circuit Diagram - Rear Window




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BACK

## DTC Troubleshooting

### **DTC B1076:** Windshield Wiper Switch Back-up Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Turn the windshield wiper switch ON for 5 seconds and OFF.
4. Check for DTCs with the HDS.

   *Is DTC B1076 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Select BODY ELECTRICAL system select menu, then enter the DATA LIST menu.
6. Check the ON/OFF information of the FR WIPER BACK-UP with the HDS.

   *Is OFF indicated?*

   **YES**—Go to step 7.

   **NO**—Check for a short in the wire between the combination switch control unit and the relay control module (WIPER BACK-UP line), if the harness is OK, replace the combination switch control unit (see page 22-300).■
7. Turn the windshield wiper switch ON.
8. Check the ON/OFF information of the FR WIPER BACK-UP with the HDS.

   *Is ON indicated?*

   **YES**—Go to the relay control module input test (see page 22-136) and check for a poor ground, if the GND line is OK, replace the under-hood fuse/relay box (see page 22-71).■

   **NO**—Check for an open in the wire between the combination switch control unit and the relay control module (WIPER BACK-UP line), if the wire is OK, replace the combination switch control unit (see page 22-302).■

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## DTC B1077: Windshield Wiper Auto Switch Circuit Malfunction

1. Turn the ignition switch ON (II), and the windshield wiper switch ON.
2. Check the windshield wiper operation.

   *Does the wiper work?*

   **YES**—Go to step 3.

   **NO**—Go to step 13.
3. Clear the DTC with the HDS.
4. Turn the ignition switch OFF, and then back ON (II).
5. Turn the windshield wiper switch ON, and then OFF.
6. Check for DTCs with the HDS.

   *Is DTC B1077 indicated?*

   **YES**—Go to step 7.

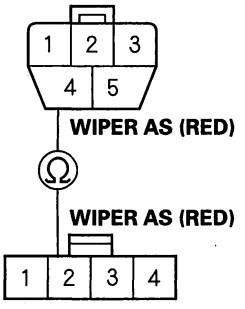
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
7. Select BODY ELECTRICAL system select menu, then enter the DATA LIST menu.
8. Check the ON/OFF information of the FR WIPER AS with the HDS.

   *Is OFF indicated when the motor stopped, and ON intermittently indicated when the motor runs?*

   **YES**—Faulty relay control module, replace the under-hood fuse/relay box (see page 22-71). ■

   **NO**—Go to step 9.
9. Turn the ignition switch OFF.
10. Disconnect the windshield wiper motor 5P connector.
11. Disconnect the under-hood fuse/relay box connector A (4P).
12. Check for continuity between the windshield wiper motor 5P connector No. 4 terminal and the under-hood fuse/relay box connector A (4P) No. 2 terminal.

**WINDSHIELD WIPER MOTOR 5P CONNECTOR**
Wire side of female terminals




Wire side of female terminals
**UNDER-HOOD FUSE/RELAY BOX CONNECTOR A (4P)**

*Is there continuity?*

**YES**—Faulty relay control module, replace the under-hood fuse/relay box (see page 22-71). ■

**NO**—Repair open in the wire. ■
13. Check the No. 11 (30 A) and No. 31 (15 A) fuses in the under-dash fuse/relay box.

    *Are the fuses OK?*

    **YES**—Go to step 12.

    **NO**—Replace the fuse(s) and recheck the system. ■

(cont'd)

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## DTC Troubleshooting (cont'd)

14. Turn the ignition switch OFF.

15. Check the No. 11 (30 A) and No. 31 (15 A) fuses in the under-dash fuse/relay box.

    *Are the fuses OK?*

    **YES**—Go to step 16.

    **NO**—Replace the fuse and recheck the system.■

16. Do the wiper motor test (see page 22-303).

    *Does the wiper motor run normally?*

    **YES**—Go to step 17.

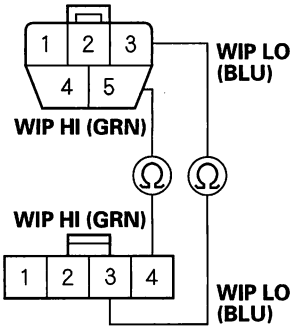
    **NO**—Replace the windshield wiper motor and recheck.■

17. Disconnect the windshield wiper motor 5P connector.

18. Disconnect the under-hood fuse/relay box connector A (4P).

19. Check for continuity between the windshield wiper motor 5P connector No. 3 and No. 5 terminals and the under-hood fuse/relay box connector A (4P) No. 3 and No. 4terminals.

**WINDSHIELD WIPER MOTOR 5P CONNECTOR**
Wire side of female terminals




Wire side of female terminals
**UNDER-HOOD FUSE/RELAY BOX CONNECTOR A (4P)**

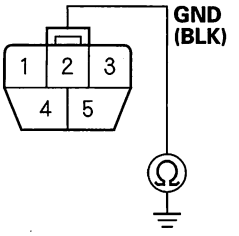
*Is there continuity?*

**YES**—Go to step 20.

**NO**—Repair open in the wire.■

20. Check for continuity between the windshield wiper motor 5P connector No. 2 terminal and body ground.

**WINDSHIELD WIPER MOTOR 5P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Faulty relay control module, replace the under-hood fuse/relay box (see page 22-71).■

**NO**—Repair open in the wire or poor ground (G401).■

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**DTC B1281:** Windshield Wiper Switch MIST Position Circuit Malfunction

**DTC B1282:** Windshield Wiper Switch INT (AUTO) Position Circuit Malfunction

**DTC B1283:** Windshield Wiper Switch LOW Position Circuit Malfunction

**DTC B1284:** Windshield Wiper Switch HIGH Position Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Turn the windshield wiper switch to MIST, and wait for 2 seconds.
4. Turn the windshield wiper switch OFF, and wait for 2 seconds.
5. Turn the windshield wiper switch to INT (AUTO), and wait for 2 seconds.
6. Turn the windshield wiper switch to LOW, and wait for 2 seconds.
7. Turn the windshield wiper switch in HIGH, and wait for 2 seconds.
8. Check for DTCs with the HDS.

   *Is DTC B1281, B1282, B1283, and/or B1284 indicated?*

   **YES**—Replace the wiper/washer switch. ■

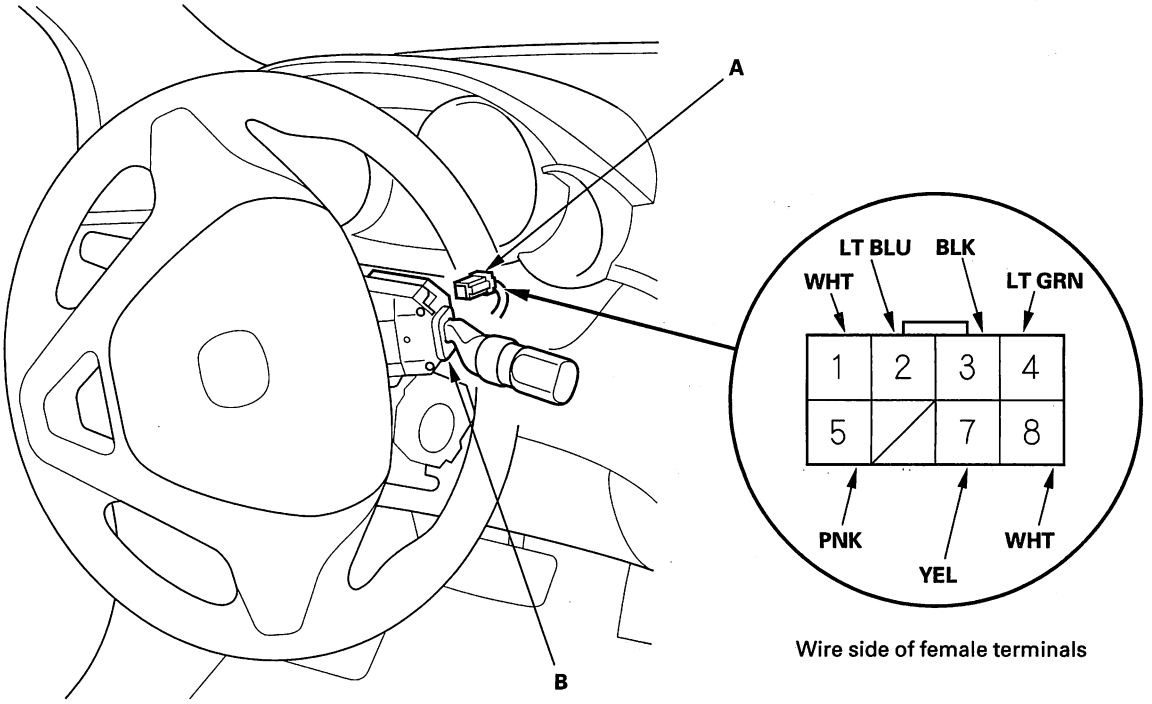
   **NO**—Intermittent failure, the wiper/washer switch and the combination switch control unit are OK at this time. Check for loose or poor connections. ■

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## Wiper/Washer Switch (Combination Switch Control Unit) Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Remove the dashboard lower cover (see page 20-119).
2. Remove the steering column covers (see page 20-129).
3. Disconnect the 8P connector (A) from the wiper/washer switch (B).




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.

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5. 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 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 1 | WHT | Under all conditions | Check for continuity between the No. 1 terminal and the under—hood fuse/relay box connector E (14P) No. 11 terminal: There should be continuity. | An open in the wire |
| | | Disconnect the under—hood fuse/relay box connector E (14P) and the under—dash fuse/relay box connector P (30P) | Check for continuity between the No. 1 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| 2 | LT BLU | Under all conditions | Check for continuity between the No. 2 terminal of the combination switch control unit and the headlight leveling control unit No. 16 terminal: There should be continuity. | An open in the wire |
| 4 | LT GRN | Under all conditions | Check for continuity between the No. 4 terminal and under-dash fuse/relay box connector N (45P) No. 28 terminal: There should be continuity. | An open in the wire |
| | | Disconnect the under-dash fuse/relay box connector N (45P) | Check for continuity between the No. 4 terminal and body ground: There should be no continuity. | A short to ground in the wire |
| 5 | PNK | Under all conditions | Check for continuity between the No. 5 terminal and the under-hood fuse/relay box connector E (14P) No. 12 terminal: There should be continuity. | An open in the wire |
| | | Disconnect the under-hood fuse/relay box connector E (14P) | Check for continuity between the No. 5 terminal and body ground: There should be no continuity. | A short to ground in the wire |

6. Reconnect the 8P connector to the wiper/washer switch, 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, replace the wiper/washer switch (combination switch control unit).

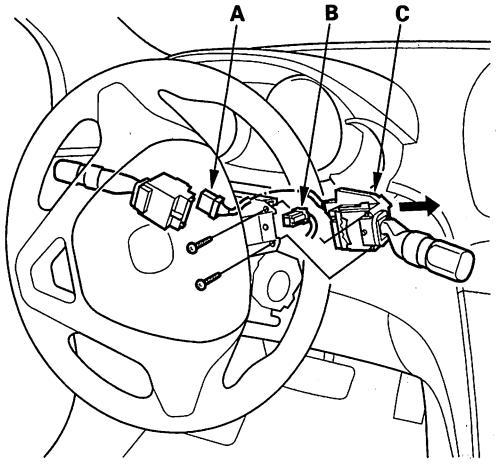
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 3 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| 8 | WHT | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| 7 | YEL | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |

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## Wiper/Washer Switch Replacement

NOTE: The wiper/washer switch is built into the combination switch control unit. For the wiper/washer test, refer to the combination switch control unit input test (see page 22-300).

1. Remove the dashboard lower cover (see page 20-119).
2. Remove the steering column covers (see page 20-129).
3. Disconnect the combination light switch 20P connector (A), and dashboard wire harness 8P connector (B) from the wiper/washer switch (C).




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

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BACK

# Wiper Motor Test

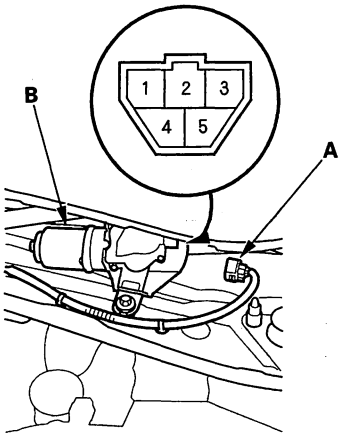
## Windshield

1. Open the hood, and remove the wiper arms (see page 22-305).

   NOTE: Carefully remove the wiper arms so that they do not touch the hood.

2. Remove the cowl covers (see page 20-205).

3. Disconnect the 5P connector (A) from the windshield wiper motor (B).




4. Test the motor by connecting battery power to the windshield wiper motor 5P connector No. 3 terminal and ground to the No. 2 terminal. The motor should run at low speed. If the motor does not run or fails to run smoothly, replace the motor.

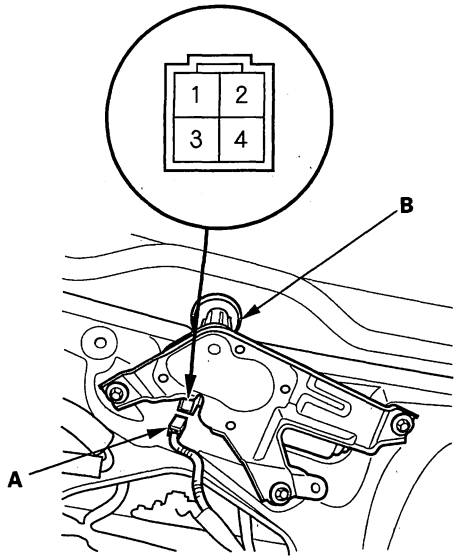
5. Test the motor by connecting battery power to the windshield wiper motor 5P connector No. 5 terminal and ground to the No. 2 terminal. The motor should run at high speed. If the motor does not run or fails to run smoothly, replace the motor (see page 22-305).

6. Connect an analog ohmmeter between the windshield wiper motor 5P connector No. 1 and No. 4 terminals, and run the motor at low or high speed. The ohmmeter should indicate continuity and no continuity alternately. If it does not, replace the motor.

## Rear Window

1. Open the tailgate, and remove the tailgate lower panel (see page 20-96).

2. Disconnect the 4P connector (A) from the rear window wiper motor (B).



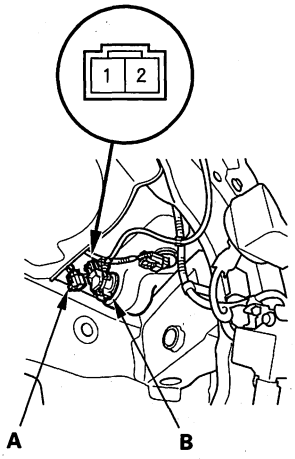

3. Test the motor by connecting battery power to the rear window wiper motor 4P connector No. 1 terminal and ground to the No. 2 terminal. The motor should run. If the motor does not run or fails to run smoothly, replace the motor (see page 22-306).

4. Connect an analog ohmmeter between the rear window wiper motor 4P connector No. 2 and No. 3 terminals. The ohmmeter should indicate continuity and no continuity alternately. If it does not, replace the motor.

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## Washer Motor Test

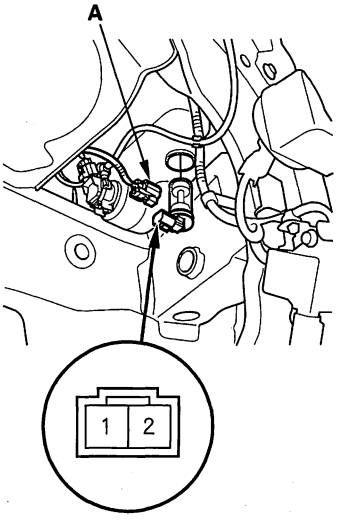
1. Remove the right inner fender (see page 20-217).
2. Disconnect the 2P connector (A) from the washer motor (B).




3. Test the motor by connecting battery power to the No. 2 (No. 1) terminal and ground the No. 1 (No. 2) terminal of the washer motor. The motor should run.
   ( ): Rear window washer direction.
   - 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 washer motor outlet.

## Washer Fluid Level Switch Test

1. Remove the right inner fender (see page 20-217).
2. Disconnect the 2P connector (A) from the washer fluid level switch.




3. Remove the washer fluid level switch from the washer reservoir.

   NOTE: Fluid may flow out of the opening.

4. Check for continuity between the No. 1 and No. 2 terminals in each float position.
   - There should be continuity when the float is down.
   - There should be no continuity when the float is up.
5. If the continuity is not as specified, replace the switch.

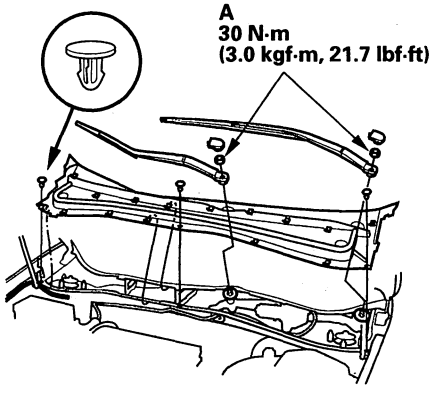
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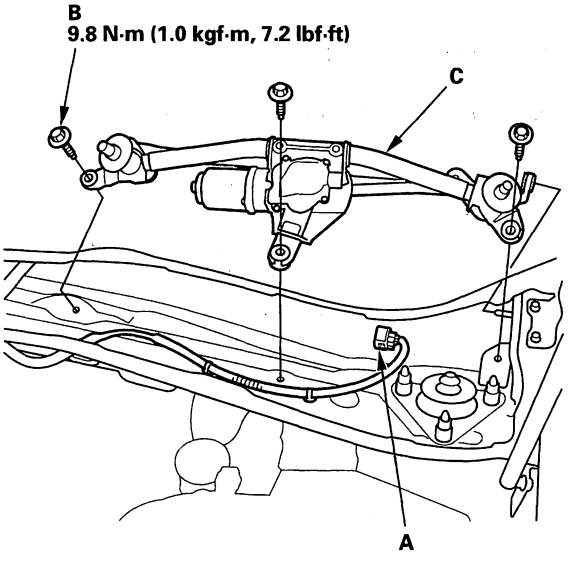
## Wiper Motor Replacement

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



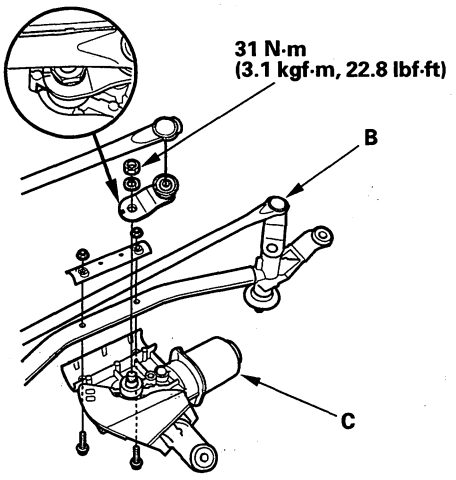

2. Remove the cowl covers (see page 20-205).

3. Disconnect the 5P connector (A) from the wiper motor.




4. Remove the three bolts (B) and the wiper linkage assembly (C).

5. Make sure the mark of the link to show the original adjustment. Separate the windshield wiper linkage (B) from the wiper motor (C).




6. Install in the reverse order of removal, and note these items:

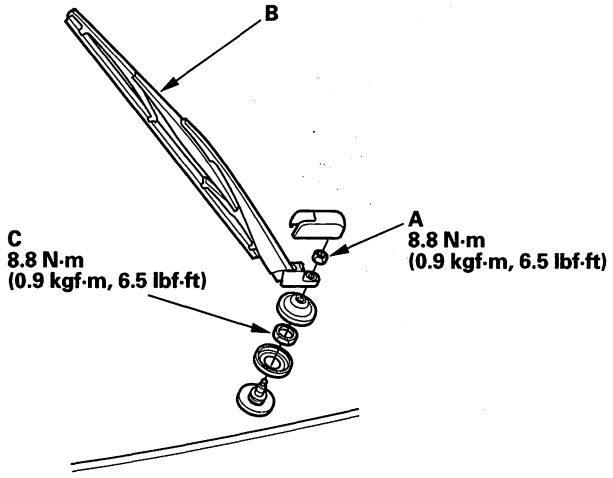
   - Align the marks of the link and the linkage to install the linkage with the original adjustment.
   - Apply multipurpose grease to the moving parts.
   - Before installing the wiper arms, turn the wiper switch ON, then OFF to return the shafts to the park position.
   - If necessary, replace any damaged clips.

7. After installation, adjust the wiper arms (see page 22-309).

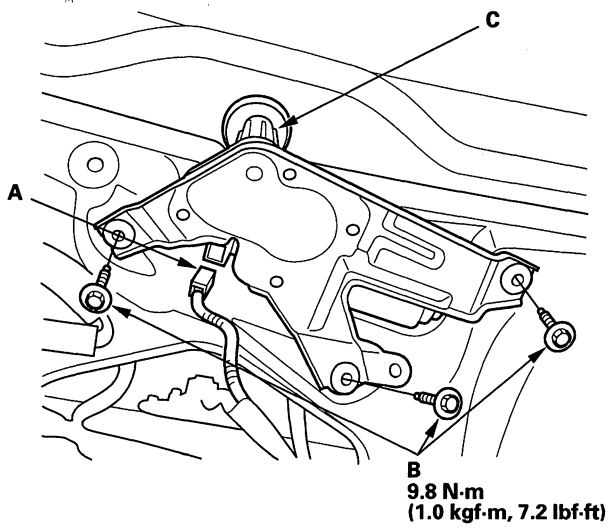
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## Rear Window Wiper Motor Replacement

1. Open the tailgate, and remove the tailgate lower trim panel (see page 20-96).
2. Remove the mounting nut (A), the wiper arm (B) and the special nut (C).



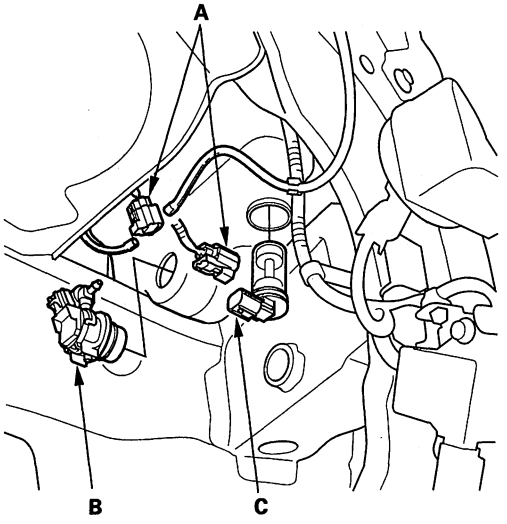

3. Disconnect the 4P connector (A) and remove the three mounting bolts (B), then remove the rear window wiper motor (C).



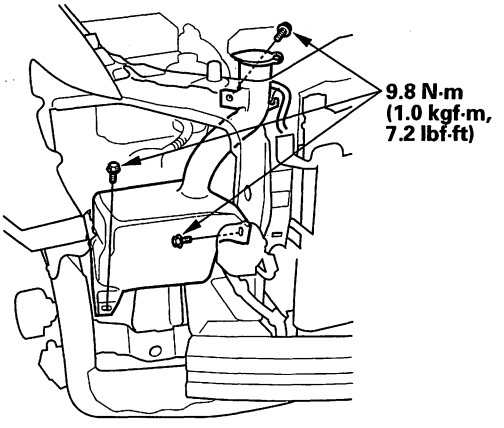

4. Install in the reverse order of removal.

## Washer Reservoir Replacement

1. Remove the right inner fender (see page 20-217).
2. Disconnect the 2P connector (A) from the washer motor(s) (B) and the washer fluid level switch (C).




3. Disconnect the washer tubes.
4. Remove the bolts and the washer reservoir.




5. Install in the reverse order of removal. Check the washer motor operation.

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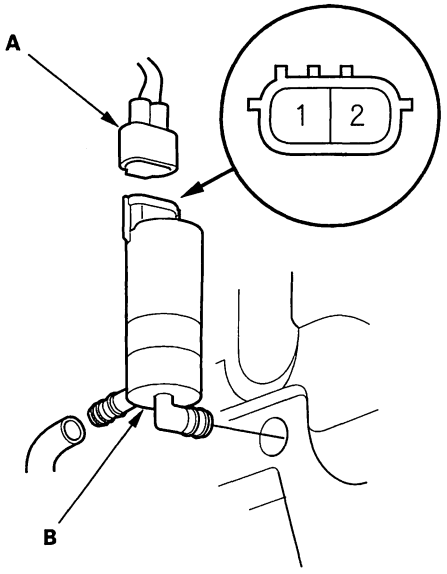


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## Headlight Washer Motor Test/ Replacement

### Canada models

1. Remove the light inner fender (see page 20-217).
2. Disconnect the 2P connector (A) from the washer motor (B).

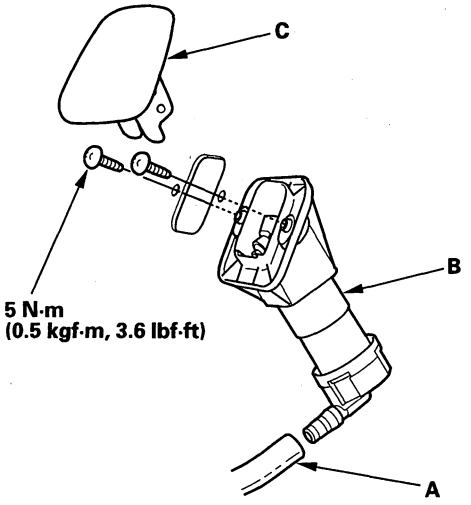



3. Test the motor by connecting battery power to the headlight washer motor 2P connector No. 1 terminal and ground to the No. 2 terminal. The motor should run.
   - If the motor does not run or fails to run smoothly, replace it.
   - If the motor runs smoothly, but little or no washer fluid is pumped,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

## Headlight Washer Nozzle Replacement

### Canada models

1. Remove the front bumper (see page 20-188), and disconnect the headlight washer tubes from the washer motor.
2. Disconnect the headlight washer tube (A) from the headlight washer nozzle (B).




3. Remove the headlight washer nozzle cover (C).
4. Remove the bolt and two screws, then remove the headlight washer nozzle.
5. Install the nozzle in the reverse order of removal. After installation, check the headlight washer operation.

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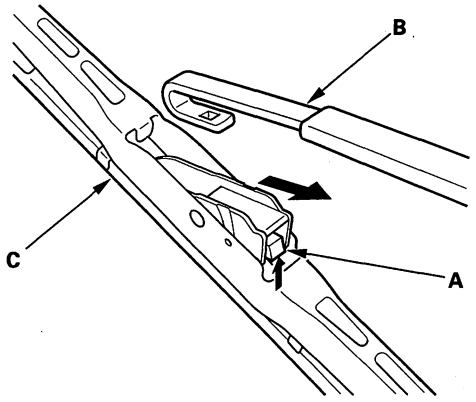
## Wiper Blade Replacement

### Windshield

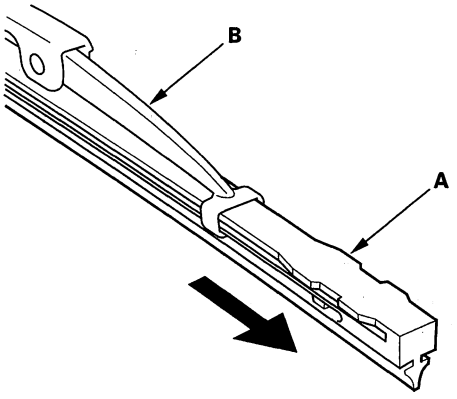
1. Lift the wiper arms from the windshield.

   NOTE: Lift the driver's side first.

2. Press and hold the tab (A) and slide the wiper blade (B) toward the tab to release it from the wiper arm.




3. Slide the rubber (A) out from the wiper blade (B).




4. Install a new rubber to the wiper blade in the reverse order of removal.

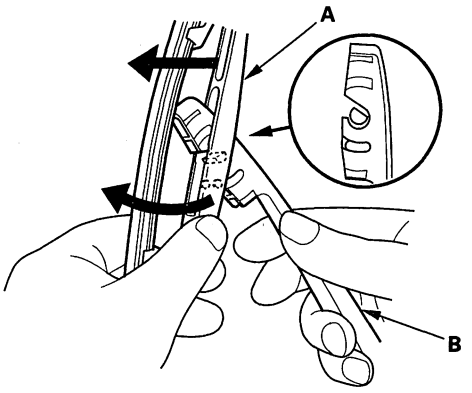
5. Install the wiper blades onto the wiper arms in the reverse order of removal.

6. Check the wiper operation, if the blades slip, turn the wiper switch OFF, and reinstall the wiper blades securely.

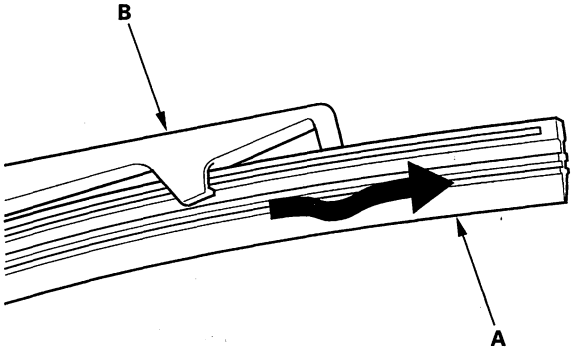
### Rear Window

1. Lift the wiper arm from the rear window.

2. Turn the rear wiper blade (A), release the lock, and then remove the wiper blade from the rear wiper arm (B).




3. Raise the old rubber (A), and remove it from the wiper blade (B).




4. Insatall the new rubber and the wiper blade in the reverse order of removal.

   NOTE: After installation, confirm that the wiper arm works smoothly.

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# Wiper Arm/Nozzle Adjustment

## Windshield

### Wiper arms park position

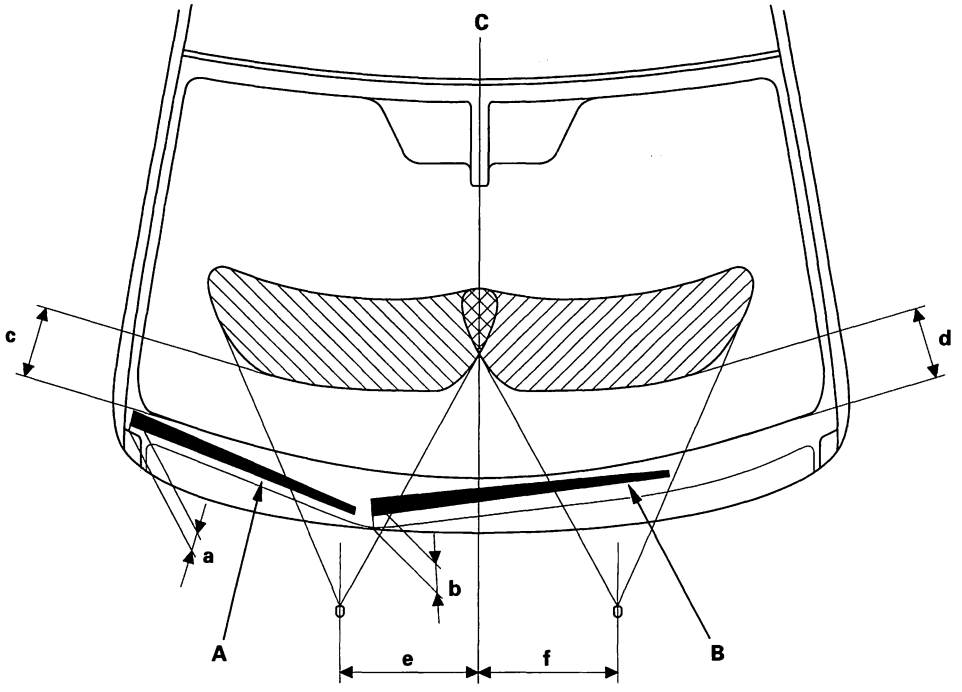
1. When the wiper arms stop at the park (automatic stop) position, confirm that they are at the standard position.

   a: Position at about 1.6 in. (40.7 mm) from the top of cowl cover (A)
   b: Position at about 2.1 in. (54.3 mm) from the top of cowl cover (A)

### Washer nozzle position

2. When you turn on the washers, confirm 50 % or more of the washer fluid lands within the spray area. If the spray area is not within the standard positions, adjust the nozzles.

   c: Position at about 6.2 in. (157.3 mm) from the top of the black ceramic area (B) at the lower windshield
   d: Position at about 6.2 in. (157.3 mm) from the top of the black ceramic area (B) at the lower windshield
   e: Position at about 11.8 in. (300 mm) from the windshield center line (C)
   f: Position at about 11.8 in. (300 mm) from the windshield center line (C)




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## Wiper Arm/Nozzle Adjustment (cont'd)

### Rear Window

**Wiper arm park position**

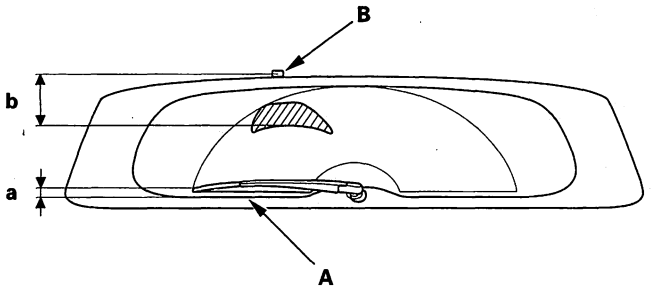
1. When the wiper arm stops at the park position, confirm that it is at the standard position.

   a: Position at about 0.4 in. (11.2 mm) from the black ceramic area (A)

**Washer nozzle position**

2. When you turn on the washers, confirm 50 % or more of the washer fluid lands within the spray area. If the spray area is not within the standard positions, adjust the nozzles.

   b: Position at about 5.1 in. (130.2 mm) from the rear washer nozzle (B)




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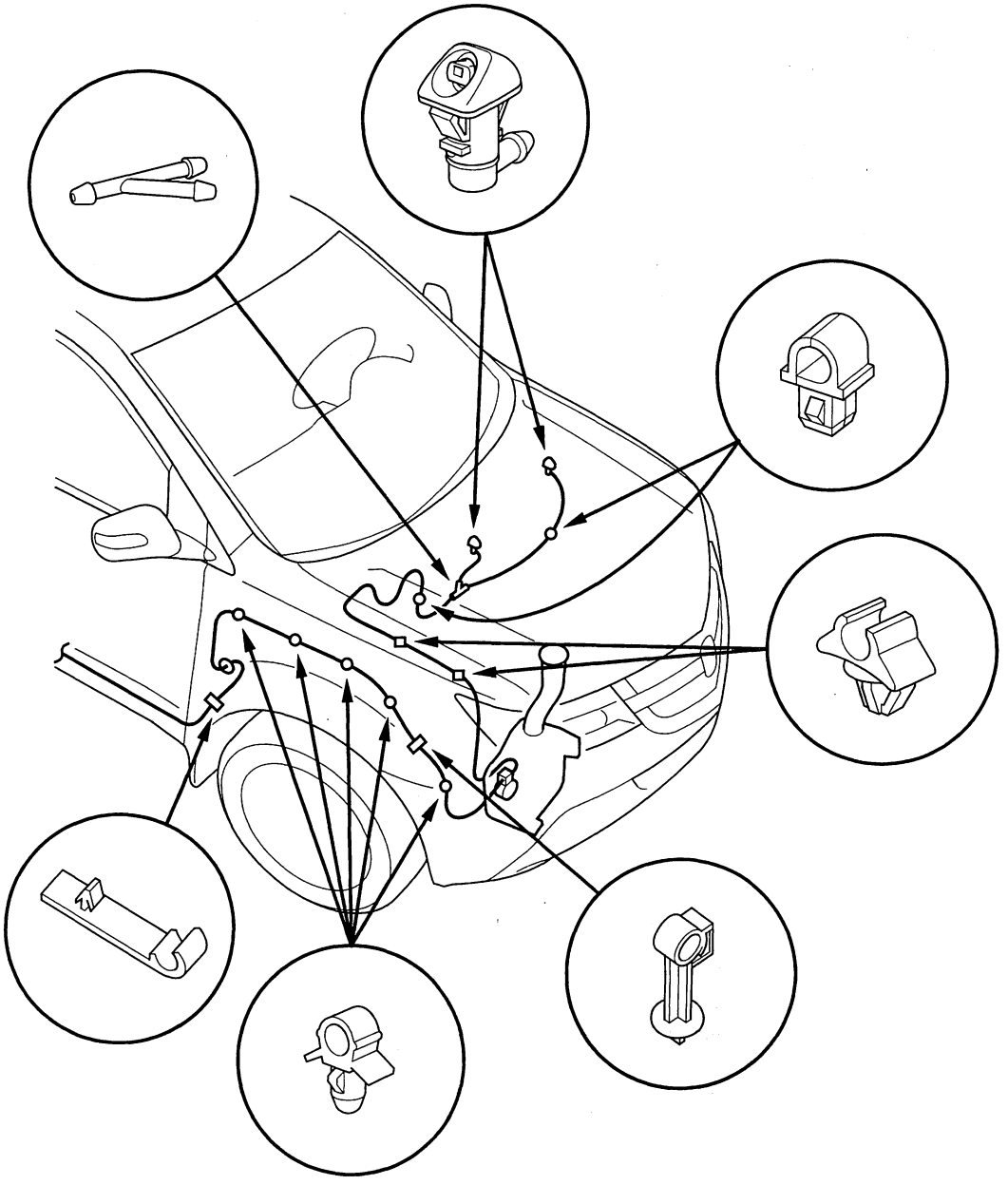


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## Washer Tube Replacement

1. Remove the washer nozzles and clips, then remove the washer tubes.

**Windshield/Rear Window Washers**

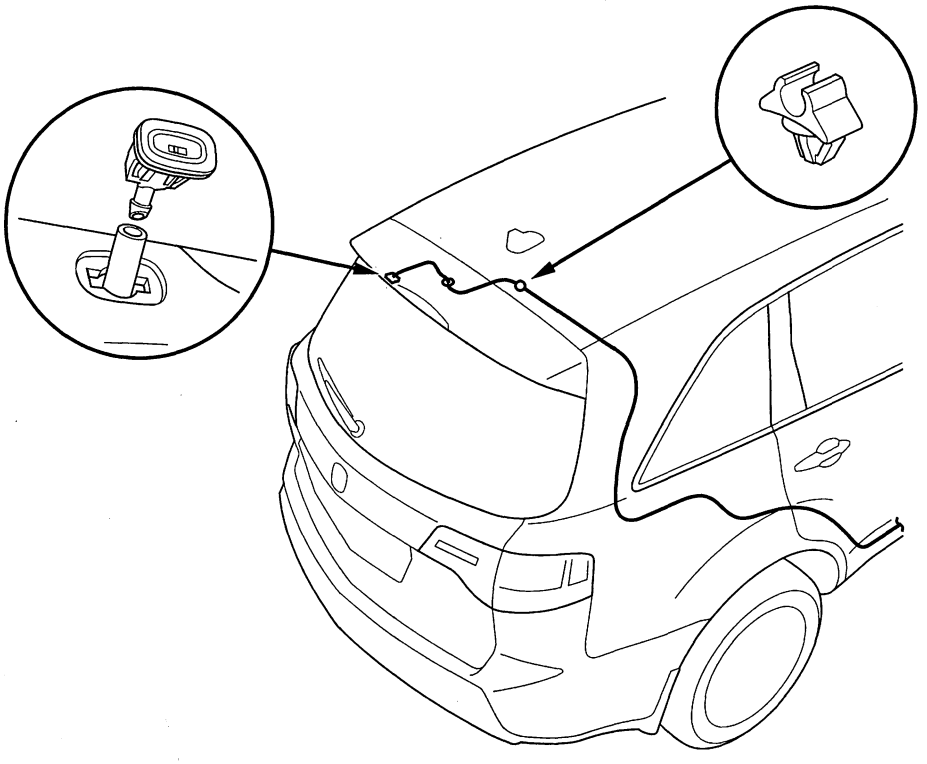


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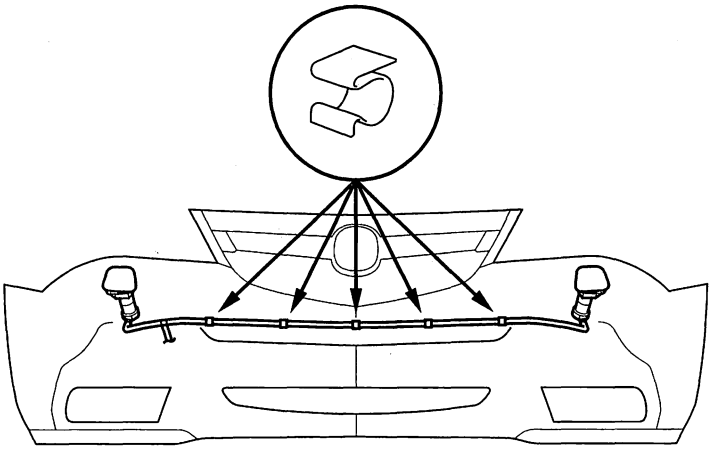


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## Washer Tube Replacement (cont'd)



**Headlight Washer (Canada models)**



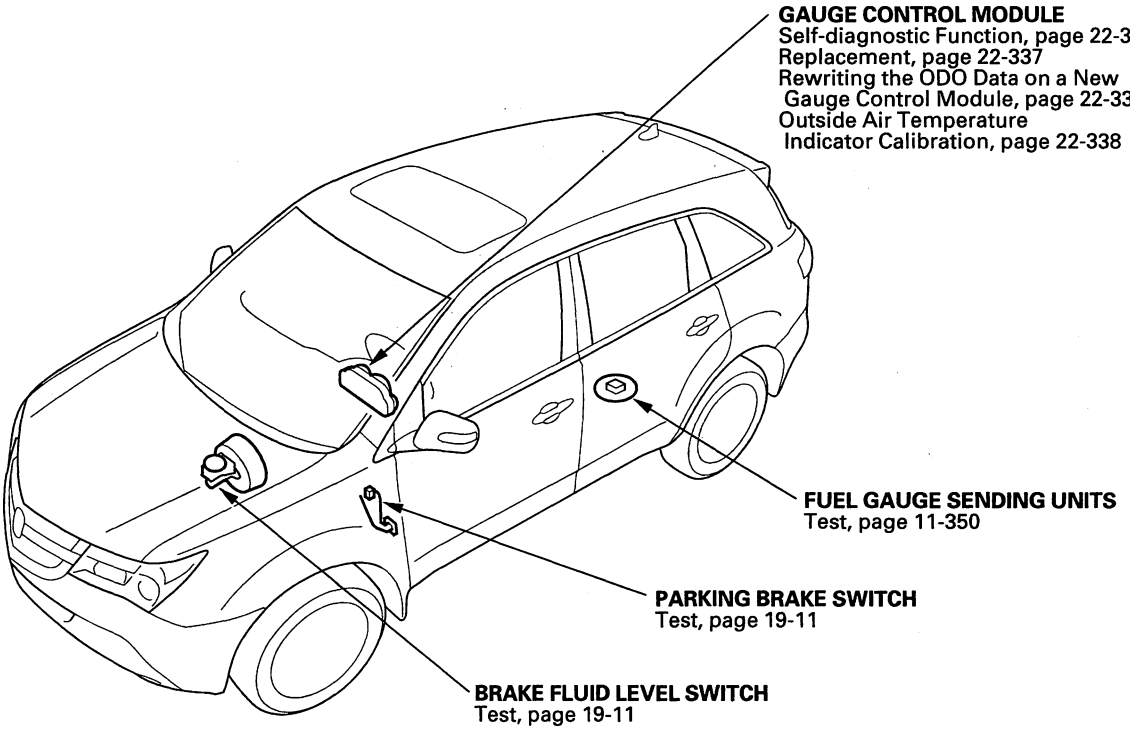
2. Install the parts in the reverse order of removal. Take care not to pinch the washer tubes. Check the washer operation.

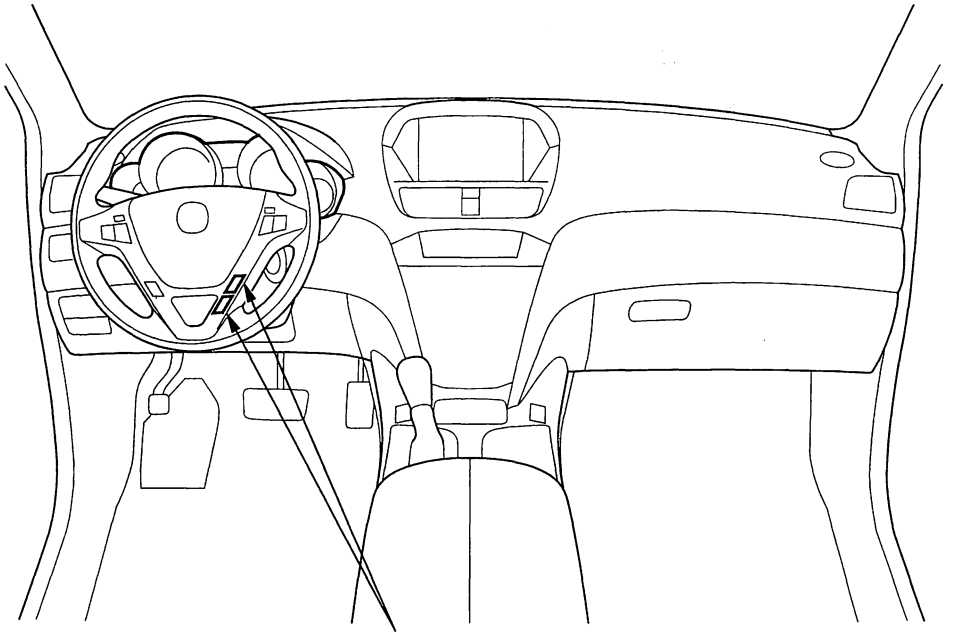
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## Component Location Index



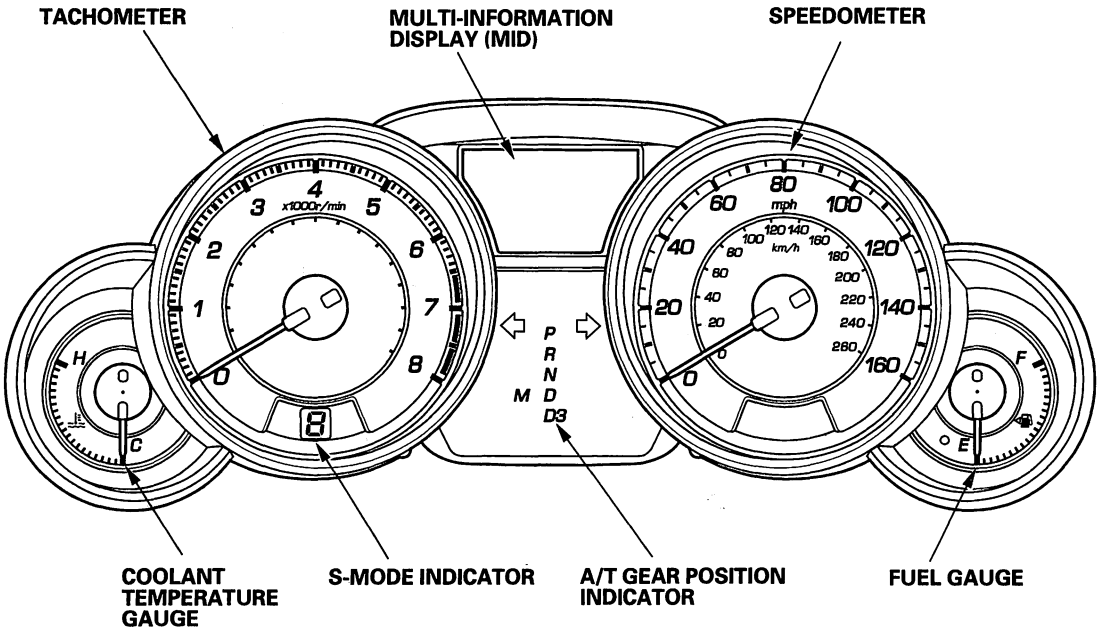



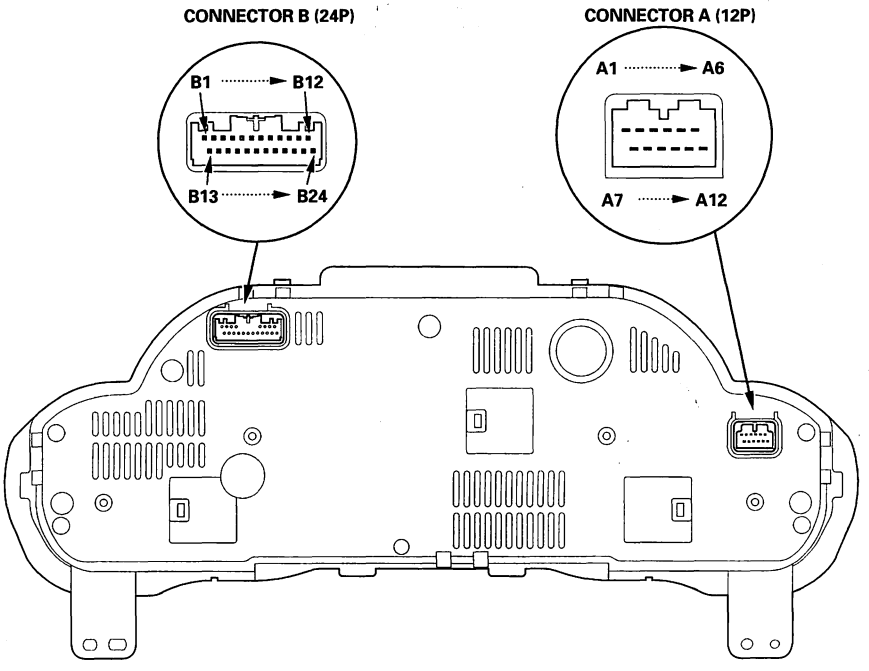

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## Component Location Index (cont'd)




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## Self-diagnostic Function

Before troubleshooting the gauge system, refer to multiplex integrated control system B-CAN System Diagnosis Test Mode A (see page 22-112).

The gauge control module has a self-diagnostic function.

- The beeper drive circuit check.
- The indicator drive circuit check.
- The switch input test.
- The LCD segments check.
- The gauges drive circuit check (speedometer, tachometer, fuel gauge, coolant temperature gauge).
- The communication line check (of the body-controller area network (B-CAN) communication line and the fast-controller area network (F-CAN) communication line between the gauges).

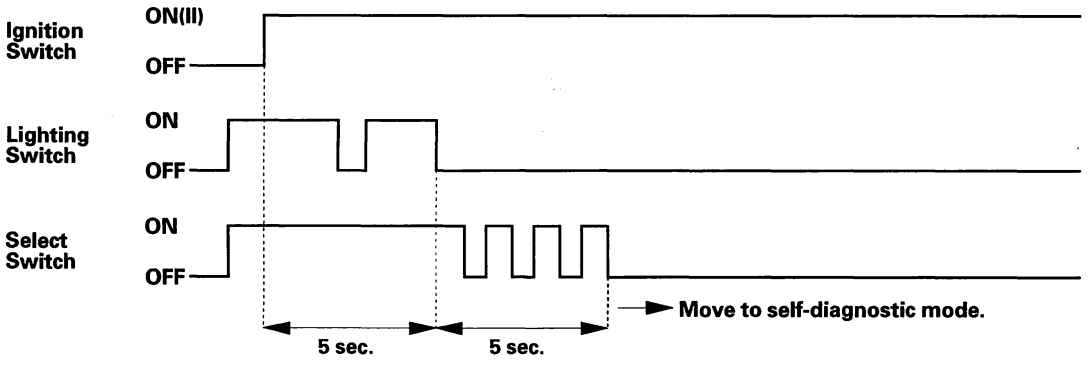
NOTE: Indicators are also controlled via the communication line.

### Entering the self-diagnostic function

Before doing the self-diagnostic function, check the No. 7 (10 A) fuse and the No. 21 (7.5 A) fuse in the under-dash fuse /relay box.

1. Push and hold the SEL RESET button.
2. Turn the headlights ON.
3. Turn the ignition switch ON (II).
4. Within 5 sec., turn the headlights OFF, then ON and OFF again.
5. Within 5 sec., release the SELECT button, and then push and release the button three times repeatedly.

NOTE:
- While in the self-diagnostic mode, the dash lights brightness controller operates normally.
- While in the self-diagnostic mode, the SELECT 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-diagnostic mode ends.




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## Self-diagnostic Function (cont'd)

### The Indicator Drive Circuit Check

When entering the self-diagnostic mode, these indicators blink:
ABS indicator, active damper system indicator, A/T gear position indicator, brake system indicator, charging system indicator, cruise control indicator, cruise main indicator, DRL indicator, fog light indicator, high beam indicator, immobilizer indicator, lights-on indicator, low fuel indicator, malfunction indicator lamp (MIL), message indicator, oil pressure indicator, seat belt indicator, security indicator, SH-AWD indicator, Side airbag indicator, tire pressure indicator, VSA activation indicator, and VSA indicator.

### Switch Input Check

After the intermittent beeper sounds at the initial stage of self-diagnosis, a beeper sounds continuously while any of the following switch inputs are switched from OFF to ON:
Parking brake switch, VSA OFF switch, comfort switch, cruise control master, SET, RESUME, CANCEL switches, select, previous, next switches, and dash lights brightness controller (VOL (+), VOL (−)).

### The Beeper Drive Circuit Check

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

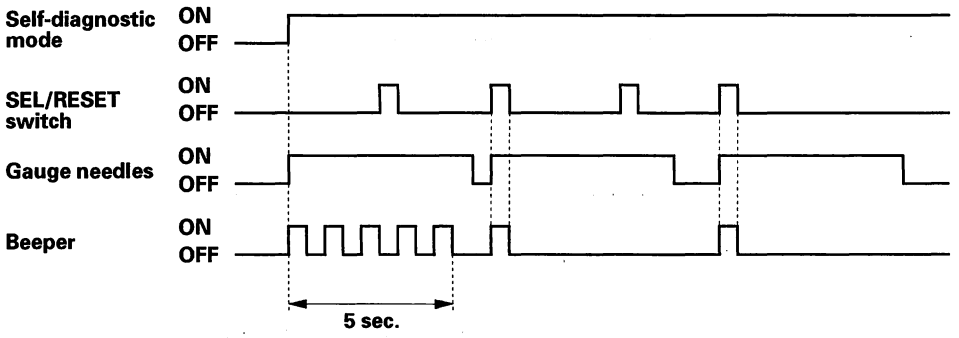
### The LCD [Sport shift and multi-information display (MID)] Segment Check

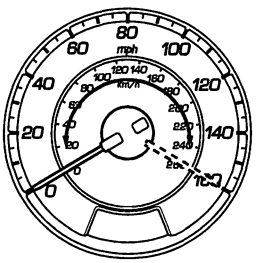
When entering the self-diagnostic mode, the word "Checking Now" shows on the MID.

### The Gauge Drive Circuit Check

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

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




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

If any needle fails to sweep or the beeper does not sound, replace the gauge control module.

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## The Communication Line Check

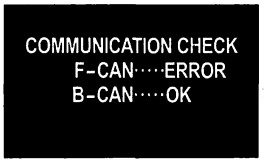
While in the self-diagnostic mode, the Communication Line Check starts after the LCD Segment Check.



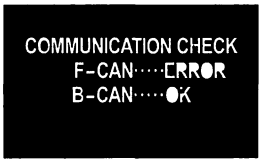

If the communication line is OK, the word "OK" will be indicated on the multi-information display (MID). If there is a communication line error, the word "NG" will be indicated on the MID.

**Indication pattern**

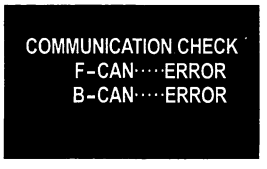
There is a malfunction in the communication line between the F-CAN and gauge control module. The B-CAN is OK at this time. Check for DTCs in the PCM and troubleshoot any DTCs found. If no DTCs are found, go to B-CAN System Diagnosis Test Mode A (see page 22-112).




There is a malfunction in the communication line between the B-CAN and gauge control module. The F-CAN line is OK at this time. Go to B-CAN System Diagnosis Test Mode A (see page 22-112).




There is a malfunction in the communication line between the gauge control module and F-CAN and B-CAN. Check for DTCs in the PCM and troubleshoot any DTCs found. If no DTCs are found, go to B-CAN System Diagnosis Test Mode A (see page 22-112).



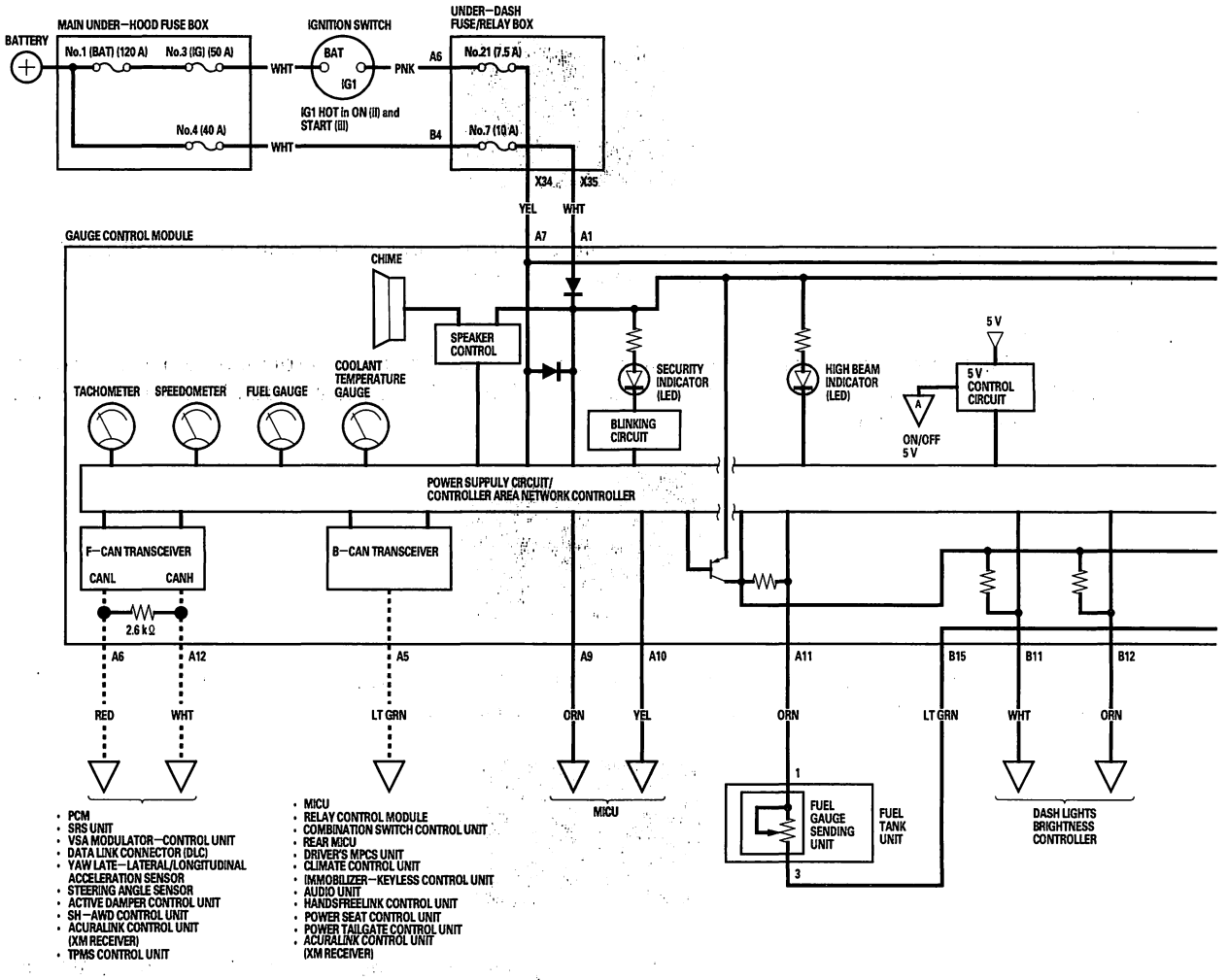

## Ending the self-diagnostic function

Turn the ignition switch OFF.

NOTE: If the vehicle speed exceeds 1.2 mph (2 km/h), the self-diagnostic function ends.

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## Circuit Diagram

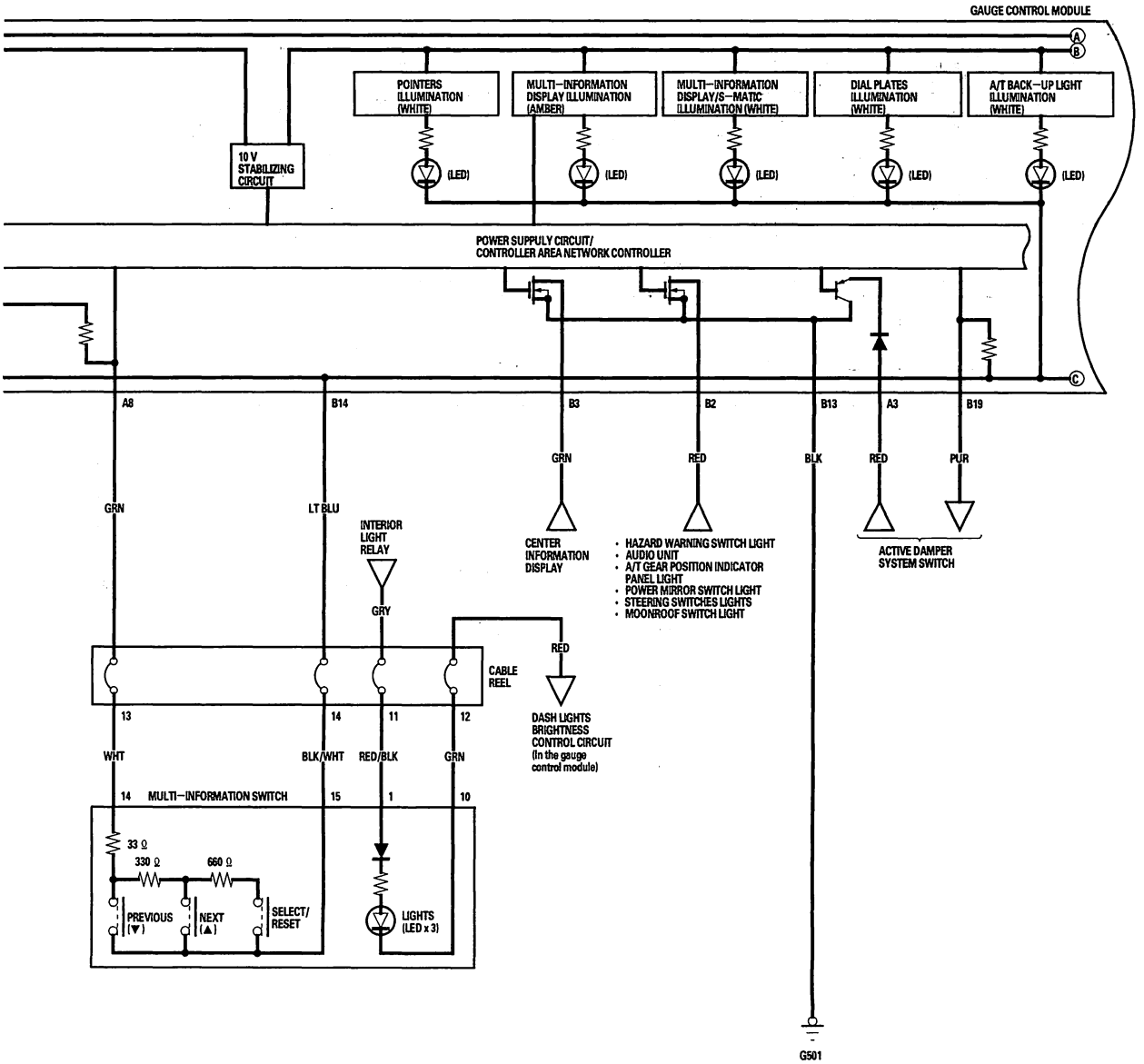



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BACK

: CAN line

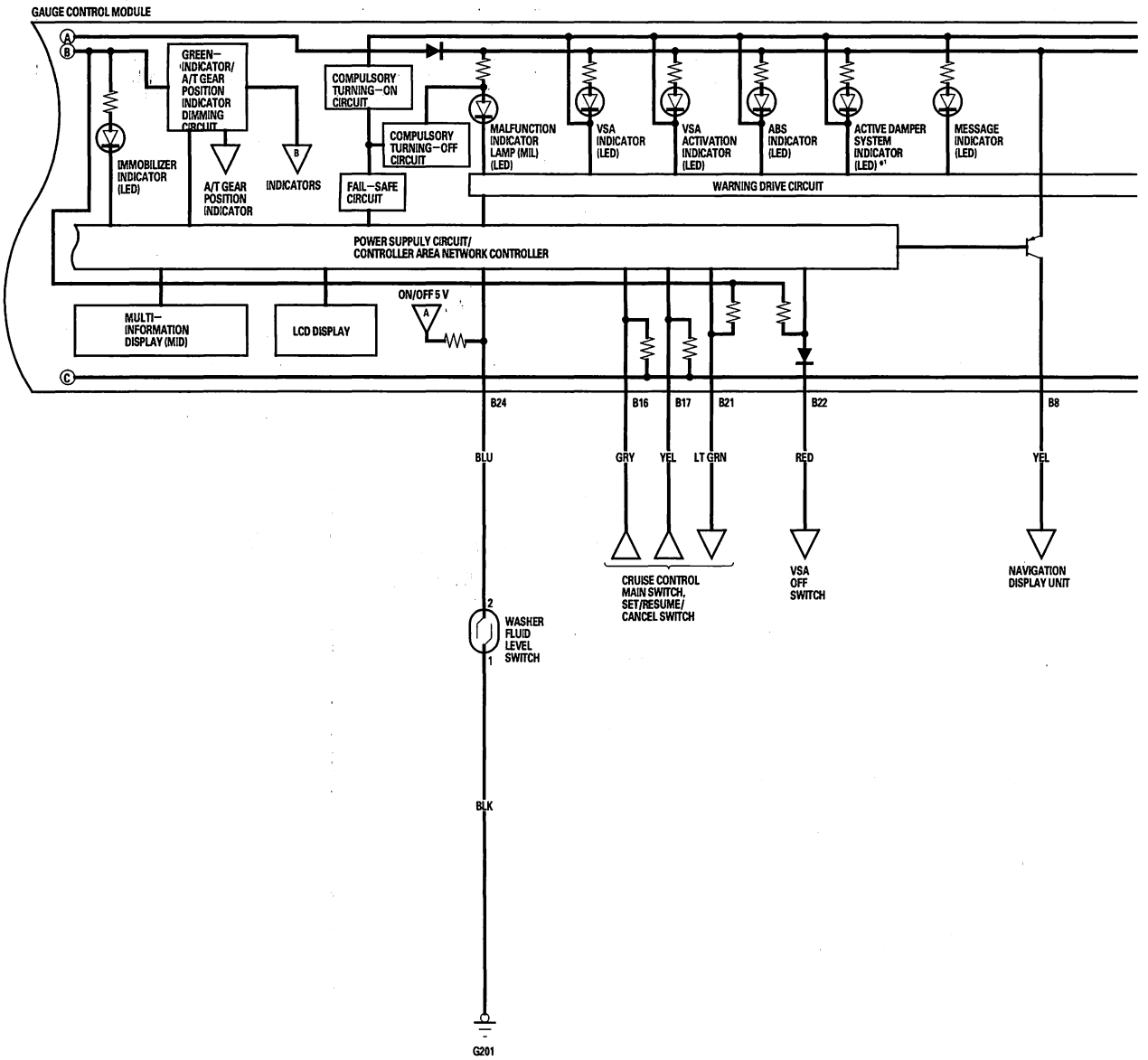



(cont'd)



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## Circuit Diagram (cont'd)

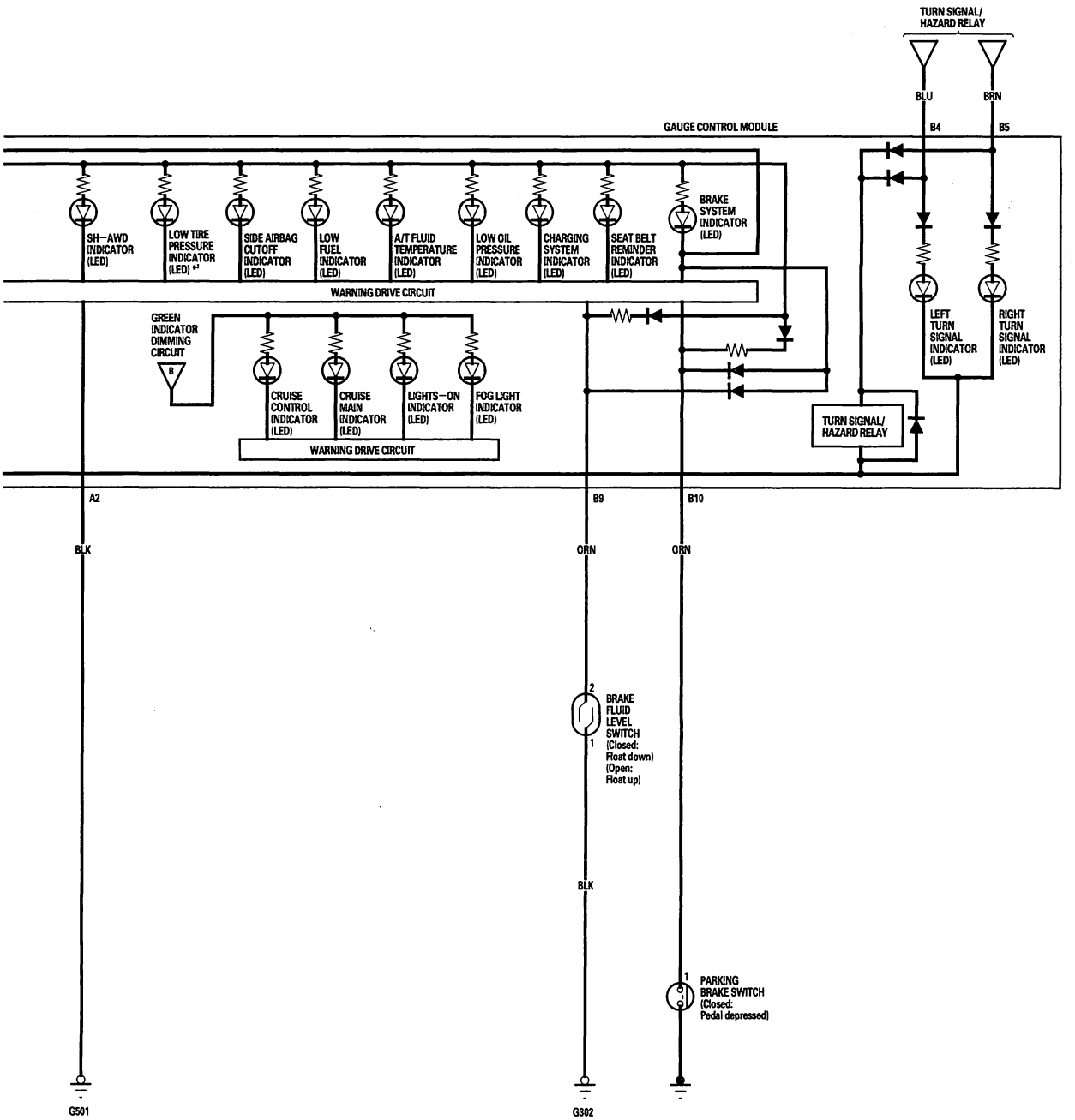



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BACK

*1 : With active damper system
*2 : With TPMS




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## DTC Troubleshooting

### **DTC B1152:** Gauge Control Module Internal (EEPROM) Error

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1152 indicated?*

   **YES**—Replace the gauge control module (see page 22-337). ■

   **NO**—Intermittent failure, the system is OK at this time. ■

### **DTC B1155:** Gauge Control Module Lost Communication with Combination Switch Control Unit (HLSW Message)

### **DTC B1156:** Gauge Control Module Lost Communication with Combination Switch Control Unit (WIPSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1155 and/or B1156 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the combination switch control unit. ■

5. Check for DTCs with the HDS.

   *Are DTCs B1007, B1062, B1063, B1957, B1958, and/or B2969 also indicated?*

   **YES**—Do the combination switch control unit input test (see page 22-300). ■

   **NO**—Do the gauge control module input test (see page 22-334). ■

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BACK

## **DTC B1157:** Gauge Control Module Lost Communication with MICU (MICU Message)

## **DTC B1159:** Gauge Control Module Lost Communication with MICU (DOORSW Message)

## **DTC B1180:** Gauge Control Module Lost Communication with MICU (AUTOLT Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1157, B1159, and/or B1180 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the gauge control module and the MICU. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1055, B1056, B1057, B1255, B1955, B 2155, B2156, and/or B2161 also indicated?*

   **YES**—Do the MICU input test (see page 22-132). ■

   **NO**—Do the gauge control module input test (see page 22-334). ■

## **DTC B1158:** Gauge Control Module Lost Communication with Relay Control Module (RM Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1158 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the relay control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1005, B1959, B2162, and/or B2970 also indicated?*

   **YES**—Do the relay control module input test (see page 22-136). ■

   **NO**—Do the gauge control module input test (see page 22-334). ■

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## DTC Troubleshooting (cont'd)

### **DTC B1162:** Gauge Control Module Lost Communication with Power Tailgate (PTG Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions inB-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1162 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the gauge control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1155, B1156, B1157, B1158, B1180, and/or B1182 also indicated?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Do the power tailgate control unit input test (see page 22-522). ■

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BACK

**DTC B1168:** Gauge Control Module Lost Communication with PCM (ENG Message)

**DTC B1169:** Gauge Control Module Lost Communication with the PCM (A/T Message)

**DTC B1178:** F-CAN Communication Error

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1168, B1169, and/or B1178 indicated?*

   **YES**—Go to step 5.

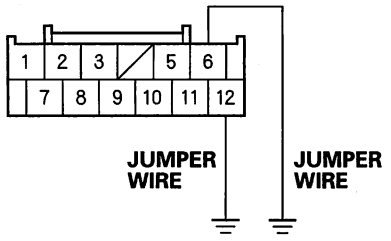
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the gauge control module and the PCM. ■
5. Check for Fuel and Emissions Systems DTCs with the HDS.

   *Are there any DTCs indicated?*

   **YES**—Go to the indicated DTCs, then recheck. ■

   **NO**—Go to step 6.
6. Turn the ignition switch OFF.
7. Disconnect the gauge control module connector A (12P).
8. Jump the SCS with the HDS.
9. Disconnect the PCM connector A (49P).
10. Connect the gauge control module connector A (12 P) connector No. 6 and No. 12 terminals and body ground with jumper wires.

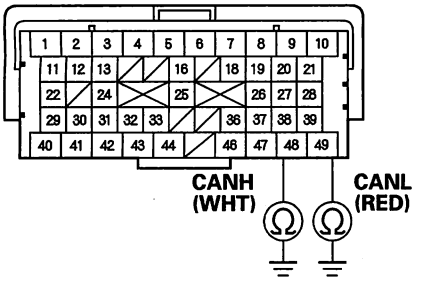
**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

11. Check for continuity between the PCM connector A (49P) No. 48 and No. 49 terminals and body ground individually.

**PCM CONNECTOR A (49P)**




Terminal side of male terminals

*Is there continuity?*

**YES**—Update the PCM if it does not have the latest software (see page 11-7), or substitute a known-good PCM (see page 11-8), and recheck. If the indication goes away, replace the original PCM (see page 11-244). If the DTC is still present, replace the gauge control module (see page 22-334). ■

**NO**—Repair open in the wire. ■

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## DTC Troubleshooting (cont'd)

### DTC B1170: Gauge Control Module Lost Communication with the VSA Modulator-Control Unit (VSA Message)

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1170 indicated?*

   **YES**—Go to step 5.

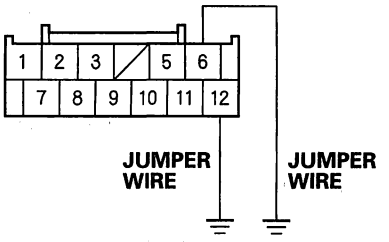
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the gauge control module and the VSA modulator-control unit. ■
5. Check for VSA System DTCs with the HDS (see page 19-43).

   *Are there any DTCs indicated?*

   **YES**—Go to the indicated DTCs, then recheck.

   **NO**—Go to step 6.
6. Turn the ignition switch OFF.
7. Disconnect the gauge control module connector A (12P).
8. Disconnect the VSA modulator-control unit 46P connector.
9. Connect the gauge control module connector A (12 P) connector No. 6 and No. 12 terminals and body ground with jumper wires.

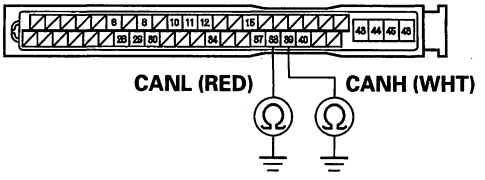
**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

10. Check for continuity between the VSA modulator-control unit 46P connector No. 38 and No. 39 terminals and body ground individually.

**VSA MODULATOR-CONTROL UNIT 46P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Substitute a known-good VSA modulator-control unit (see page 19-102), and recheck. If the indication goes away, replace the original VSA modulator-control unit (see page 19-102). If the DTC is still present, replace the gauge control module (see page 22-334). ■

**NO**—Repair open in the wire. ■

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BACK

## **DTC B1173:** Gauge Control Module Lost Communication with the TPMS Control Unit (TPMS Message)

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1173 indicated?*

   **YES**—Go to step 5.

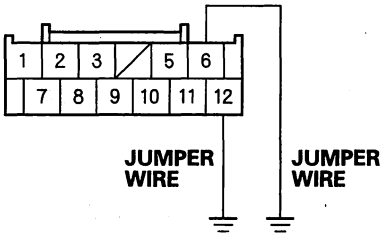
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the gauge control module and the TPMS control unit.■
5. Check for TPMS DTCs with the HDS (see page 18-125).

   *Are there any DTCs indicated?*

   **YES**—Go to the indicated DTCs, then recheck.

   **NO**—Go to step 6.
6. Turn the ignition switch OFF.
7. Disconnect the gauge control module connector A (12P).
8. Disconnect the TPMS control unit 20P connector.
9. Connect the gauge control module connector A (12 P) connector No. 6 and No. 12 terminals and body ground with jumper wires.

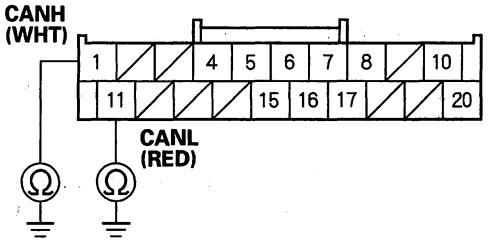
**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

10. Check for continuity between the adaptive cruise control (ACC) unit 20P connector No. 1 and No. 11 terminals and body ground individually.

**TPMS CONTROL UNIT 20P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Substitute a known-good TPMS control unit (see page 18-162), and recheck. If the indication goes away, replace the original TPMS control unit (see page 18-162). If the DTC is still present, replace the gauge control module (see page 22-334).■

**NO**—Repair open in the wire.■

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## DTC Troubleshooting (cont'd)

### DTC B1175: Fuel Level Sensor (Fuel Gauge Sending Unit) Circuit Open

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

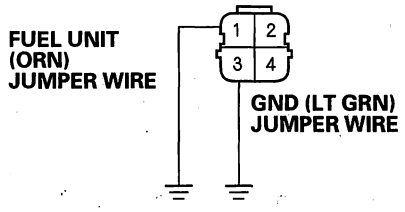
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 30 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTCs B1175 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the fuel tank unit. ■
5. Turn the ignition switch OFF.
6. Disconnect the fuel tank unit 4P connector.
7. Disconnect the gauge control module connectors A (12P) and B (24P).
8. Connect the fuel tank unit 4P connector No. 1 and No. 3 terminals and body ground with jumper wires.

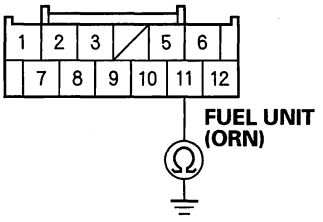
**FUEL TANK UNIT 4P CONNECTOR**




Wire side of female terminals

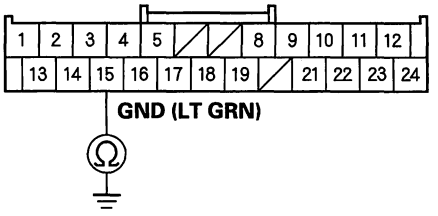
9. Check for continuity between the gauge control module connector A (12P) No, 11 terminal and body ground, and connector B (24P) No. 15 terminal and body ground respectively.

**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

**GAUGE CONTROL MODULE CONNECTOR B (24P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 10.

**NO**—Repair open in the wire between the gauge control module and the fuel tank unit. ■

10. Do the fuel gauge sending unit test (see page 11-350).

    *Is the fuel tank unit OK?*

    **YES**—Replace the gauge control module. ■

    **NO**—Replace the fuel gauge sending unit. ■

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BACK

## **DTC B1176:** Fuel Level Sensor (Fuel Gauge Sending Unit) Circuit Short

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 30 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTCs B1176 indicated?*

   **YES**—Go to step 5.

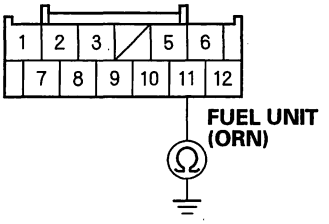
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the fuel tank unit. ■
5. Turn the ignition switch OFF.
6. Disconnect the fuel tank unit 4P connector.
7. Clear the DTCs with the HDS.
8. Turn the ignition switch OFF, and then back ON (II).
9. Wait for 30 seconds or more.
10. Check for DTCs with the HDS.

    *Is DTCs B1176 indicated?*

    **YES**—Go to step 11.

    **NO**—Replace the fuel gauge sending unit. ■
11. Disconnect the gauge control module connector A (12P).
12. Check for continuity between the gauge control module connector A (12P) No. 11 terminal and body ground.

**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire between the gauge control module and the fuel tank unit. ■

**NO**—Replace the gauge control module. ■

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## DTC Troubleshooting (cont'd)

### DTC B1177: Battery Voltage Abnormal

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTCs B1177 indicated?*

   **YES**—Go to step 8.

   **NO**—Go to step 4.
4. Clear the DTCs with the HDS.
5. Turn the ignition switch OFF, and then back ON (II).
6. Crank the engine.
7. Check for DTCs with the HDS.

   *Is DTCs B1177 indicated?*

   **YES**—Go to step 8.

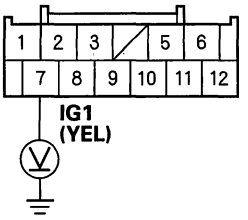
   **NO**—Intermittent failure, the gauge control module and power supply voltage (IG1) that is supplied to the gauge control module are OK at this time. The battery may have been discharged, and recovered. ■
8. Check the battery (see page 22-76) and the charging system.

   *Are the battery condition normal and the charging system OK?*

   **YES**—Go to step 9.

   **NO**—The battery needs a recharge or replacement, or the charging system needs to repair. ■
9. Turn the ignition switch ON (II).
10. With the gauge control module connector A (12P) still connected, measure the voltage between the gauge control module connector A (12P) No. 7 terminal and body ground.

**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

*Is the voltage above 7.5 V?*

**YES**—Replace the gauge control module. ■

**NO**—Repair open or high resistance in the IG1 line between the ignition switch and the gauge control module. ■

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BACK

## **DTC B1182:** Gauge Control Module Lost Communication with Driver's MPCS Unit (DRLOCKSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1182 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the driver's MPCS unit.■
5. Check for DTCs with the HDS.

   *Are DTCs B1013, B1015, B1065, and B1905 indicated with DTC B1182?*

   **YES**—Do the driver's MPCS unit input test (see page 22-137).■

   **NO**—Do the gauge control module input test (see page 22-334).■

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## DTC Troubleshooting (cont'd)

### **DTC B1187:** Gauge Control Module Lost Communication with SRS Unit (SRS Message)

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1187 indicated?*

   **YES**—Go to step 5.

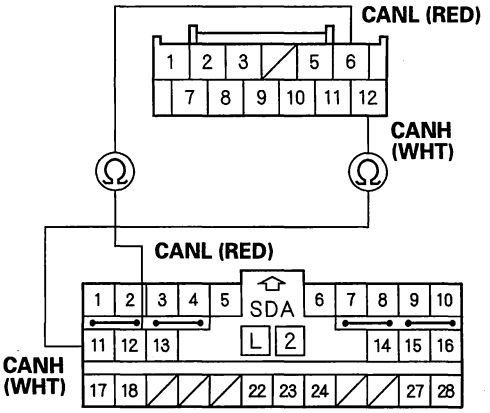
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the SRS unit. ■
5. Check for SRS DTCs with the HDS.

   *Are there any DTCs indicated?*

   **YES**—Go to the indicated DTCs, then recheck.

   **NO**—Go to step 6.
6. Turn the ignition switch OFF.
7. Disconnect the gauge control module connector A (12P).
8. Disconnect the SRS unit connector A (see page 24-152).
9. Check for continuity between the gauge control module connector A (12P) No. 6 and the SRS unit connector A (28P) No. 12 terminal, and between the gauge control module connector A (12P) No. 12 terminal and the SRS unit connector A (28P) No. 11 terminal.

**GAUGE CONTROL MODULE CONNECTOR A (12P)**
Wire side of female terminals




**SRS UNIT CONNECTOR A (28P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Substitute a known-good SRS unit (see page 24-152), and recheck. If the indication goes away, replace the original SRS unit (see page 24-152). If the DTC is still present, replace the gauge control module (see page 22-334). ■

**NO**—Repair open in the wire. ■

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BACK

## **DTC B1188:** Gauge Control Module Lost Communication with Active Damper System Control Unit (Active Damper System Message)

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1188 indicated?*

   **YES**—Go to step 5.

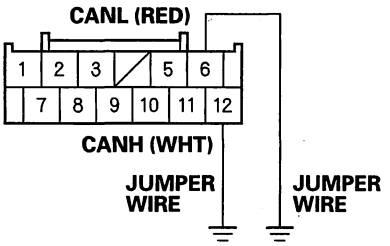
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the gauge control module and the active damper control unit. ■
5. Check for active damper system DTCs with the HDS.

   *Are there any DTCs indicated?*

   **YES**—Go to the indicated DTCs, then recheck.

   **NO**—Go to step 6.
6. Turn the ignition switch OFF.
7. Disconnect the gauge control module connector A (12P).
8. Disconnect the active damper control unit connector B (14P).
9. Connect the gauge control module connector A (12P) connector No. 6 and No. 12 terminals to body ground with jumper wires.

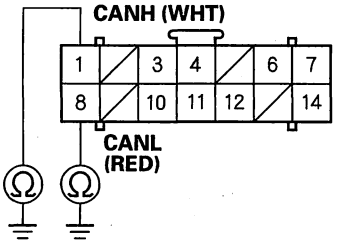
**GAUGE CONTROL MODULE CONNECTOR A (12P)**




Wire side of female terminals

10. Check for continuity between the active damper control unit connector B (14P) No. 1 and No. 8 terminals and body ground respectively.

**ACTIVE DAMPER CONTROL UNIT CONNECTOR B (14P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Substitute a known-good active damper control unit (see page 18-118), and recheck. If the indication goes away, replace the original active damper control unit (see page 18-118). If the DTC is still present, replace the gauge control module (see page 22-334). ■

**NO**—Repair open in the wire. ■

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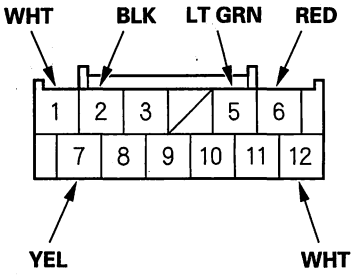
## Gauge Control Module Input Test

NOTE: Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).

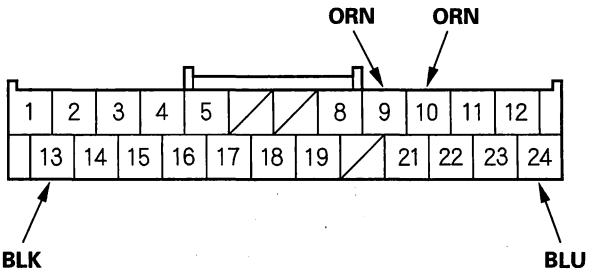
1. Turn the ignition switch OFF, remove the gauge control module (see page 22-337).
2. Disconnect the gauge control module connectors A (12P) and B (24P).

   NOTE: All connector views are wire side of female terminals.

**GAUGE CONTROL MODULE CONNECTOR A (12P)**




**GAUGE CONTROL MODULE CONNECTOR B (24P)**




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 connectors still disconnected, make these input tests at the connectors.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 5.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A5 | BLK | Under-dash fuse /relay box connector N (45 P) disconnected | Check for continuity between the A5 and the under-dash fuse/relay box connector N (45P) No. 22 terminal: There should be continuity. | An open in the wire |
| A6 | RED | PCM connector A (49P) disconnect | Check for continuity between A6 and the PCM connector A (49P) No. 1 terminal: There should be continuity. | An open in the wire |
| A12 | WHT | PCM connector A (49P) disconnected | Check for continuity between A12 and the PCM connector A (49P) No. 36 terminal: There should be continuity. | An open in the wire |

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5. Reconnect the connectors, turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, replace the gauge control module.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A2<br>B13 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| A1 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A7 | YEL | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the main under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| B9 | ORN | Ignition switch ON (II), brake fluid is full level in the reservoir | Measure the voltage to ground:<br>There should be 5 V or more. | • Faulty brake fluid level switch<br>• A short to ground in the wire |
| | | Ignition switch ON (II), brake fluid is lower level in the reservoir | Measure the voltage to ground:<br>There should be less than 1 V. | • Poor ground (G302)<br>• An open in the wire<br>• Faulty brake fluid level switch |
| B10 | ORN | Ignition switch ON (II), parking brake pedal pressed | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty brake fluid level switch<br>• An open in the wire |
| | | Ignition switch ON (II), parking brake pedal released | Measure the voltage to ground:<br>There should be 5 V or more. | • Faulty brake fluid level switch<br>• A short to ground in the wire |
| B24 | BLU | Ignition switch ON (II), washer fluid is half or more in the washer reservoir | Measure the voltage to ground:<br>There should be less than 1 V. | • Poor ground (G201)<br>• Faulty washer fluid level switch<br>• An open in the wire |
| | | Ignition switch ON (II), washer fluid is half or more in the washer reservoir | Measure the voltage to ground:<br>There should be 5 V or more. | • Faulty washer fluid level switch<br>• A short to ground in the wire |

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## Rewriting the ODO Data and Transferring Smart Maintenance on a New Gauge Control Module

NOTE:
- Obtain a new gauge control module before starting the rewriting process.
- Rewriting is not possible on a gauge control module that will not communicate with the HDS.
- Make sure that the HDS shows the correct VIN for the car you are working on.
- Once you have started this procedure, you must complete it before removing the HDS from the DLC.
- Connect a battery jumper box (not a battery charger) to insure that correct battery voltage will be maintained.

1. Before replacing the gauge control module, connect the HDS.
2. Select GAUGES from the BODY ELECTRICAL system select menu with the HDS.
3. Select "Gauge Control Module Replacement (ODO Rewrite)" from the ADJUSTMENT menu, and follow the instructions on the display to retrieve the ODO value and the Smart Maintenance Information.
4. Replace the gauge control module.
5. Follow the instructions on the display to write the new ODO value and Smart Maintenance to the new gauge control module. If the data transfer fails, refer to the instructions below to release the locked ODO value.

### Release Locked odometer mileage to the original gauge control module.

If after you attempt to transfer mileage, the new odometer has dashes (———), garbled, or an incorrect value displayed, do the following:

Start over. The original gauge control module is going to be unlocked and restored to its original state.

1. Confirm that you have the latest HDS version of software.
2. Make sure that the HDS shows the correct VIN for the car you are working on.
3. With the ignition switch OFF, reconnect the original gauge control module.
4. Completely re-boot the HDS.
5. Clear any stored DTCs.
6. Navigate to Body Electric/Gauges/Adjustment/ Instrument Panel Replacement.
7. Select "3. Releasing Locked ODO Value."
8. Follow the prompts and the Odometer mileage will be restored.
9. Start over and make sure the screen prompts are followed.

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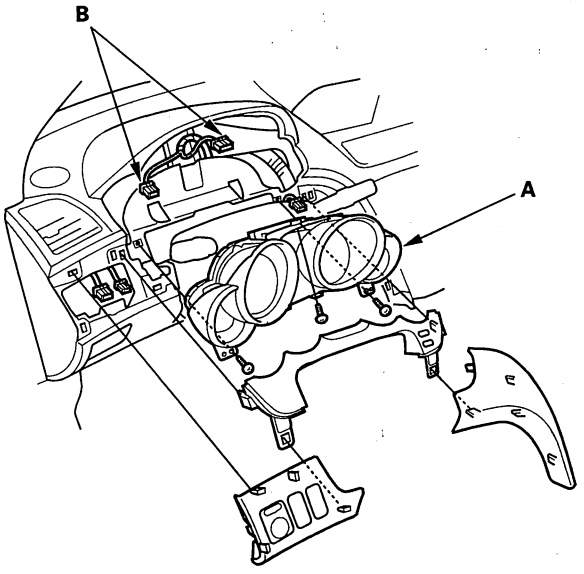


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## Gauge Control Module Replacement

NOTE: Before replacing the gauge control module, do the "Rewriting the ODO DATA and Transferring the Smart Maintenance on a NEW Gauges (see page 22-336).

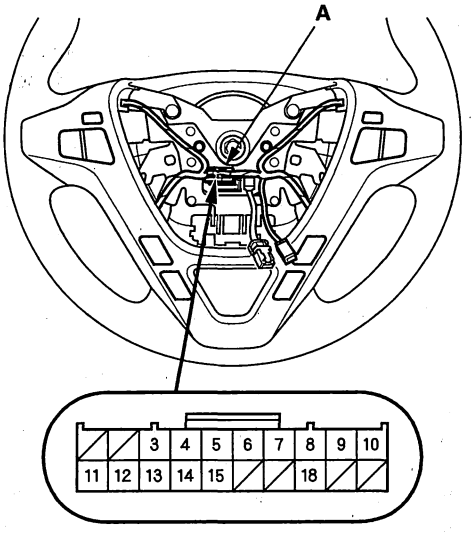
1. Remove the parts shown:
   - Driver's switch panel (see page 20-117).
   - Instrument fascia (see page 20-118).
2. Remove the screws from the gauge control module (A).




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

## Multi-information Switch Test/ Replacement

1. Remove the driver's airbag assembly (see page 24-137).
2. Disconnect the 20P connector (A) from the cable reel.




Wire side of female terminals

3. Measure the resistance between the cable reel 20P connector No. 13 and No. 14 terminals in each multi-information switch position according to the table.

| Position | Resistance |
|---|---|
| Previous (▲) | About 33 Ω |
| SEL/RESET | About 1043 Ω |
| Next (▼) | About 363 Ω |

4. If the resistance is not as specified, replace the steering switch assembly.

   NOTE: If the switch is OK, but there is a problem with the switch function, check the cable reel.

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## Outside Air Temperature Indicator Calibration

NOTE: To test the outside air temperature sensor (see page 21-105).

### Description

The outside temperature sensor is located behind the center of the front bumper. The gauge control module uses measurements from this sensor to display the outside air temperature.
Because of the location of the sensor, it may be affected by heat reflection from the road, engine and radiator heat, or hot exhaust from surrounding traffic.
These conditions can heat soak the outside air temperature sensor and cause inaccurate readings.
Logic has been written into the gauge control module to help prevent abnormal of fluctuating outside air temperature indicator readings.

### Outside Air Temperature Indicator Logic

Initial outside air temperature indication after the ignition switch is turned ON (II).
If the engine coolant temperature is 140 °F (60 °C) or higher when the ignition switch is turned ON (II), the outside air temperature indicated the last time the key was turned off will be displayed regardless of the current temperature measured by the outside air temperature sensor.

If the engine coolant temperature is 139 °F (59 °C) or lower when the ignition switch is turned ON (II), the current temperature measured by the outside air temperature sensor will be indicated.

### Update to the outside air temperature indicator while driving

If the temperature measured by the outside air temperature sensor is greater than the temperature on the outside air temperature indicator, the outside temperature indicator will increase by 1 °F (1 °C) per minute after the vehicle speed is greater than 19 mph (30 km/h) for more than 30 seconds. It will continue to increase until the current outside air temperature is indicated. So, the first change to the outside air temperature indicator is 1 minute and 30 seconds after the vehicle speed is greater than 19 mph (30 km/h). If the vehicle speed drops below 19 mph (30 km/h), the indicator will not update again until the vehicle speed is increased to 19 mph (30 km/h) or more for more than 1 minute and 30 seconds again.

If the outside air temperature is less than 140 °F (60 °C), the temperature increases 1 °F (1 °C) every 2 seconds until the current outside air temperature.

If the outside air temperature is less than the indicated temperature, the temperature will decrease 1 °F (1 °C) every 2 seconds until the current outside air temperature is indicated regardless of vehicle speed.

### Troubleshooting

If the indicator displays "— — —" for more than 2 seconds after selecting the outside air temperature display mode, check the climate control system or multiplex integrated control system for DTCs (see B-CAN System Diagnosis Test Mode A) (see page 22-112).

### Calibration

The outside air temperature indicator's displayed temperature can be recalibrated ±5 °F or ±3 °C to meet the customer's expectations.

Calibrate the outside air temperature with the HDS or by custom memory setting.

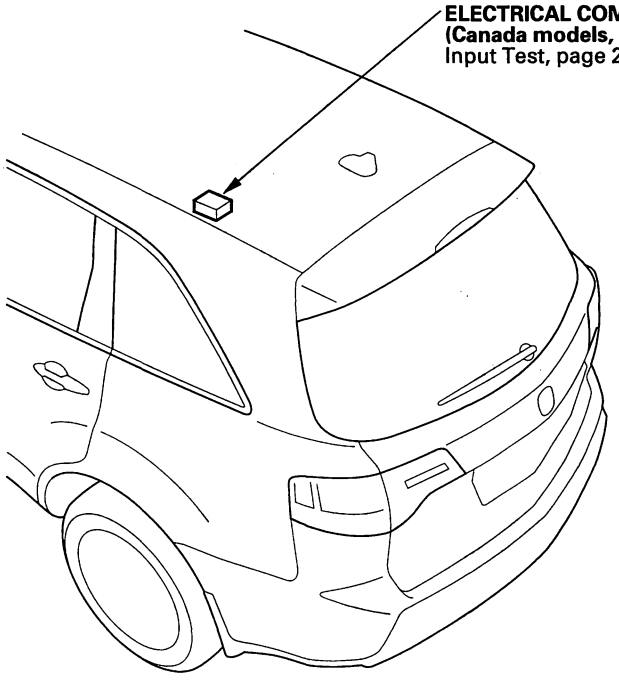
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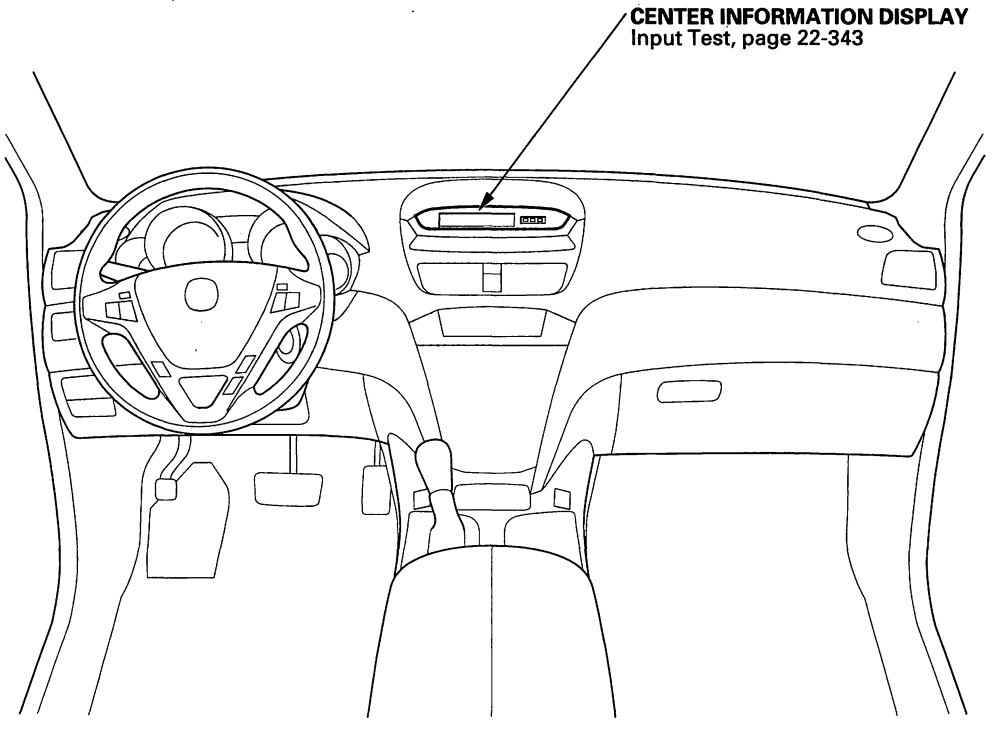


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# Electrical Compass

## Component Location Index




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# Electrical Compass

## System Description

### Compass Operation (Canada models, without navigation)

The electrical compass unit shows the direction of the vehicle on the center information display. Compass operation can be affected by driving near power lines or stations, across bridges, through tunnels, over railroad crossings, past large vehicles, or driving near large objects that can cause a magnetic disturbance. If you see "———" in the direction display, the compass is self-calibrating.
The compass may need to be manually calibrated after exposure to a strong magnetic field. If the compass seems to be continually showing the wrong direction, and is not self-calibrating, complete the compass calibration procedure, on the next page. In most areas, there is a variation between magnetic north and true north. Zone setting is required so the compass can compensate for this variation. To check and select the zone set into the compass, complete the compass zone setting procedure on the next page:

**Self-diagnosis Function**

1. Press and hold the "SET" button, the "▲" arrow up button, and the "▼" arrow down button, then turn the ignition switch ON (II).
2. Release all buttons after a second.
3. Press and release the "SET" button and press and release the "▼" arrow button. Do steps 1 through 3 within 4 seconds to enter the self-diagnosis mode.
4. Press the "▲"arrow up button to make all segments go OFF and ON.



5. Press the "SET" button to exit the self-diagnosis function.

**Compass Adjustment Mode menu**
The compass calibration and the compass zone setting can be done in the compass adjustment mode. To enter the compass adjustment mode menu, press and hold the "SET" button for at least 5 seconds.

NOTE: If there is no operation of the "SET" button, the "▲" arrow up button, or the "▼" arrow down button during the compass adjustment mode for more than 10 seconds, the compass adjustment mode will cancel and the display will return to the normal display.

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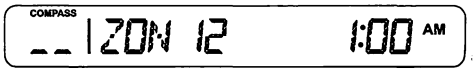
**Compass Zone Setting**

NOTE: You should do this procedure in an open area away from buildings, power line, and other vehicles.

6. Select the "ZON" and press the "SET" button on the center information display during the compass adjustment mode, the directional display on the center information display will show the "Zone set display" shown, and zone set request is transmitted.

   - The display shows the "Zone set display" for 1.5 seconds and until the data from the Compass corresponds to the requested data. After 1.5 seconds and the received data corresponds, the display changes to the "CAL request display".
   - The zone number displayed on the center information display during a compass adjustment mode will correspond with the last received Compass data. If zone data is not receive yet, display will be blinking "———" for zone number.

   **Zone Set Display (Directional display is off, and "———" blinks.)**



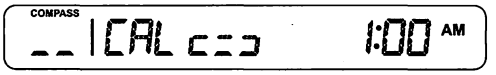

**Compass Calibration**

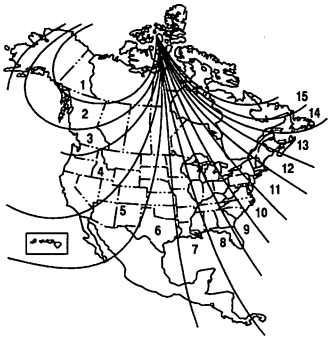
NOTE: You should do this procedure in an open area away from buildings, power line, and other vehicles.

7. Select the "CAL" and press the "SET" button on the center information display during the compass adjustment mode, the directional display on the center information display will show the "Calibration display" shown, and calibration request is transmitted.

   When the display goes from "———" to an actual heading, the compass unit has been calibrated.

   **Calibration Display (Directional display is off, "———" blinks, and an animation is displayed to show that the calibration is in progress.)**



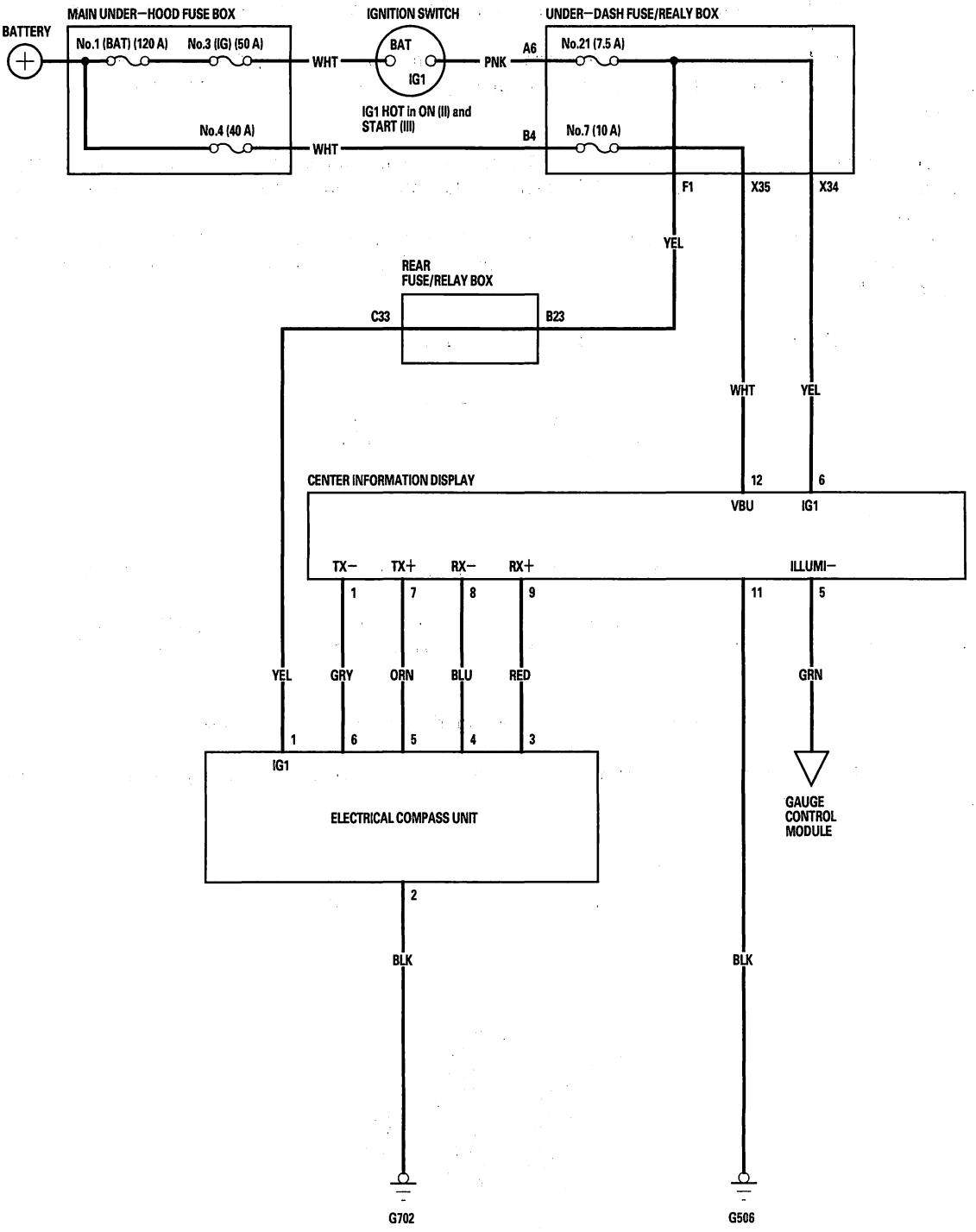




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# Electrical Compass

## Circuit Diagram

### Canada models without navigation



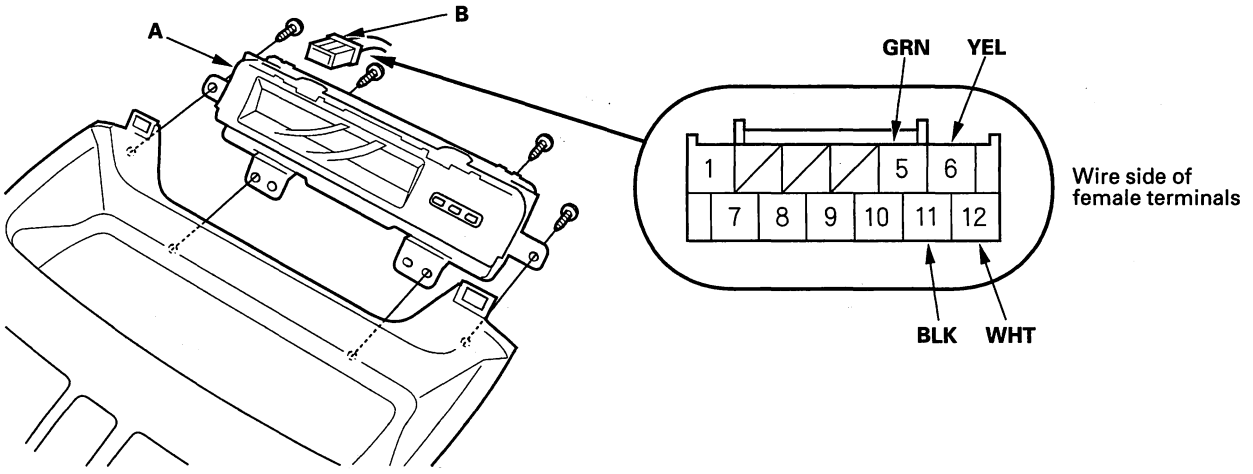

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## Center Information Display Input Test

1. Remove the dashboard upper visor (see page 20-120).
2. Remove the center panel (see page 20-121).
3. Remove the four screws, and the center information display (A).




4. Disconnect the 12P connector (B) from the center information display.
5. 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
6. Reconnect the connector to the electrical compass unit, turn the ignition switch ON (II) and perform the following input tests at the connector.
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all input tests prove OK, the center information display must be faulty; replace it.

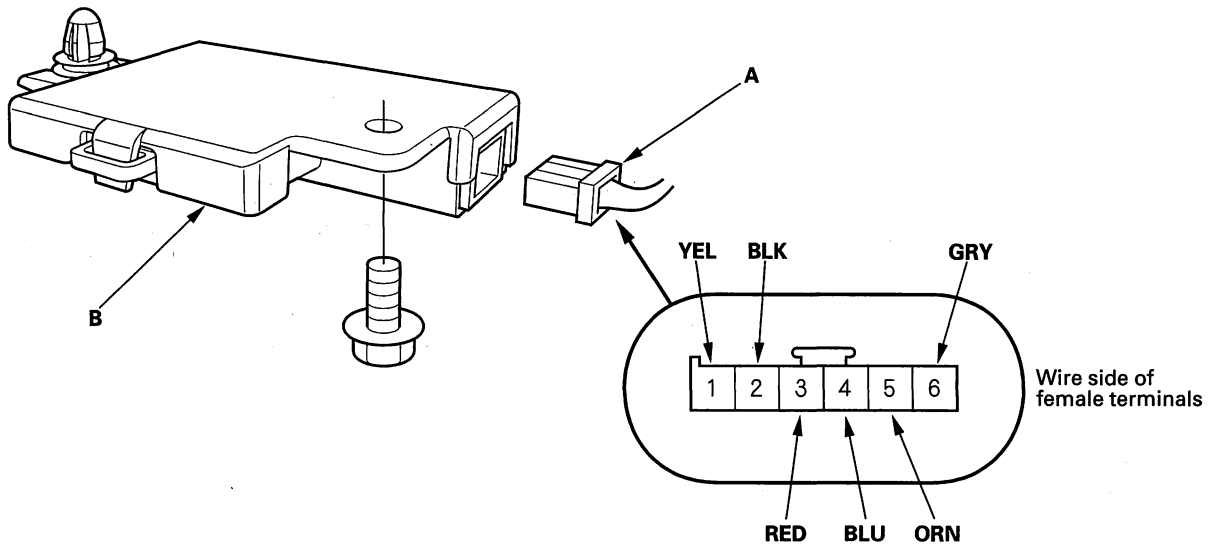
| Cavity | Wire | Test Condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 11 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| 12 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 6 | YEL | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |

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## Electrical Compass Unit Input Test

1. Remove the headliner (see page 20-101).

2. Disconnect the 6P connector (A) from the electrical compass 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 to the electrical compass unit, turn the ignition switch ON (II) and perform the following input tests at the connector.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all input tests prove OK, the electrical compass unit must be faulty; replace it.

| Cavity | Wire | Test Condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 2 | BLK | Under all conditions | Measure the voltage to ground: There should be 1 less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| 1 | YEL | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 3 | RED | Under all conditions | Measure the voltage to ground: There should be about 4 V. | • Faulty center information display<br>• An open in the wire<br>• A short to ground in the wire |
| 4 | BLU | Under all conditions | Measure the voltage to ground: There should be about 4 V. | • Faulty center information display<br>• An open in the wire<br>• A short to ground in the wire |
| 5 | ORN | Under all conditions | Measure the voltage to ground: There should be about 4 V. | • Faulty center information display<br>• An open in the wire<br>• A short to ground in the wire |
| 6 | GRY | Under all conditions | Measure the voltage to ground: There should be about 4 V. | • Faulty center information display<br>• An open in the wire<br>• A short to ground in the wire |

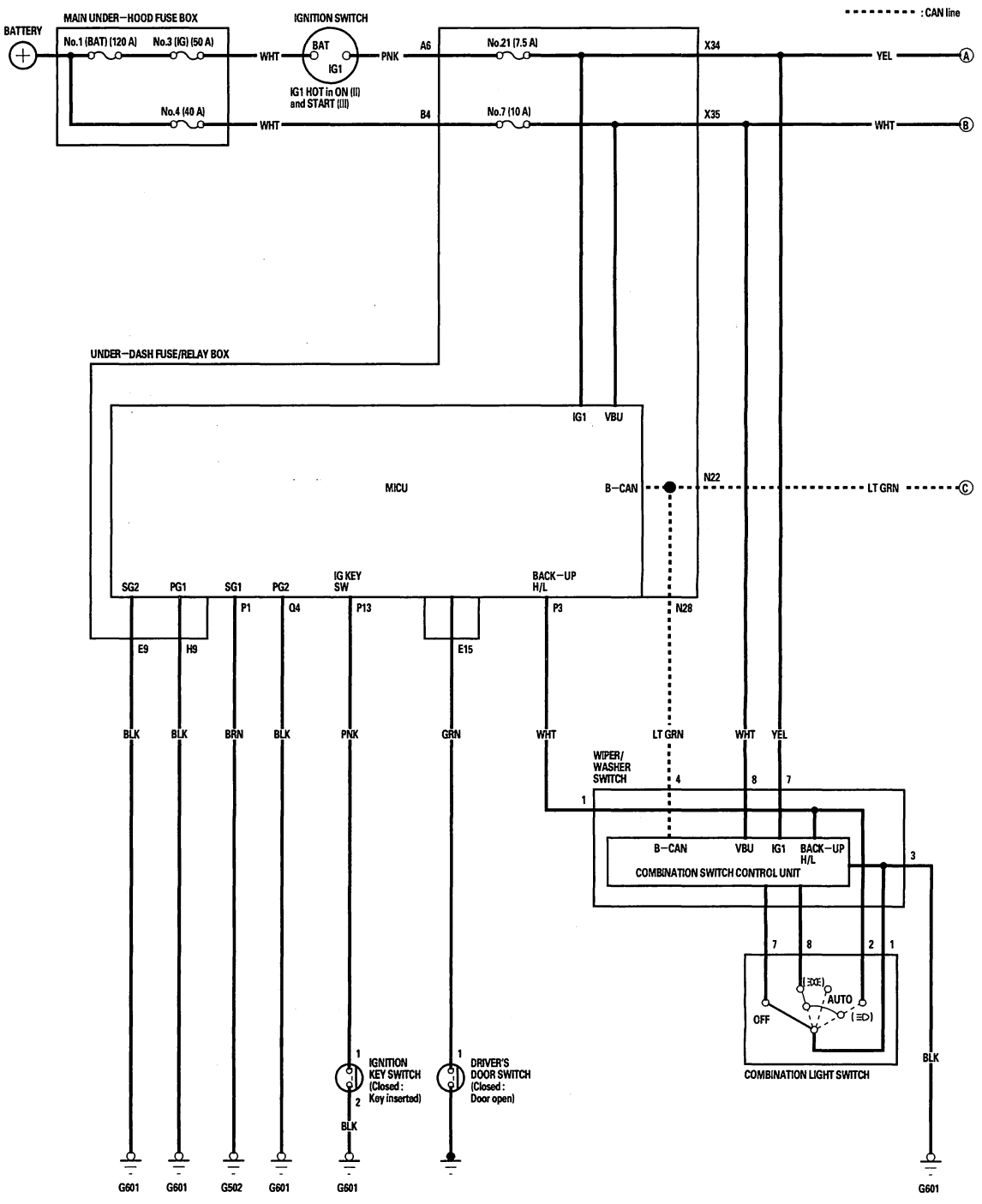
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# Reminder Systems

## Circuit Diagram

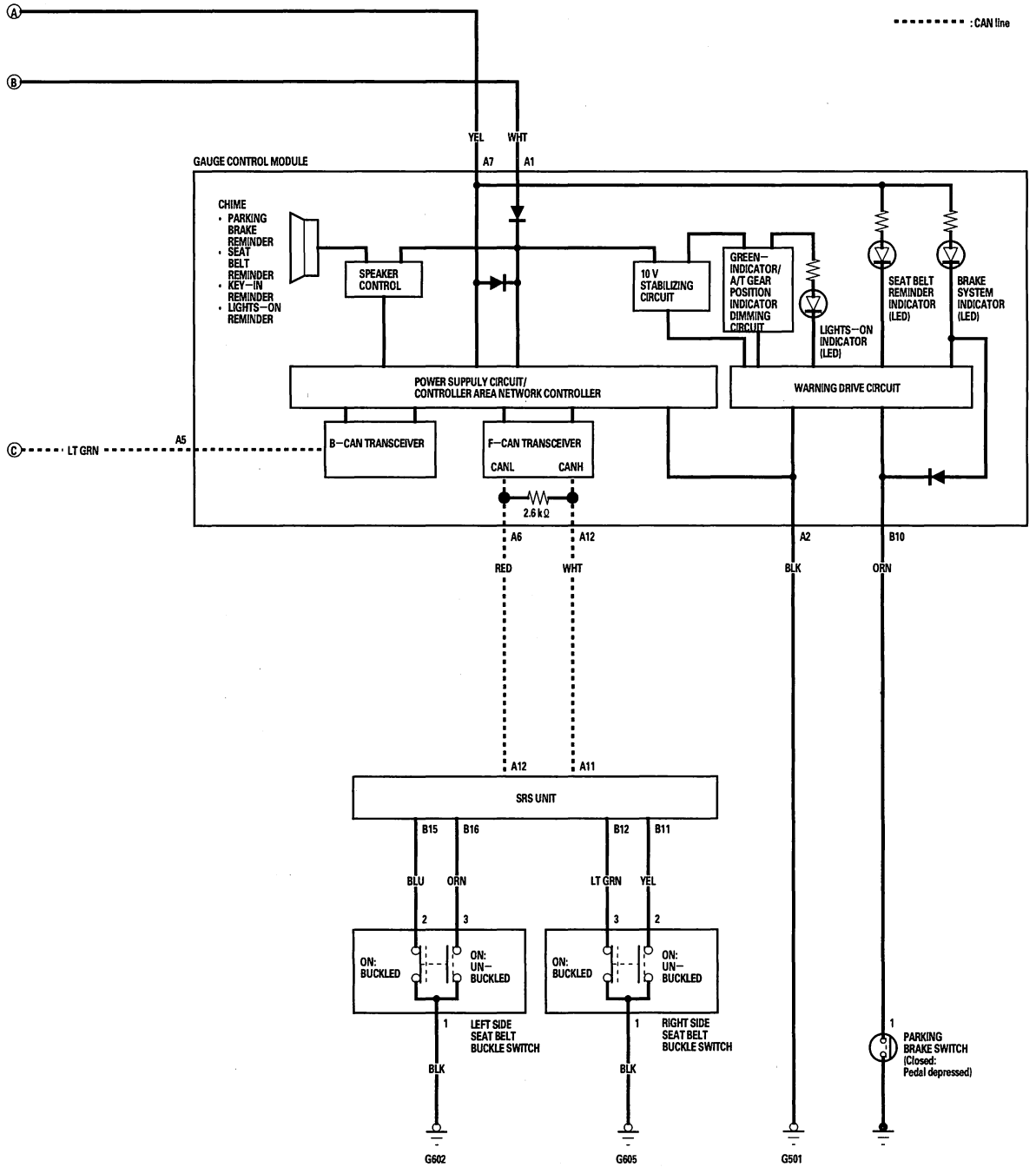



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## Circuit Diagram (cont'd)




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## Control Unit Input Test

NOTE:

- Before testing, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112).
- Before testing, troubleshoot the F-CAN System using the gauge control module self-diagnosis function (see page 22-315).

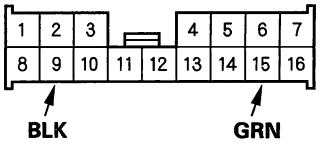
**MICU (Common Test)**

1. Turn the ignition switch OFF, and remove the left kick panel (see page 20-76).

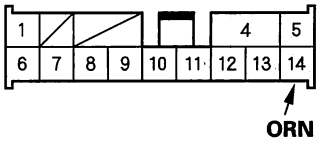
2. Disconnect the under-dash fuse/relay box connectors E, H, P and Q.

   NOTE: All connector views are wire side of female terminals.

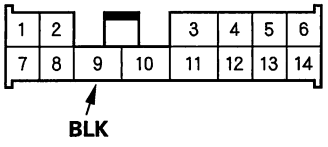
**UNDER-DASH FUSE/RELAY BOX CONNECTOR E (16P)**



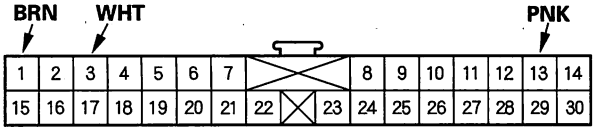

**UNDER-DASH FUSE/RELAY BOX CONNECTOR F (14P)**



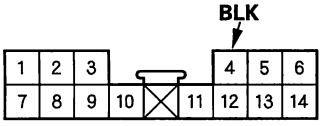

**UNDER-DASH FUSE/RELAY BOX CONNECTOR H (14P)**




**UNDER-DASH FUSE/RELAY BOX CONNECTOR P (30P)**




**UNDER-DASH FUSE/RELAY BOX CONNECTOR Q (14P)**




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)



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## Control Unit Input Test (cont'd)

4. Reconnect the connectors, turn the ignition switch ON (II), and make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 5.

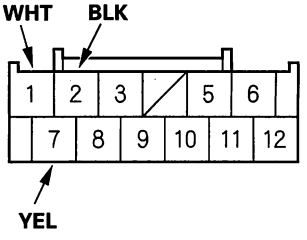
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| E9<br>H9<br>Q4 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• An open in the wire |
| P1 | BRN | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G502)<br>• An open in the wire |

**GAUGE CONTROL MODULE (Common Test)**

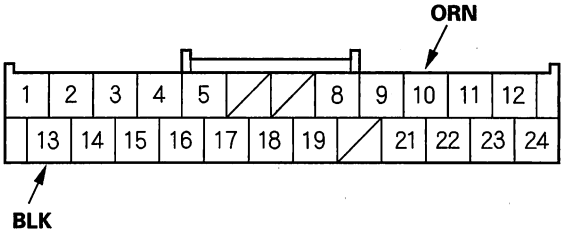
5. Disconnect the gauge control module connectors A (12P) and B (24P).

   NOTE: All connector views are wire side of female terminals.

**GAUGE CONTROL MODULE CONNECTOR A (12P)**




**GAUGE CONTROL MODULE CONNECTOR B (24P)**




6. 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 7.

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7. Reconnect the connectors, turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, go to the appropriate input test.
  - Key-in reminder, go to step 8.
  - Parking brake reminder, go to step 9.
  - Lights-on reminder, do the combination switch control unit input test (see page 22-300) and the combination light switch test (see page 22-200).
  - Seat belt reminder, do the seat belt buckle switch test.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B13<br>A2 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| A1 | WHT | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |
| A7 | YEL | Ignition switch ON (II). | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |

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(cont'd)

## Control Unit Input Test (cont'd)

**Key-in reminder**

8. Reconnect the under-dash fuse/relay box connectors, turn the ignition switch ON (II), and make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the MICU must be faulty, replace the under-dash fuse/relay box (see page 22-72).

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| P13 | PNK | Ignition key inserted into the ignition switch | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty ignition key switch<br>• An open in the wire |
| | | Ignition switch OFF and the ignition key removed from the ignition switch | Measure the voltage to ground:<br>There should be 5 V or more. | • Faulty ignition key switch<br>• A short to ground in the wire |
| E15 | GRN | Driver's door open | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty driver's door switch<br>• An open in the wire |
| | | Driver's door closed | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty driver's door switch<br>• A short to ground in the wire |
| F14 | ORN | Under all conditions | Attach to ground:<br>The ignition key light should come on. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty ignition key light<br>• An open in the wire |

**Parking Brake Reminder**

9. Reconnect the gauge control module connectors, turn the ignition switch ON (II), 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, replace the gauge control module (see page 22-337).

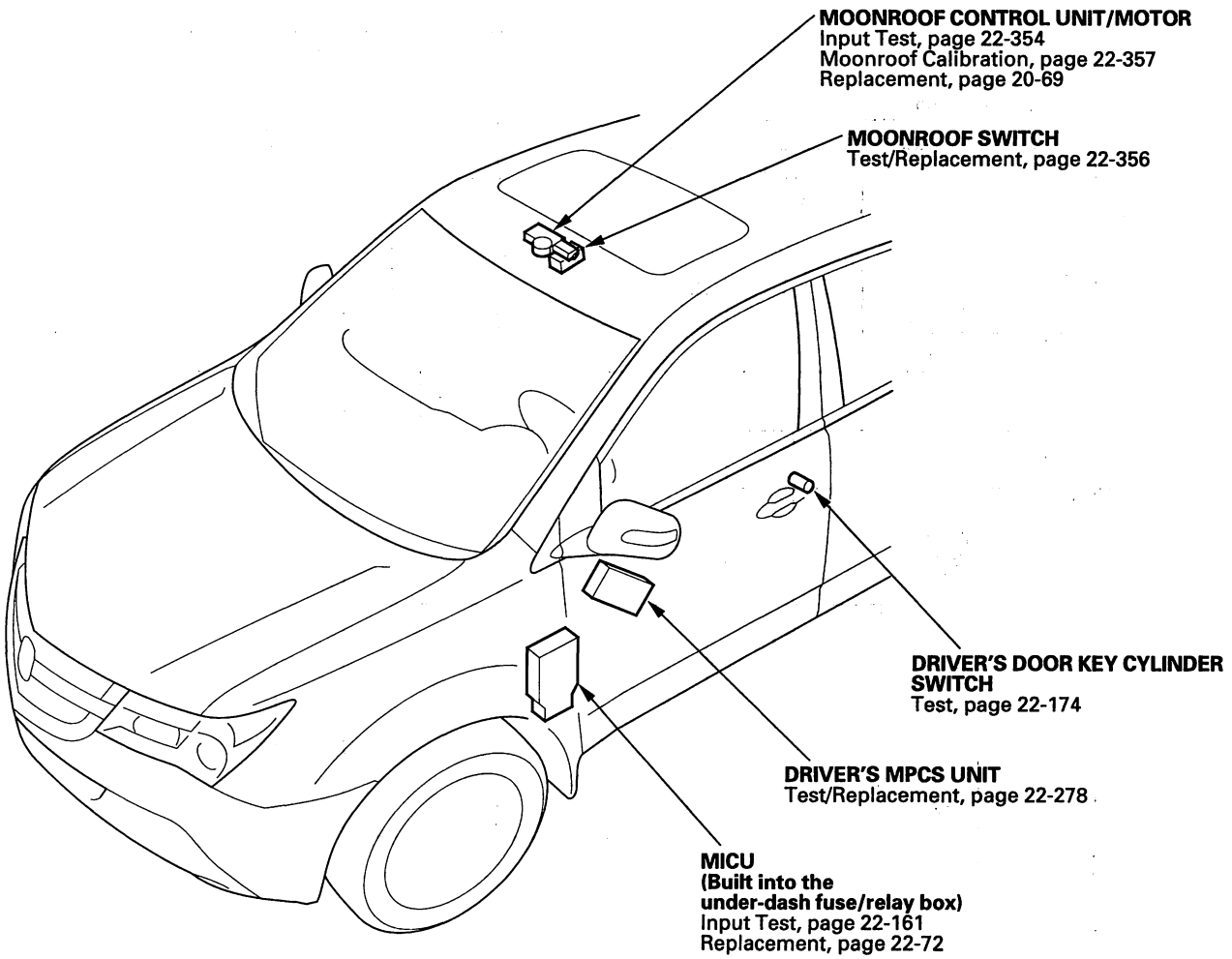
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B10 | ORN | Ignition switch ON (II), parking brake pedal pressed | Measure the voltage to ground:<br>There should be less than 1 V. | • Faulty brake fluid level switch<br>• An open in the wire |
| | | Ignition switch ON (II), parking brake pedal released | Measure the voltage to ground:<br>There should be more than 5 V. | • Faulty brake fluid level switch<br>• A short to ground in the wire |

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BACK

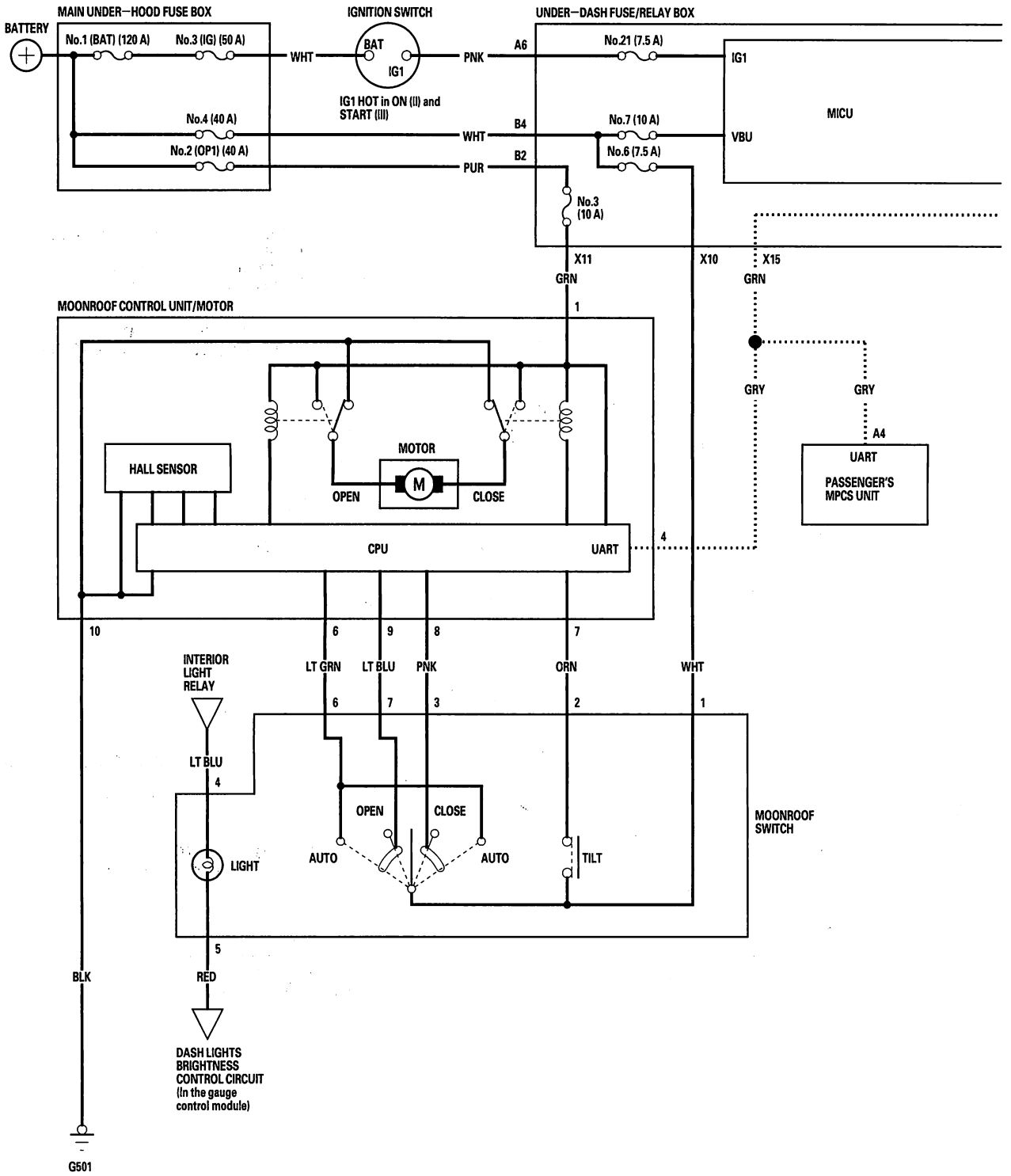
## Component Location Index




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# Moonroof

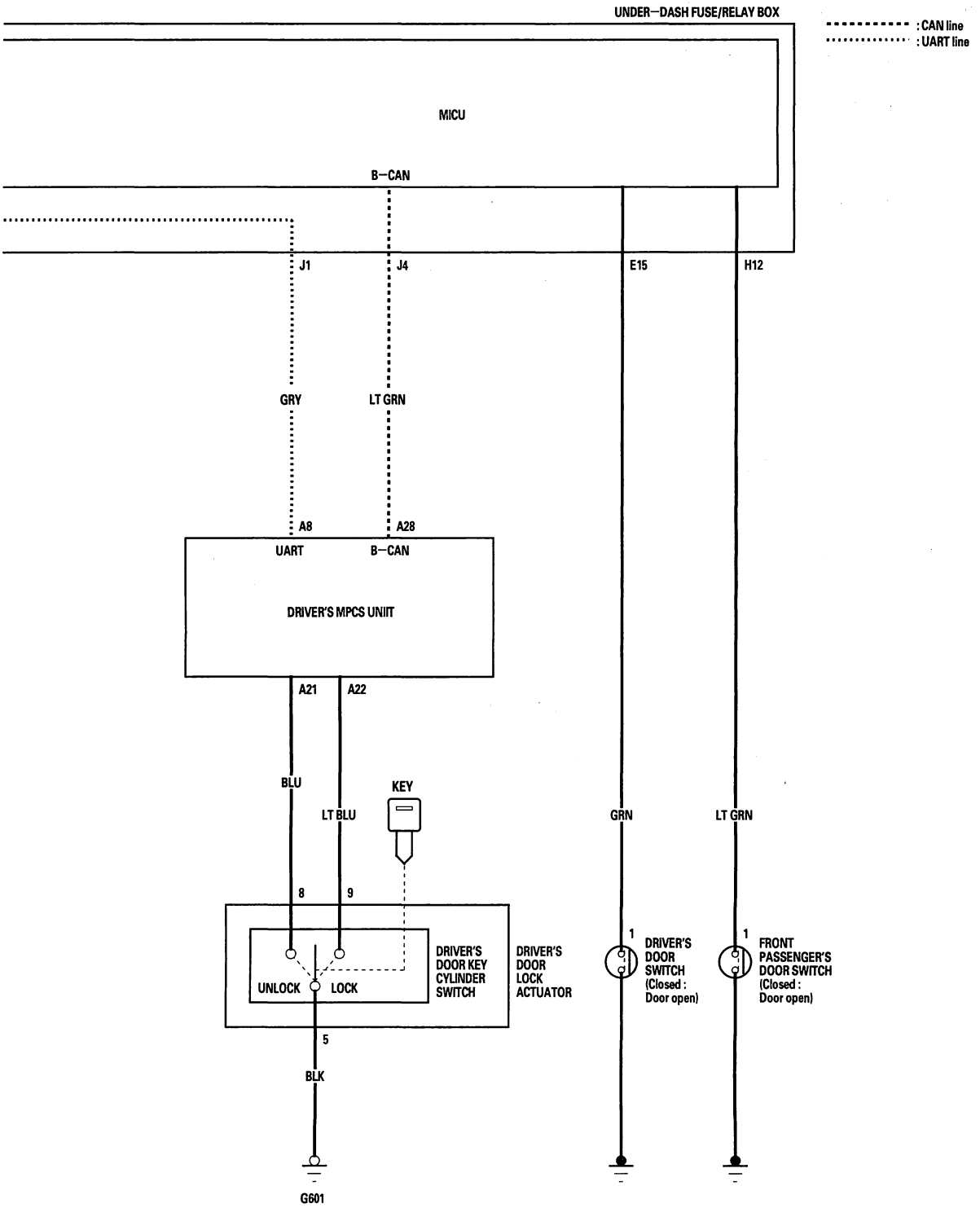
## Circuit Diagram




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BACK

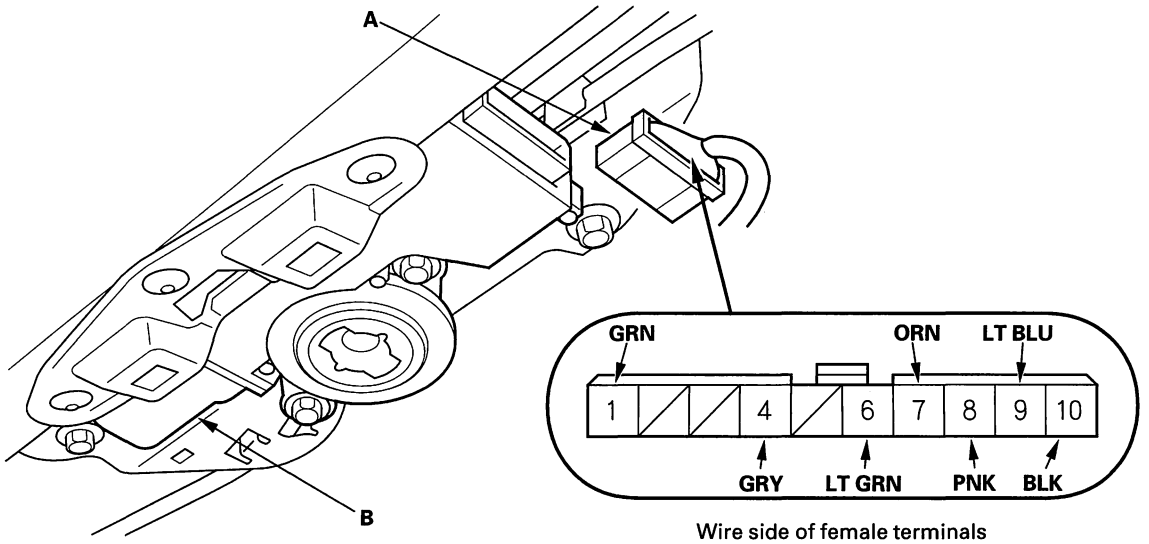



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## Moonroof Control Unit Input Test

Before troubleshooting the moonroof circuit, troubleshoot the multiplex integrated control system using B-CAN System Diagnosis Test Mode A (see page 22-112).
If the moonroof works OK manually, but will not work in AUTO, or reverses frequently (pinch detection) do the moonroof calibration (see page 22-357) before proceeding with the input test.

1. Turn the ignition switch OFF.
2. Remove the headliner (see page 20-101).
3. Disconnect the 10P connector (A) from the moonroof control unit (B).




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.

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5. 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 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 4 | GRY | Under all conditions | Check for continuity between the No. 4 terminal and the under-dash fuse/relay box connector X (39P) No. 15 terminal, and the No. 4 terminal and the passenger's MPCS unit connector A (28P) No. 4 terminal: There should be continuity. | • An open in the wire |

6. 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 7.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 10 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G501)<br>• An open in the wire |
| 1 | GRN | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 2 (OP1) (40 A) fuse in the main under-hood fuse box<br>• Blown No. 3 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 6 | LT GRN | Moonroof switch in AUTO OPEN or AUTO CLOSE position | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 6 (7.5 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• Faulty moonroof switch<br>• An open in the wire |
| 7 | ORN | Moonroof switch in TILT position | Measure the voltage to ground: There should be battery voltage. | |
| 8 | PNK | Moonroof switch in CLOSE position | Measure the voltage to ground: There should be battery voltage. | |
| 9 | LT BLU | Moonroof switch in OPEN position | Measure the voltage to ground: There should be battery voltage. | |

7. If all the input tests are OK and multiple failures are found, replace the moonroof control unit/motor assembly. If the problem is related to the key-off operation, go to the driver's MPCS unit input test (see page 22-278), and passenger's MPCS unit input test (see page 22-281).

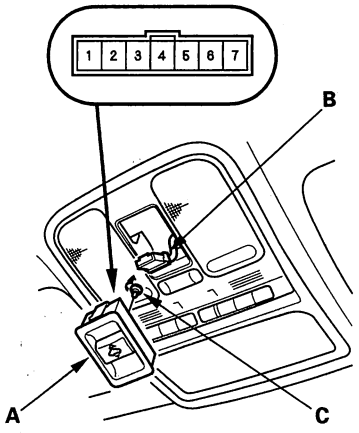
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## Moonroof Switch Test/Replacement

### Special Tools required
KTC trim tool set SOJATP2014

NOTE:
- Use the appropriate tool from the KTC trim tool set to avoid damaging components.
- Take care not to scratch the roof console and related parts.
- The moonroof can still be operated for about 10 minutes after the ignition switch is turned from the "II" to the "I" or "0" positions, as long as none of the doors have been opened. This provides a convenience to parked occupants while offering a degree of security against unwanted or accidental moonroof operation.

1. Carefully pry the moonroof switch (A) out of the roof console.




2. Disconnect the 7P connector (B) from the moonroof switch.

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

| Terminal / Position | 1 | 2 | 3 | 6 | 7 | 4 | | 5 |
|---|---|---|---|---|---|---|---|---|
| OPEN | ○ | | | | ○ | | | |
| CLOSE | ○ | | ○ | | | | | |
| TILT | ○ | ○ | | | | ○ | ○ | ○ |
| CLOSE+AUTO | ○ | | ○ | ○ | | | | |
| OPEN+AUTO | ○ | | | ○ | ○ | | | |

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

5. Install in the reverse order of removal.

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## Resetting the Moonroof Control Unit

NOTE: Do the moonroof control unit reset with all the doors and tailgate closed.

Resetting the moonroof is required when any of the following have occurred.

- The moonroof was moved manually with the battery dead or disconnected.
- The moonroof motor was replaced with a new one.
- Any of components related to the moonroof were replaced.
  - Wind deflector
  - Moonroof glass
  - Moonroof seal
  - Moonroof glass bracket
  - Moonroof cables, etc.

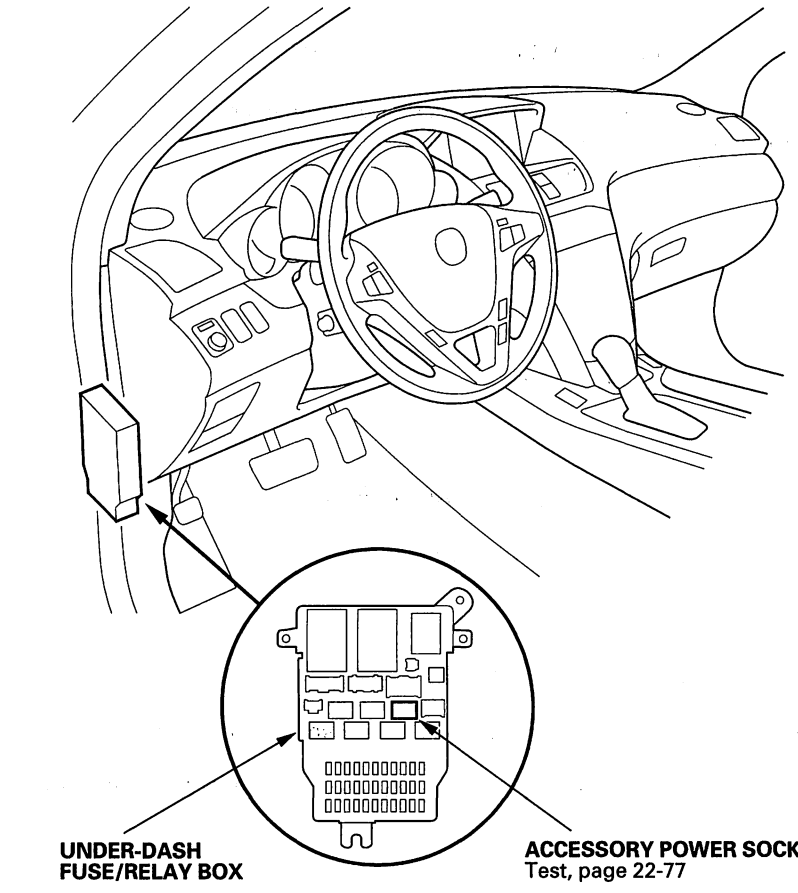
To reset the moonroof control unit, do these steps

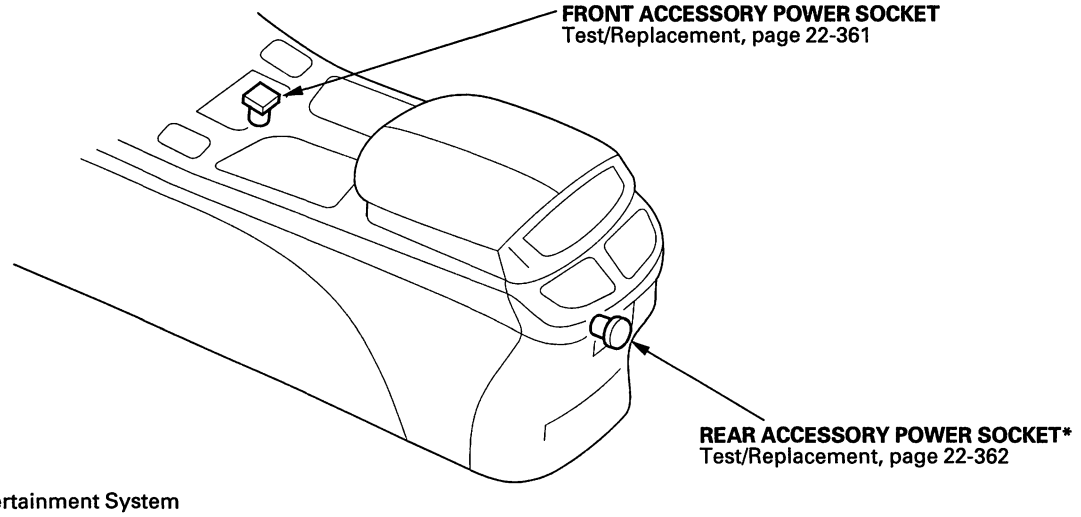
1. Turn the ignition switch OFF.
2. Press and hold the tilt switch, and turn the ignition switch ON (II).
3. Release the tilt switch, and turn the ignition switch OFF.
4. Repeat steps 2 and 3 four times.
5. Press and hold the moonroof open switch an additional 3 seconds after the moonroof is fully opened.
6. Press and hold the moonroof close switch an additional until 3 seconds after the moonroof is fully closed (tilted).
7. Confirm that the moonroof control unit is reset by using the moonroof AUTO OPEN and AUTO CLOSE function.

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# Accessory Power Sockets

## Component Location Index



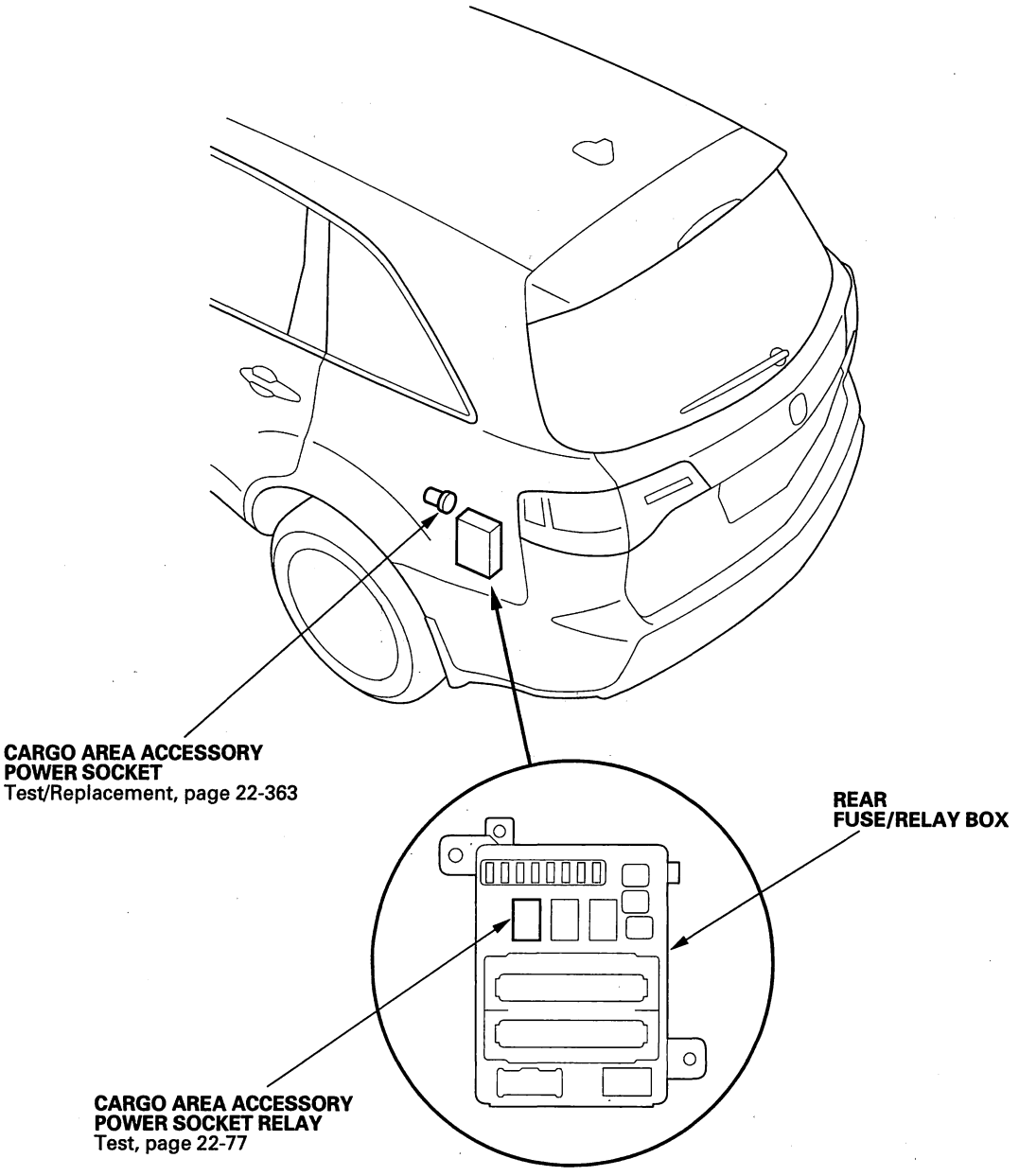




*: Without Rear Entertainment System

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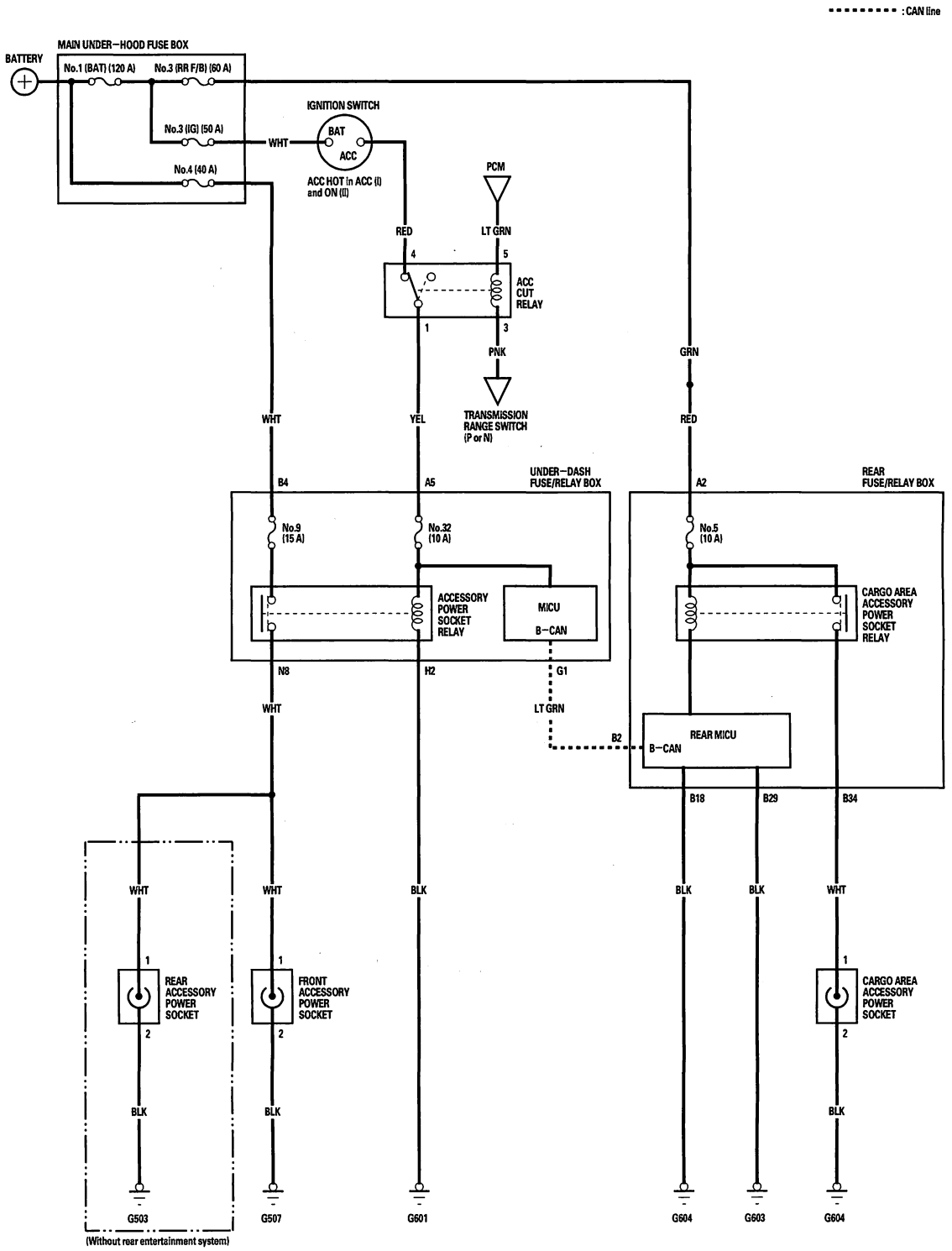
BACK




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# Accessory Power Sockets

## Circuit Diagram




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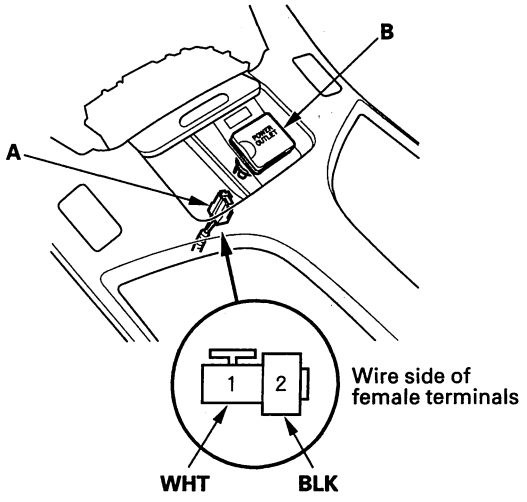


BACK

## Front Accessory Power Socket Test/Replacement

1. Remove the console panel (see page 20-107).

2. Disconnect the 2P connector (A) from the front accessory power socket (B).




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).

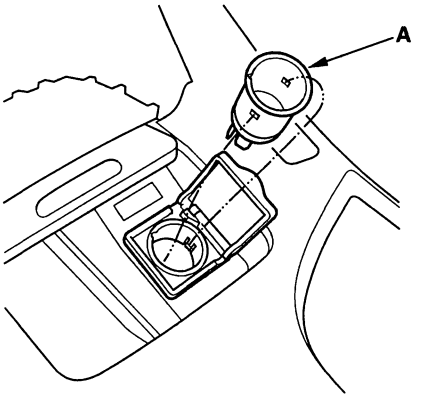
5. Measure the voltage between the No. 1 terminal and body ground. There should be battery voltage.

   - If there is battery voltage, go to step 6.
   - If there is no battery voltage, check for:
     – Blown No. 32 (10 A) fuse in the under-dash fuse/relay box.
     – Blown No. 9 (15 A) fuse in the under-dash fuse/relay box.
     – Faulty accessory power socket relay.
     – Faulty under-dash fuse/relay box.
     – Poor ground (G 601).
     – An open in the wire.

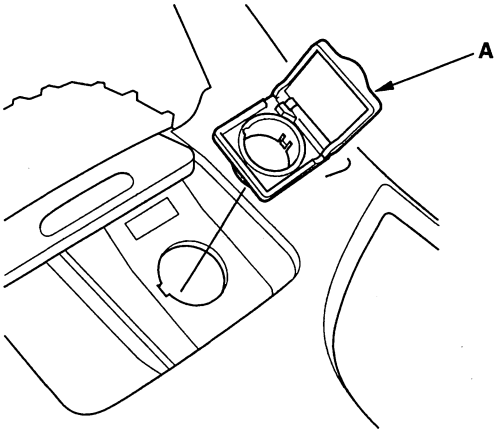
6. Check for continuity between the No. 2 terminal and body ground. There should be continuity.

   - If there is continuity, go to step 7.
   - If there is no continuity, check for:
     – Poor ground (G 507).
     – An open in the wire.

7. Remove the socket (A).




8. Remove the housing (A).




9. Install the power socket in the reverse order of removal.

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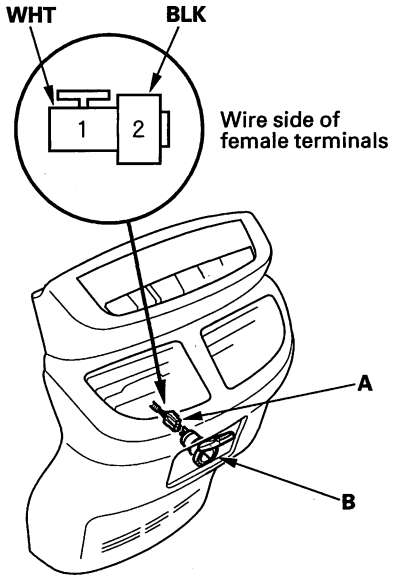
# Accessory Power Sockets

## Rear Accessory Power Socket Test/Replacement

### Without Rear Entertainment System

1. Remove the center console rear trim (see page 20-110).

2. Disconnect the 2P connector (A) from the rear accessory power socket (B).




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).

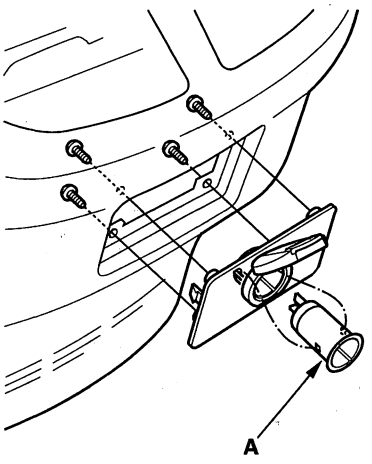
5. Measure the voltage between the No. 1 terminal and body ground. There should be battery voltage.

   - If there is battery voltage, go to step 6.
   - If there is no battery voltage, check for:
     – Blown No. 32 (10 A) fuse in the under-dash fuse/relay box.
     – Blown No. 9 (15 A) fuse in the under-dash fuse/relay box.
     – Faulty accessory power socket relay.
     – Faulty under-dash fuse/relay box.
     – Poor ground (G 601).
     – An open in the wire.

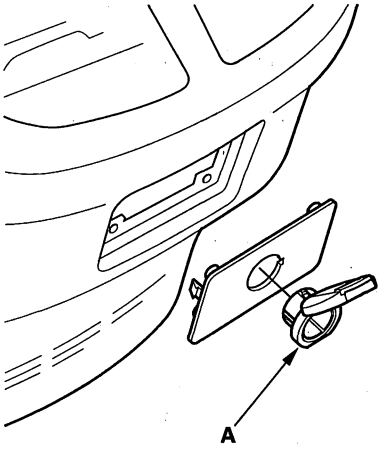
6. Check for continuity between the No. 2 terminal and body ground. There should be continuity.

   - If there is continuity, go to step 7.
   - If there is no continuity, check for:
     – Poor ground (G 503).
     – An open in the wire.

7. Remove the socket (A).




8. Remove the housing (A).




9. Install the power socket in the reverse order of removal.

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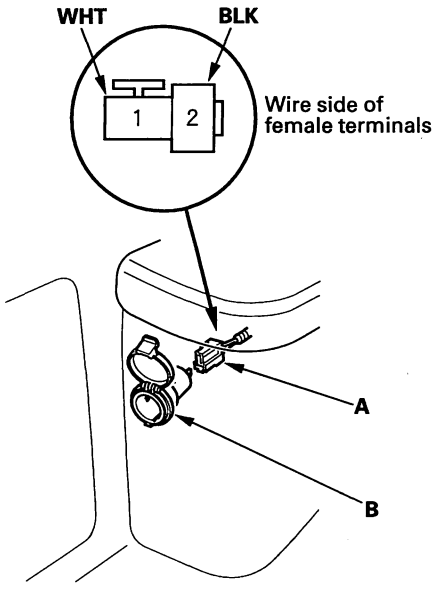
BACK

# Cargo Area Accessory Power Socket Test/Replacement

NOTE: Before testing the cargo area accessory power socket, do the multiplex integrated control system troubleshooting using B-CAN System Diagnosis Test Mode A (see page 22-112)

1. Remove the left side rear trim (see page 20-92).

2. Disconnect the 2P connector (A) from the center accessory power socket (B).




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).

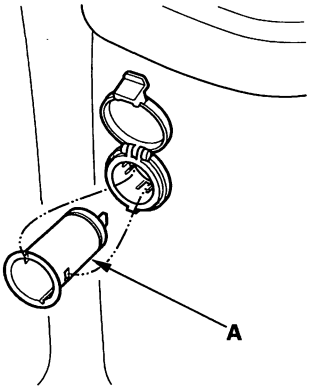
5. Measure the voltage between the No. 1 terminal and body ground. There should be battery voltage.

   - If there is battery voltage, go to step 6.
   - If there is no battery voltage, check for:
     – Blown No. 32 (10 A) fuse in the under-dash fuse/relay box.
     – Blown No. 5 (10 A) fuse in the rear fuse/relay box.
     – Faulty cargo area accessory power socket relay.
     – Faulty rear fuse/relay box (including rear MICU).
     – Poor ground (G 603).
     – An open in the wire.

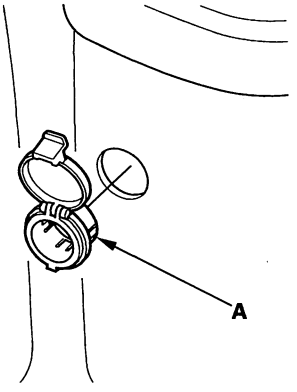
6. Check for continuity between the No. 2 terminal and body ground. There should be continuity.

   - If there is continuity, go to step 7.
   - If there is no continuity, check for:
     – Poor ground (G 604).
     – An open in the wire.

7. Remove the socket (A).




8. Remove the housing (B).

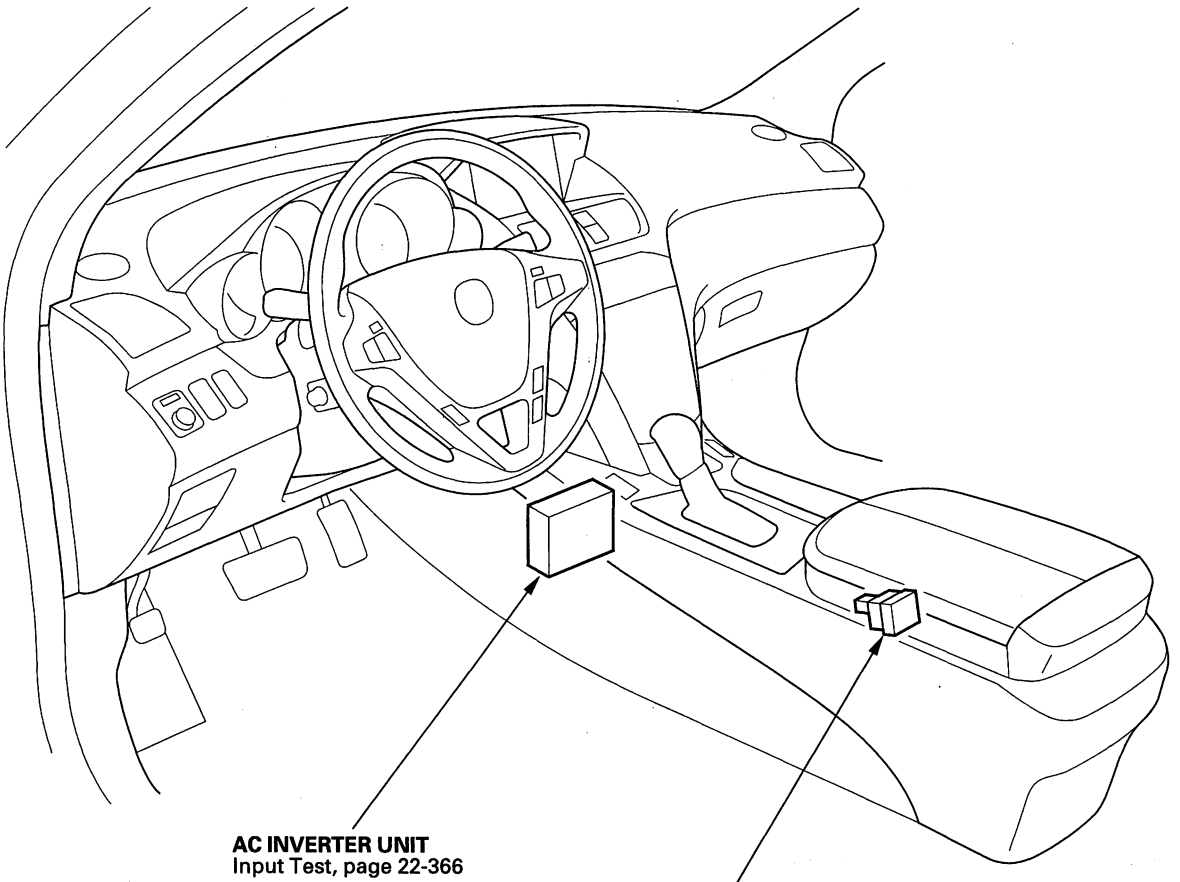



9. Install the power socket in the reverse order of removal.

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# AC Power Outlet

## Component Location Index

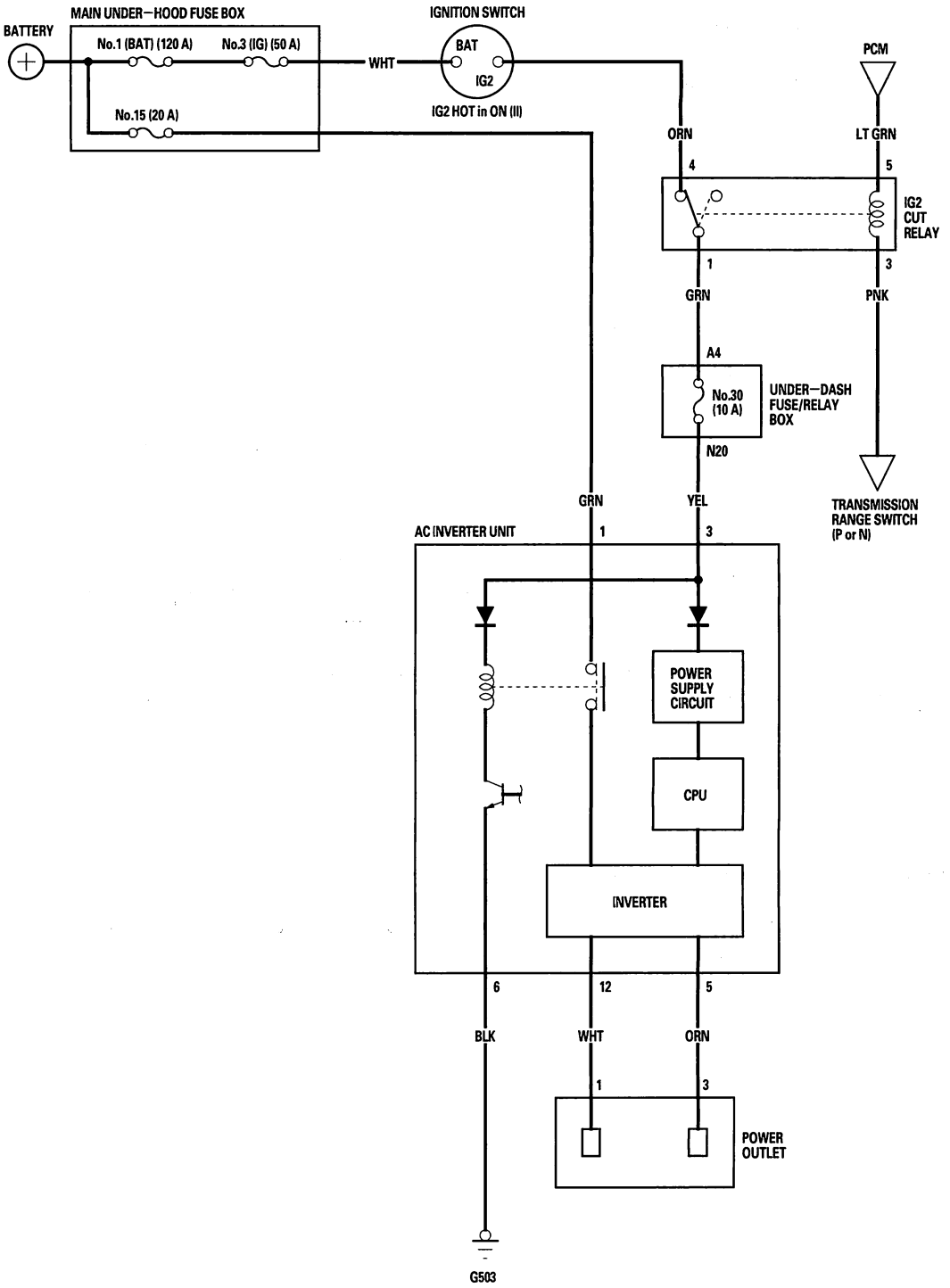



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BACK

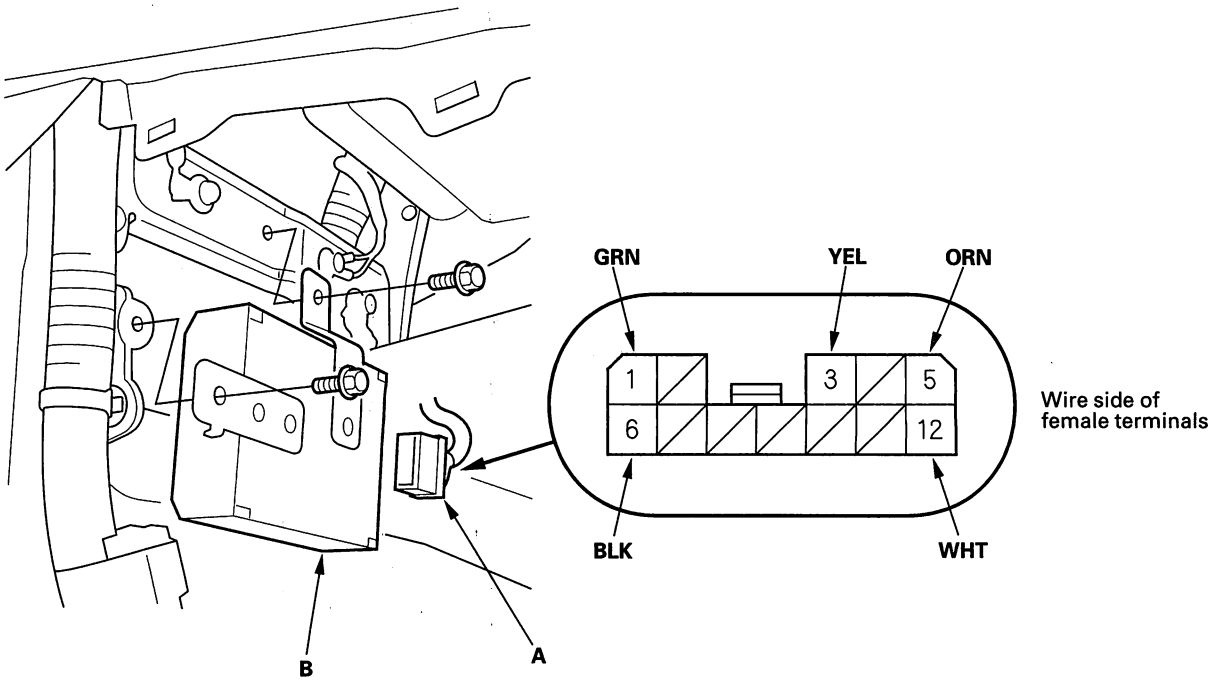
## Circuit Diagram




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## AC Inverter Unit Input Test

1. Make sure you have the anti-theft codes for the audio and navigation system (if equipped).
2. Make sure the ignition switch is OFF.
3. Disconnect the battery negative cable.
4. Remove the driver's console side trim (see page 20-107).
5. Disconnect the 12P connector (A) from the AC inverter unit (B).




6. 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 7.

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7. With the control unit 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 8.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 5 | ORN | Under all conditions | Check for continuity between the No. 5 terminal and power outlet 3P connector No. 3 terminal:<br>There should be continuity. | • An open in the wire |
| 12 | WHT | Under all conditions | Check for continuity between the No. 12 terminal and power outlet 3P connector No. 1 terminal:<br>There should be continuity. | • An open in the wire |

8. Reconnect the connector, turn the ignition switch ON (II), 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, replace the AC inverter unit.

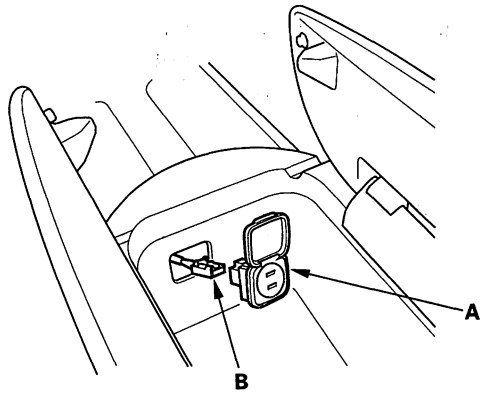
| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 6 | BLK | Under all conditions | Measure the voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G503)<br>• An open in the wire |
| 1 | GRN | Under all conditions | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 15 (20 A) fuse in the main under-hood fuse box<br>• An open in the wire |
| 3 | YEL | Ignition switch ON (II) | Measure the voltage to ground:<br>There should be battery voltage. | • Blown No. 30 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty under-dash fuse/relay box<br>• An open in the wire |

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# AC Power Outlet

## Power Outlet Replacement

1. Remove the center console (see page 20-107).
2. Remove the power outlet (A), and disconnect the 3P connector (B).




3. Install the power outlet in the reverse order of removal.

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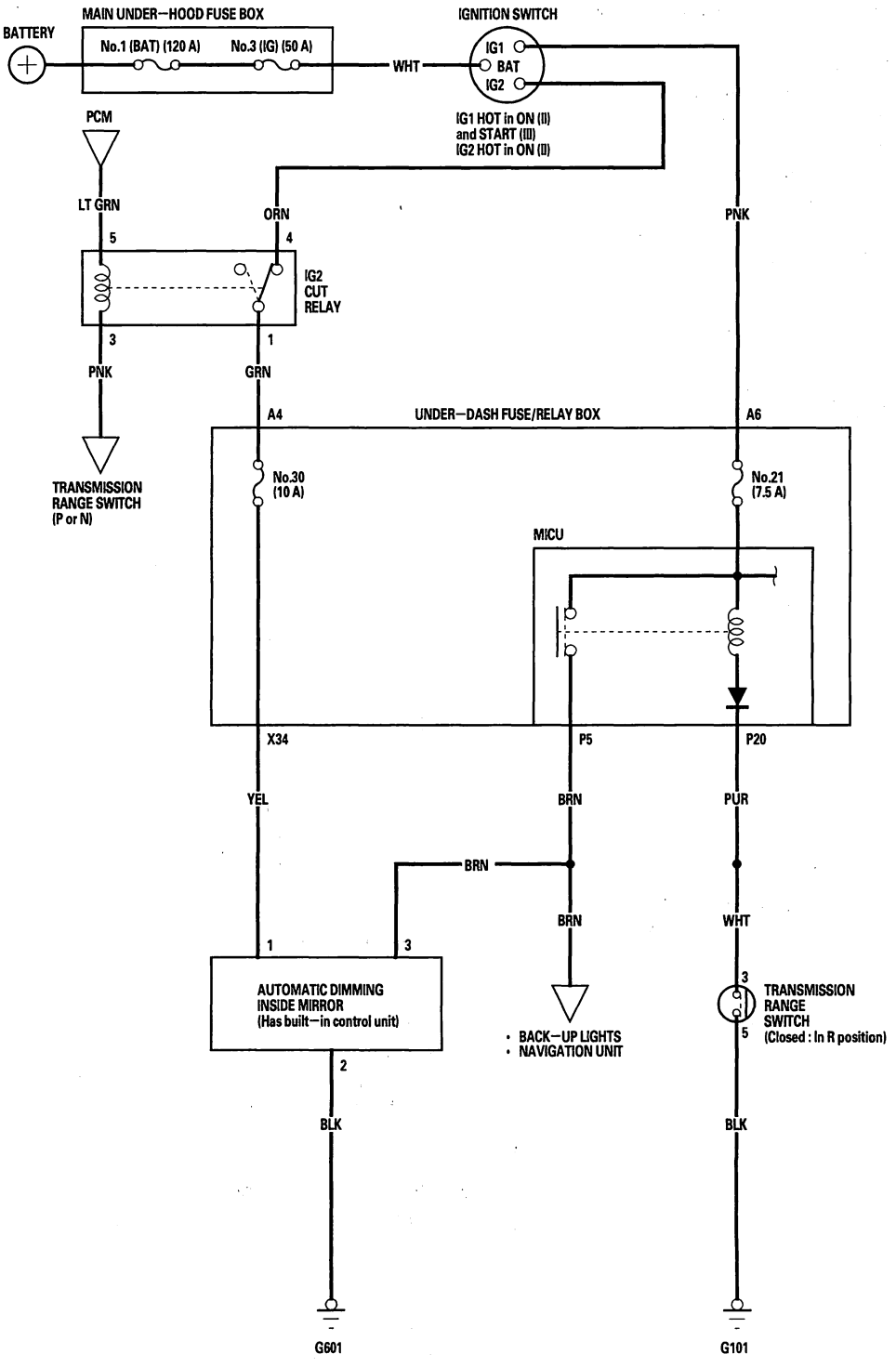


BACK

# Automatic Dimming Inside Mirror

## Circuit Diagram

### Canada models



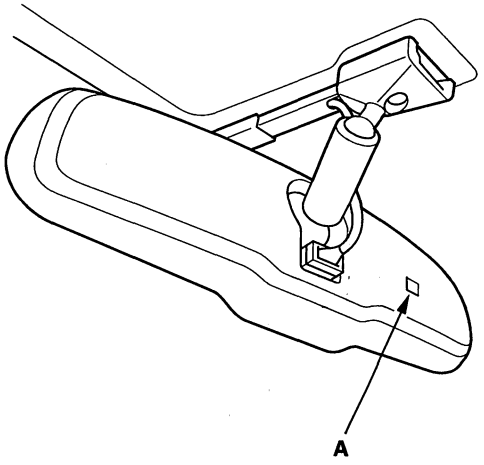

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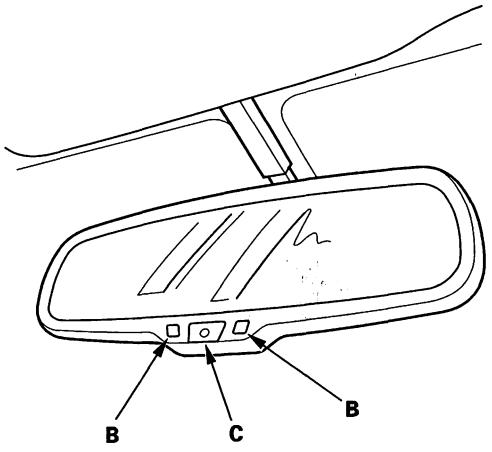
# Automatic Dimming Inside Mirror

## System Description

### Canada models

The automatic dimming inside mirror has a front-facing lux level sensor (A), a rear-facing lux level sensors (B), and a control unit. The control unit receives signals from each sensor. Based on the difference between the two lux levels (the light outside the vehicle and the light from the headlights of the other vehicle, etc.), the control unit controls the electro-chromic gel to reduce the glare. This dimming function is canceled when the transmission is in reverse, or when the automatic dimming off switch (C) is turned OFF.

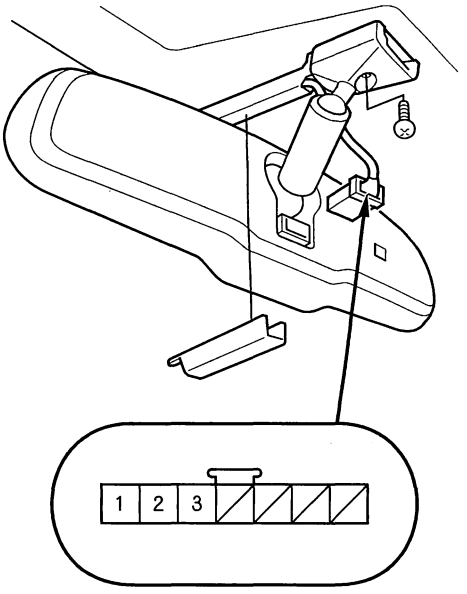



## Test/Replacement

### Canada models

1. Remove the roof console (see page 22-239).
2. Turn the ignition switch ON (II).




Wire side of female terminals

3. Measure the voltage between No. 2 terminal and body ground.
   - If there is less than 0.5 V, go to step 4.
   - If there is more than 0.5 V, check for:
     – An open in the wire.
     – Poor ground (G 601).
4. Measure the voltage between No. 1 terminal and body ground.
   - If there is battery voltage, go to step 5.
   - If there is no voltage, check for:
     – Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box.
     – An open in the wire.
5. Measure the voltage between No. 3 terminal and body ground with the transmission range switch in R position.
   - If there is battery voltage, replace the mirror assembly.
   - If there is no voltage, check for:
     – An open in the wire.
     – Faulty under-dash fuse/relay box.
     – Faulty transmission range switch.

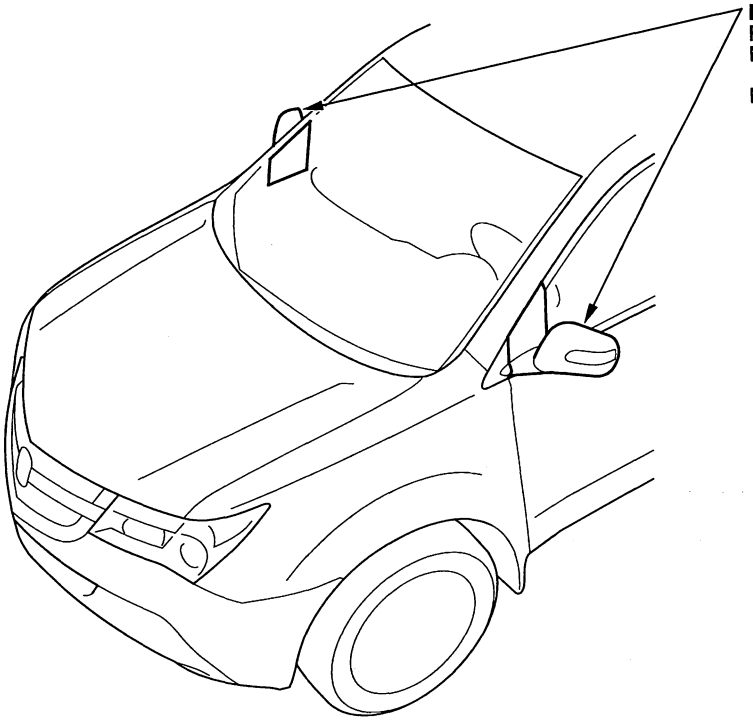
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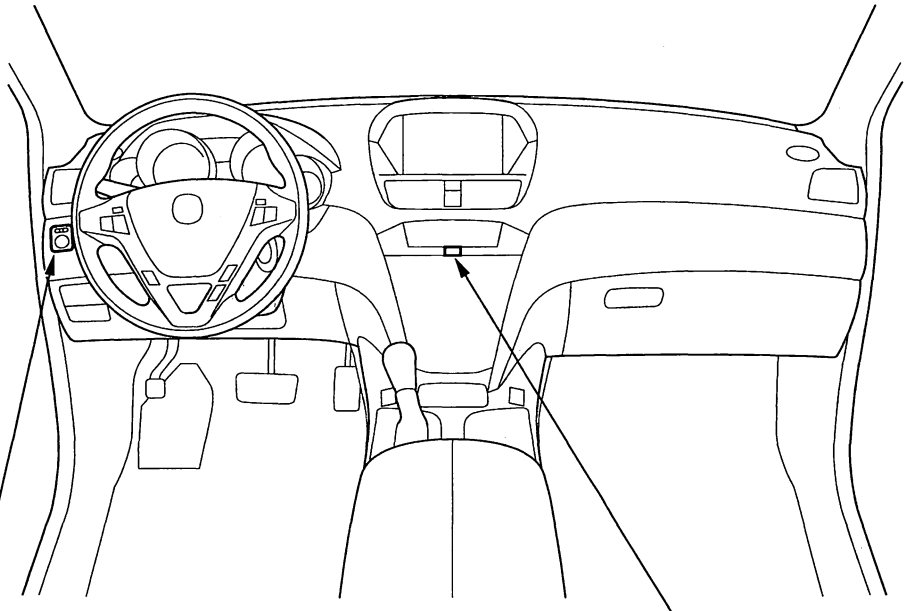
BACK

# Power Mirrors

## Component Location Index



**POWER MIRRORS**
Replacement, page 20-43
Mirror Actuator Test, page 22-374
Mirror Actuator Replacement, page 22-375



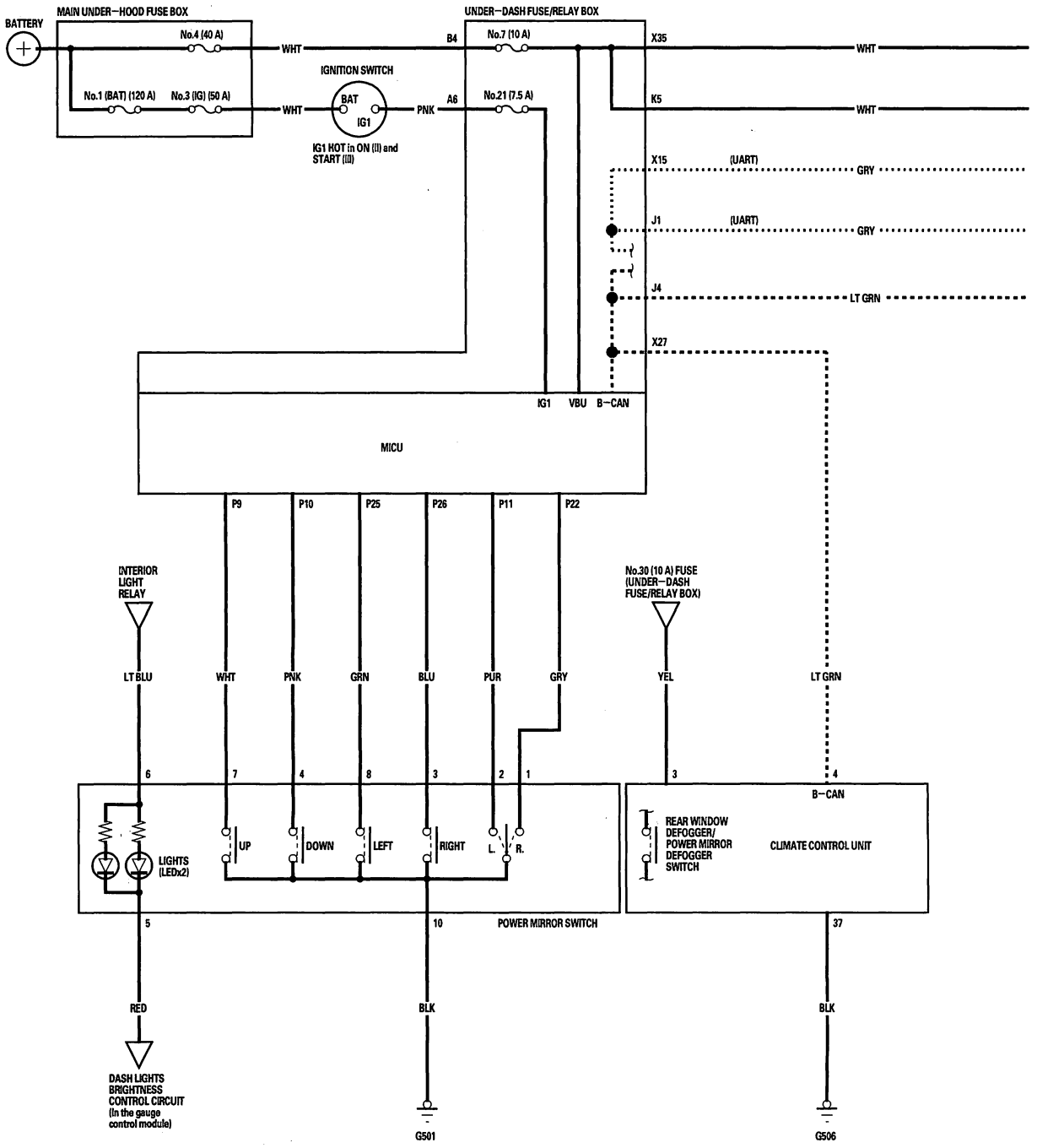
**POWER MIRROR SWITCH**
Test/Replacement, page 22-374

**REAR WINDOW DEFOGGER/ POWER MIRROR DEFOGGER SWITCH**
**(Built into the climate control unit)**

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# Power Mirrors

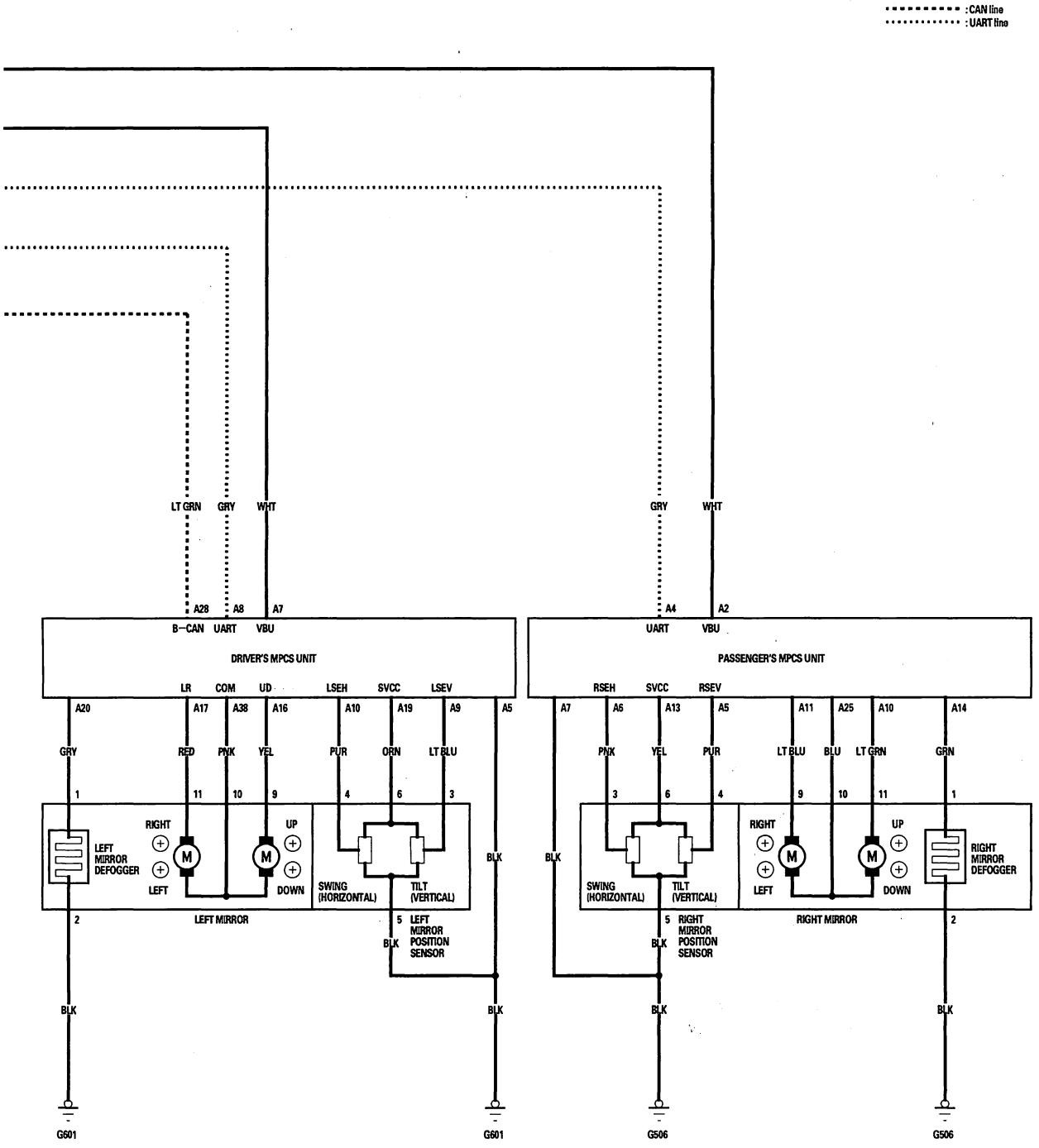
## Circuit Diagram




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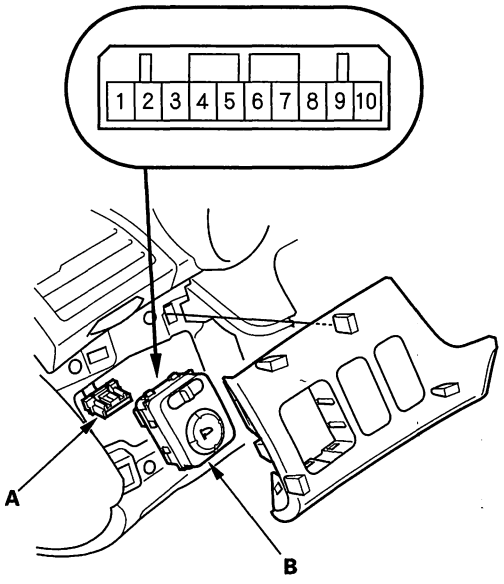
BACK




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## Power Mirror Switch Test/ Replacement

1. Carefully pry the switch panel out from the dashboard.
2. Disconnect the 10P connector (A) from the power mirror switch (B).




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

**Mirror Switch:**

| Terminal / Position | 1 | 2 | 3 | 4 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|
| UP | | | | | ○ | | | ○ |
| DOWN | | | | ○ | | | | ○ |
| LEFT | | | | | | ○ | | ○ |
| RIGHT | | | ○ | | | | | ○ |
| L | | ○ | | | | | | ○ |
| R | ○ | | | | | | | ○ |

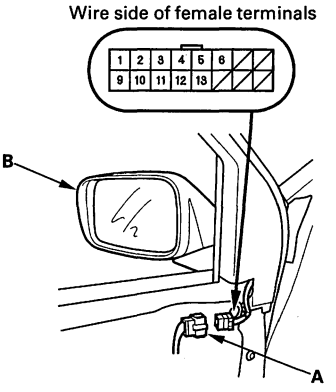
4. If the continuity is not as specified, remove the screws and replace the power mirror switch.

## Power Mirror Actuator Test

NOTE: The power mirror actuator can be tested by using the HDS and following these steps:

- Select BODY ELECTRICAL from the SYSTEM SELECT menu.
- Select FUNCTION TEST, and then the appropriate power mirror function test.

1. Remove the door panel (see page 20-8).
2. Disconnect the 16P connector (A) from the power mirror actuator (B).




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

**LEFT**

| Terminal / Position | 9 | 10 | 11 |
|---|---|---|---|
| TILT UP | ⊖ | ⊕ | |
| TILT DOWN | ⊕ | ⊖ | |
| SWING LEFT | | ⊕ | ⊖ |
| SWING RIGHT | | ⊖ | ⊕ |

**RIGHT**

| Terminal / Position | 9 | 10 | 11 |
|---|---|---|---|
| TILT UP | | ⊖ | ⊕ |
| TILT DOWN | | ⊕ | ⊖ |
| SWING LEFT | ⊖ | ⊕ | |
| SWING RIGHT | ⊕ | ⊖ | |

4. If the mirror fails to work properly, replace the mirror actuator.

**Defogger Test**

5. Measure the resistance between the No. 1 and No. 2 terminals of the 16P connector. There should be about 8 Ω or less. If there is no continuity, check for an open circuit.

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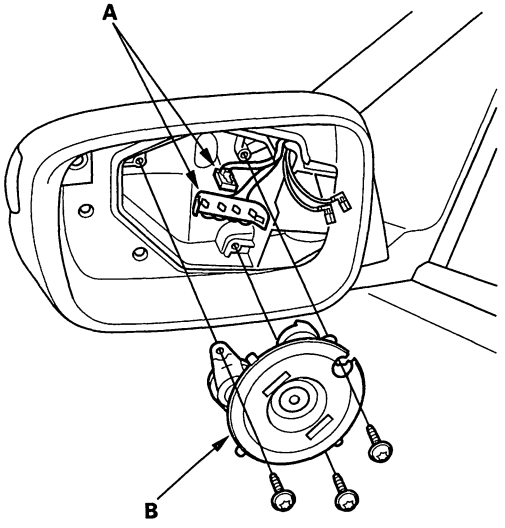


BACK

# Power Mirror Actuator Replacement

## Actuator Replacement

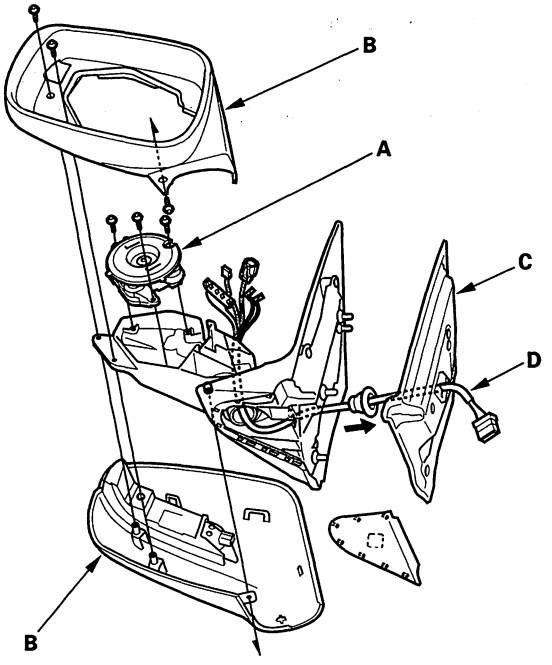
1. Remove the mirror holder (see page 20-43).
2. Remove the three TORX screws using a tamperproof T10 TORX bit.
3. Remove the connectors (A) and the actuator (B).




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

## Actuator Harness Replacement

1. Remove the mirror holder (see page 20-43).
2. Remove the power mirror (see page 20-43).
3. Remove the three TORX screws from the actuator (A) using a tamperproof T10 TORX bit.




4. Remove the three TORX screws from the housing (B) using a tamperproof T10 TORX bit.
5. Disconnect the connectors from the actuator and the side turn signal light.
6. Remove the gasket (C) and the harness (D) from the power mirror.

(cont'd)

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## Power Mirror Actuator Replacement (cont'd)

7. Route the wire harness of the new actuator through the hole in the bracket and the gasket in the reverse order of removal.
8. Connect the connectors to the actuator and the side turn signal light securely.
9. Install the actuator, housing and the gasket in the reverse order of removal.
10. Install the power mirror on the door, and make sure the actuator, mirror defogger, and side turn signal light operation.

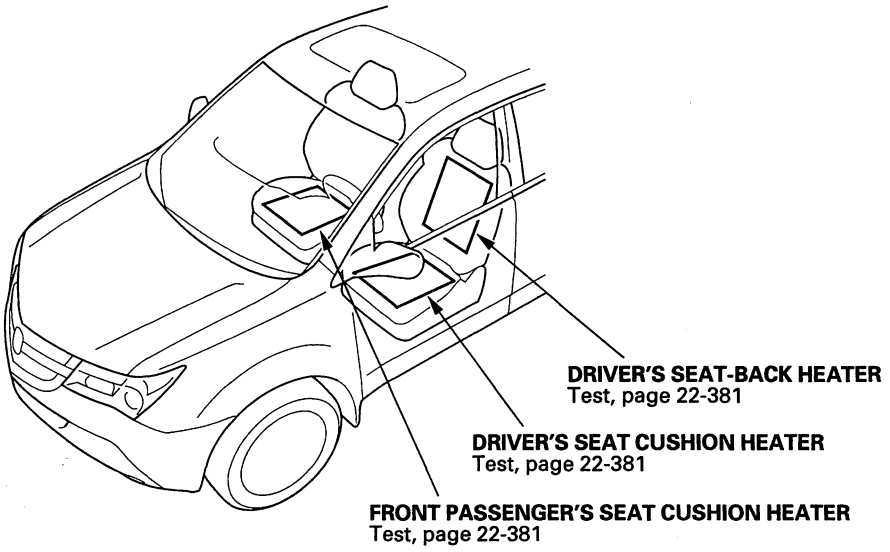
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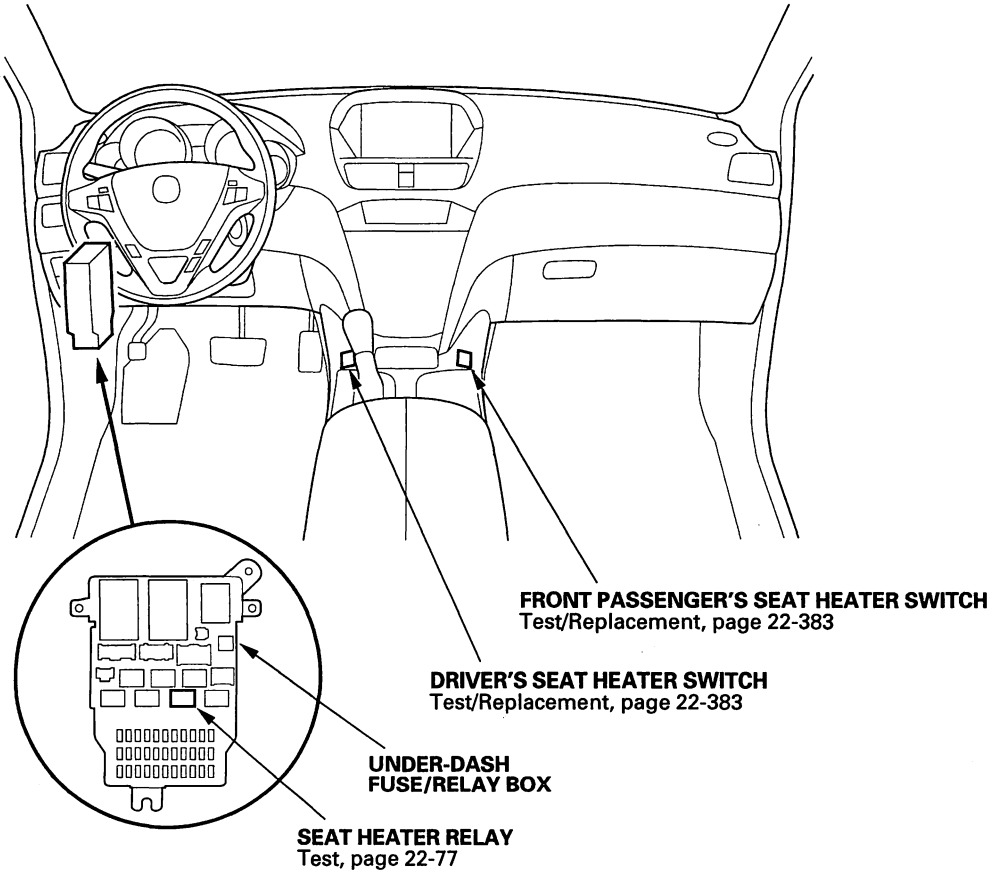


BACK

# Seat Heaters

## Component Location Index



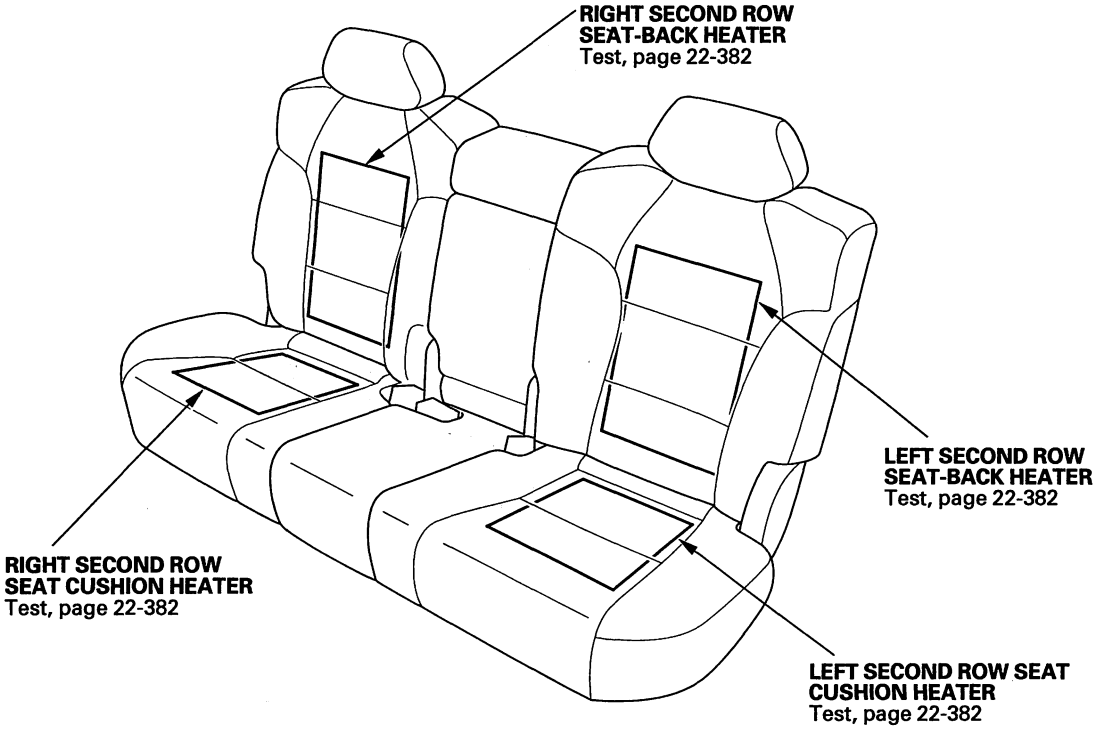



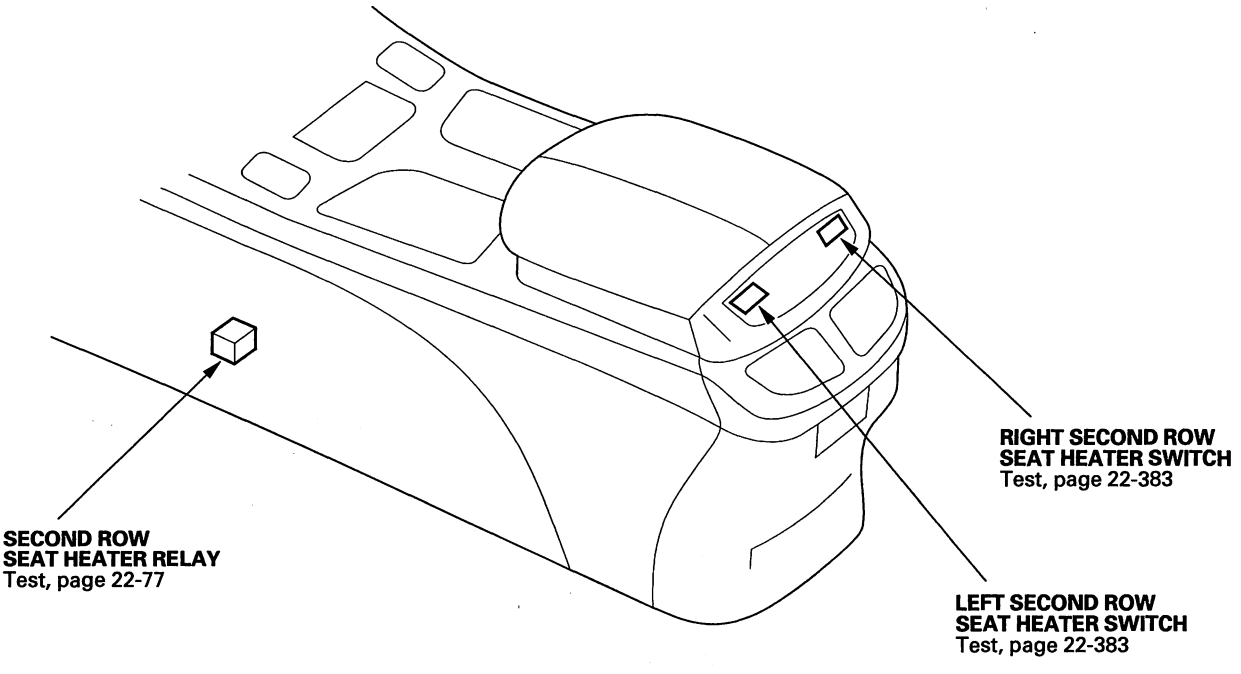

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## Component Location Index (cont'd)



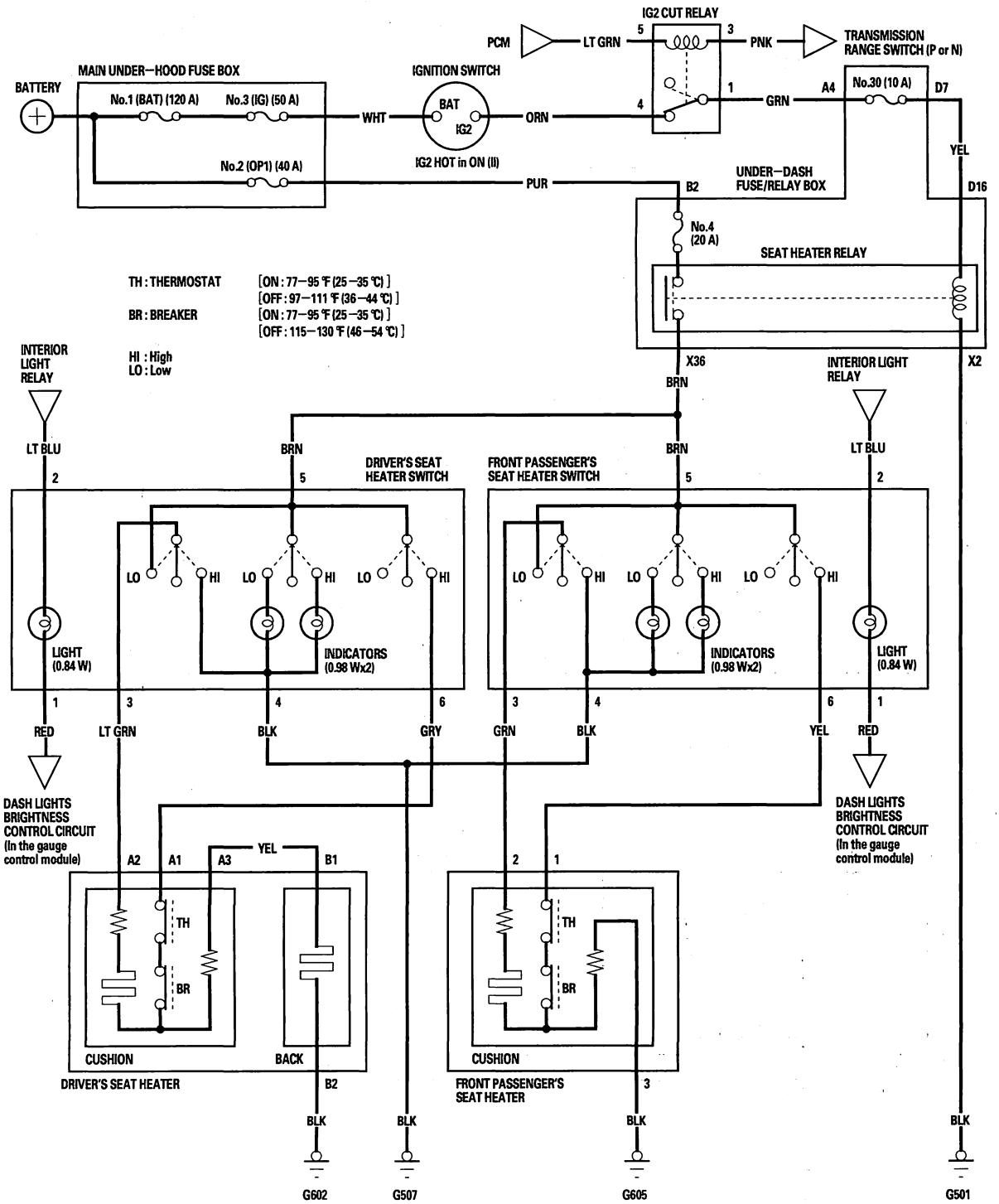




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BACK

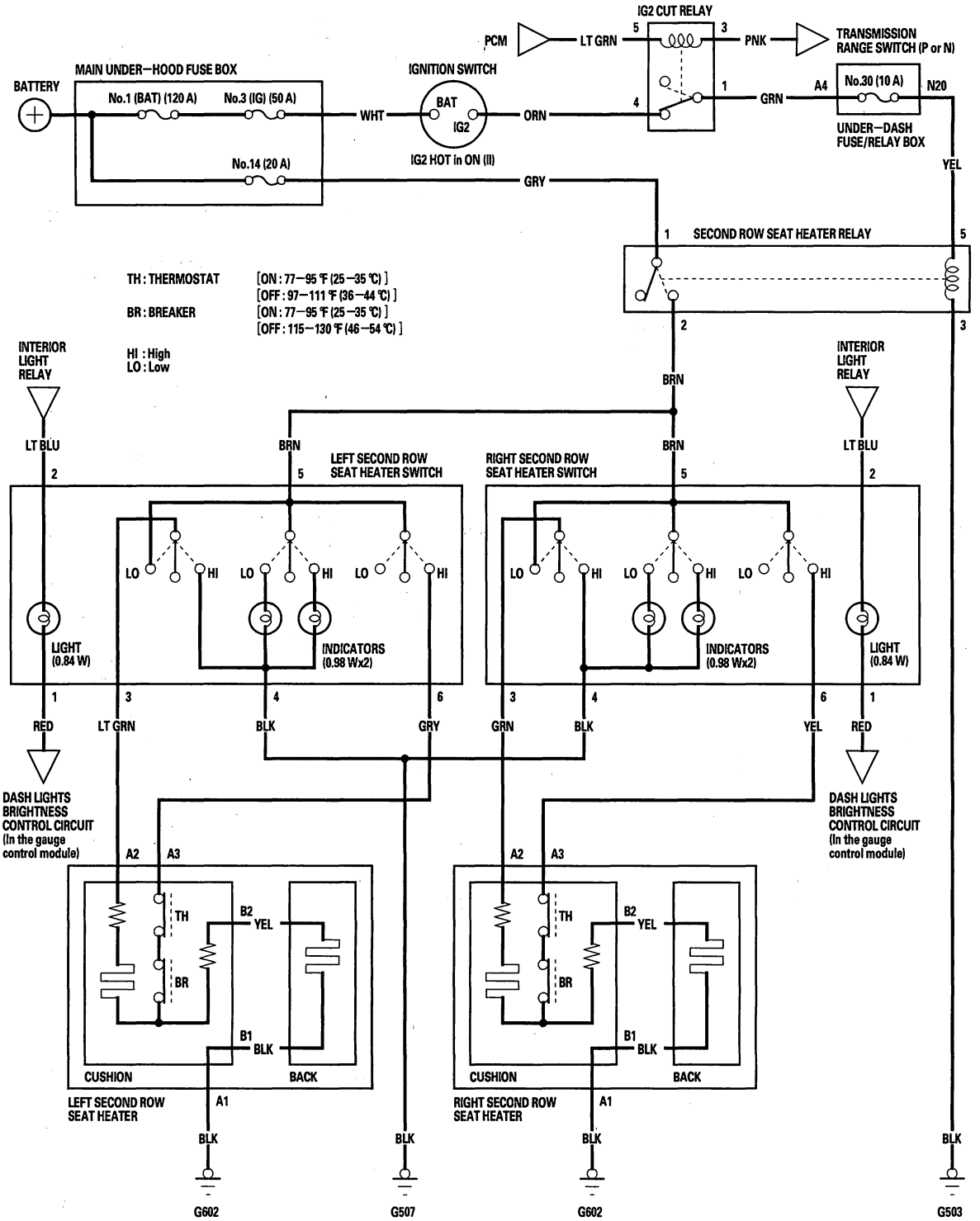
# Circuit Diagram - Front Seat




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# Seat Heaters

## Circuit Diagram - Second Row Seat




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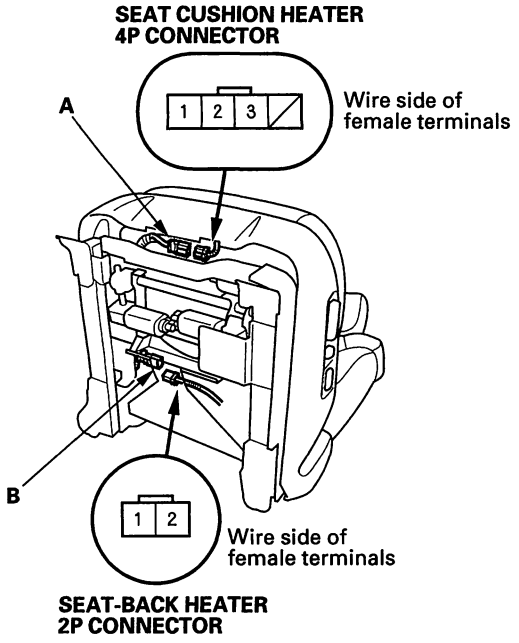


BACK

# Seat Heater Test

## Driver's Seat

1. Remove the driver's seat (see page 20-141).
2. Disconnect the 4P connector (A) and 2P connector (B) from the seat heater.




**Seat-back**

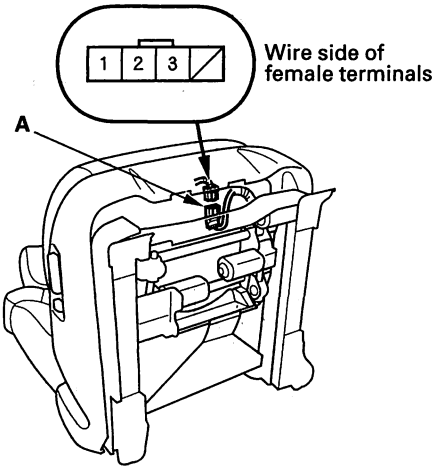
3. Check for continuity between the seat-back heater 2P connector No. 1 and No. 2 terminals. There should be continuity.

**Seat Cushion**

4. Check for continuity between the seat cushion heater 4P connector No. 1 and No. 2 terminals, and the No. 1 and No. 3 terminals. There should be continuity.
5. If the continuity is not as specified, replace the appropriate seat heater.

## Front Passenger's Seat

1. Remove the passenger's seat (see page 20-141).
2. Disconnect the 4P connector (A) from the seat heater.




3. Check for continuity between the seat heater 4P connector No. 1 and No.3 terminals, and No. 2 and No. 3 terminals. There should be continuity.
4. If the continuity is not as specified, replace the seat heater.

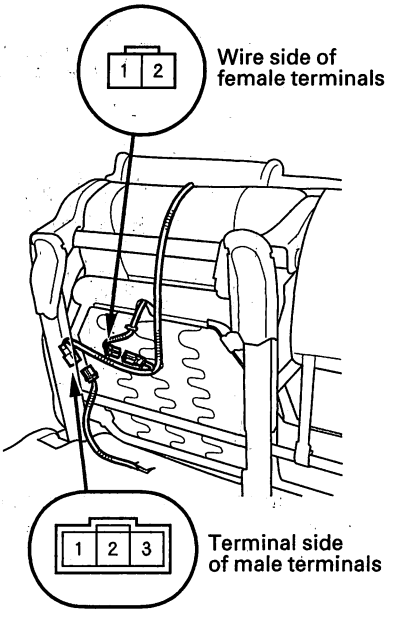
(cont'd)

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## Seat Heater Test (cont'd)

### Second Row Seat

1. Remove the second row seat (see page 20-156).
2. Disconnect the 3P connector (A) and 2P connector (B) from the seat heater.




**Seat-back**

3. Check for continuity between the seat-back heater 2P connector No. 1 and No. 2 terminals. There should be continuity.

**Seat Cushion**

4. Check for continuity between the seat cushion heater 3P connector No. 2 and No. 3 terminals. There should be continuity.
5. Connect the 2P connector, and check for continuity between the seat cushion heater 3P connector No. 1 and No. 2 terminals. There should be continuity.
6. If the continuity is not as specified, replace the appropriate seat heater.

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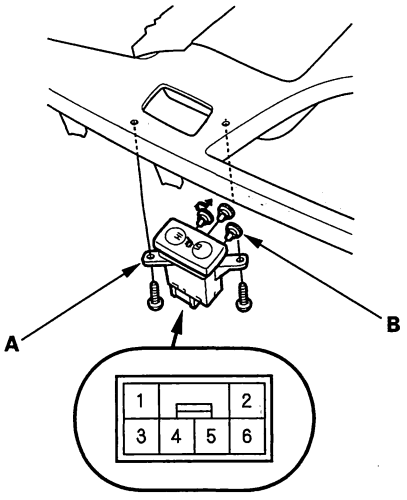


BACK

## Switch Test/Replacement

### Front Seat Heater

1. Remove the center console panel (see page 20-107).
2. Disconnect the 6P connector from the seat heater switch (A).



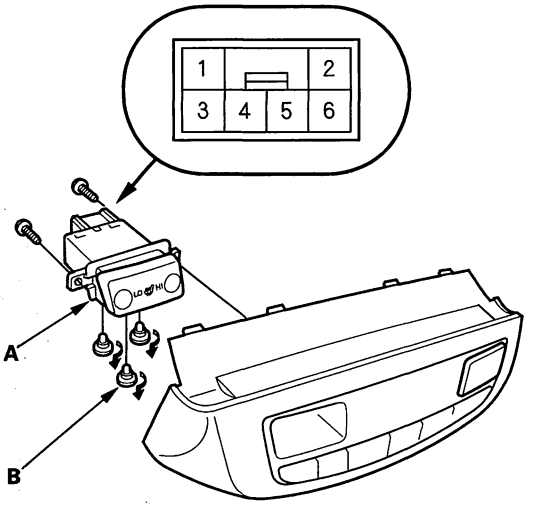

3. Remove the two screws and the switch.
4. Check for continuity between the terminals in each switch position according to the table.

| Position \ Terminal | | 1 | | 2 | 3 | 4 | | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|
| ON | HIGH | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | LOW | ○ | ○ | ○ | | ○ | ○ | ○ | |
| OFF | | ○ | ○ | ○ | | | | | |

5. If the continuity is not as specified, replace the illumination bulbs (B) or the switch.

### Second Row Seat Heater

1. Remove the center console rear trim (see page 20-110).
2. Disconnect the 6P connector from the seat heater switch (A).




3. Remove the two screws and the switch.
4. Check for continuity between the terminals in each switch position according to the table.

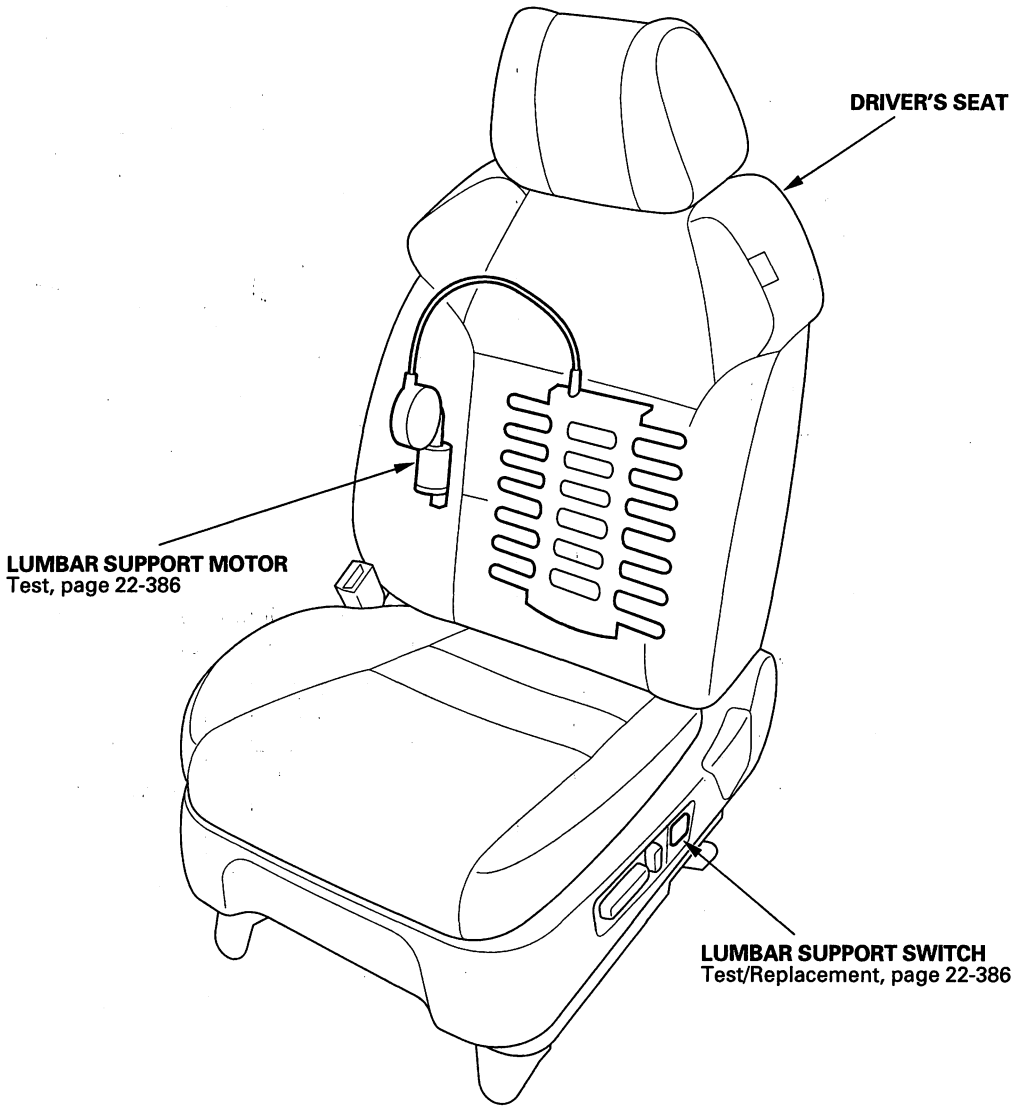
| Position \ Terminal | | 1 | | 2 | 3 | 4 | | 5 | 6 |
|---|---|---|---|---|---|---|---|---|---|
| ON | HIGH | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | LOW | ○ | ○ | ○ | | ○ | ○ | ○ | |
| OFF | | ○ | ○ | ○ | | | | | |

5. If the continuity is not as specified, replace the illumination bulbs (B) or the switch.

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# Power Lumbar Support

## Component Location Index

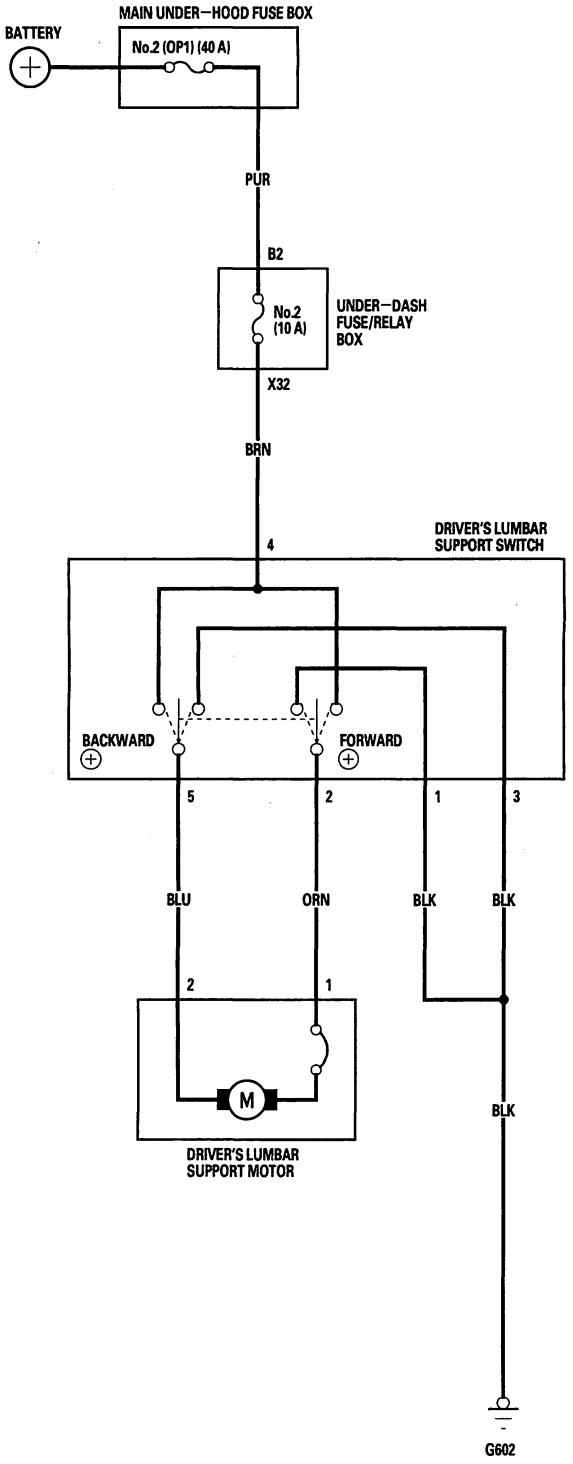



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BACK

## Circuit Diagram

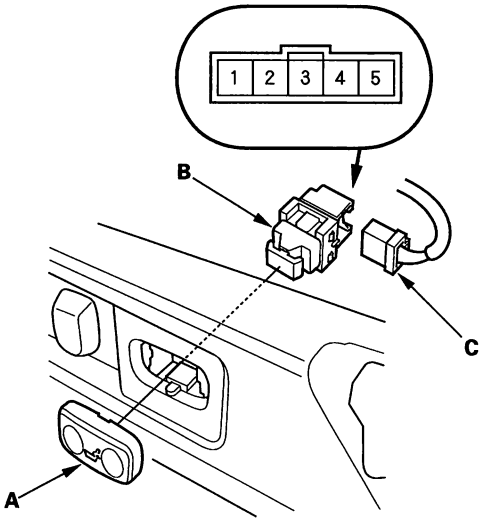



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# Power Lumbar Support

## Switch Test/Replacement

1. Separate the lumbar support switch cover (A) from the switch (B).




2. Disconnect the 5P connector (C) from the switch.

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

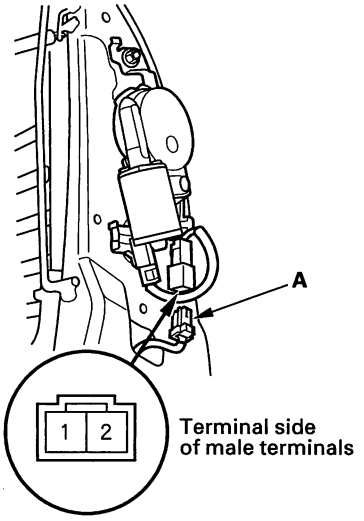
| Terminal / Position | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Forward | | ○ | ○—○ | ○ | ○ |
| Backward | ○ | ○—○ | | ○ | ○ |

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

## Motor Test

1. Remove the front seat-back cover (see page 20-150).

2. Disconnect the 2P connector (A) from the lumbar support motor.




3. Test the motor by applying battery voltage and body ground to the terminals.

| Terminal / Position | 1 | 2 |
|---|---|---|
| Forward | ⊕ | ⊖ |
| Backward | ⊖ | ⊕ |

4. If the motor does not run or fails to run smoothly, replace it (see page 20-149).

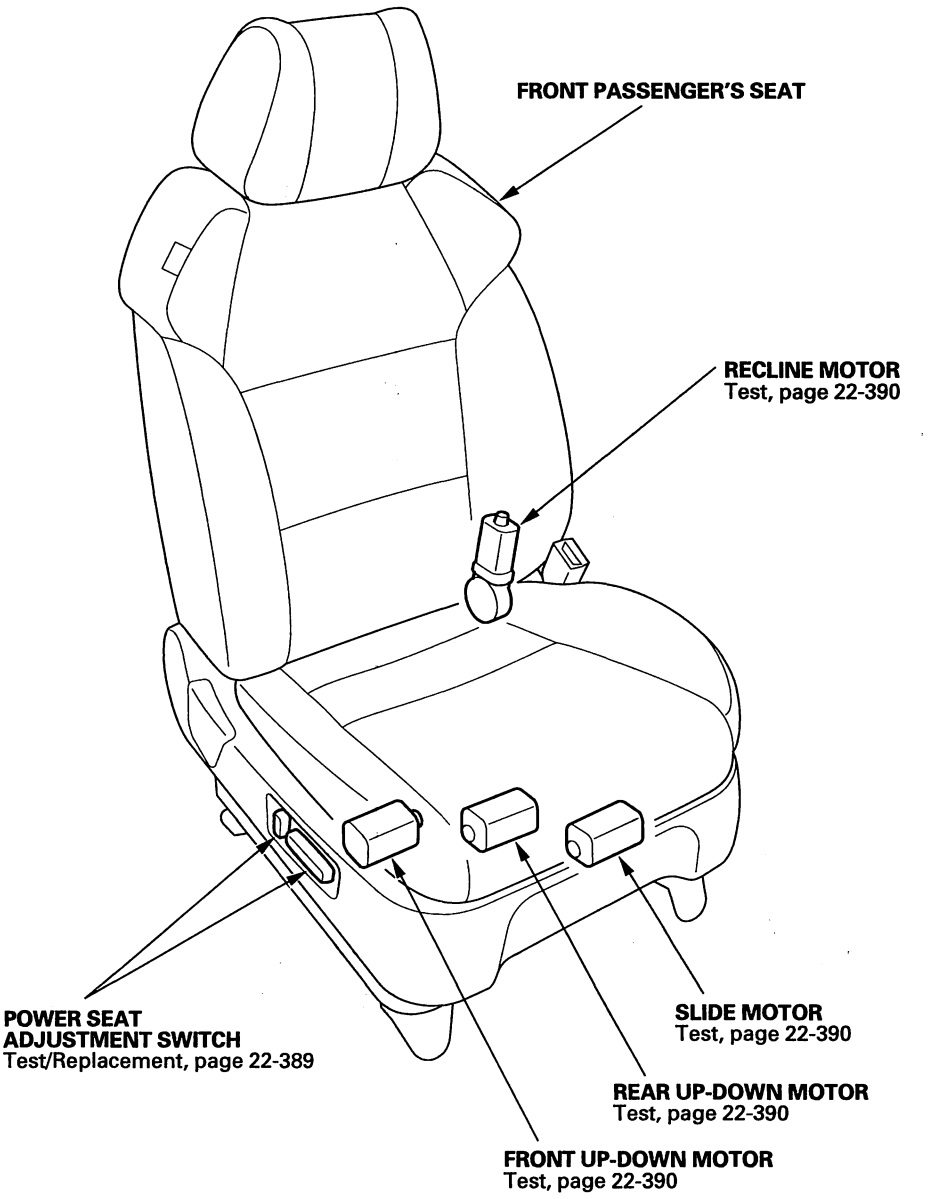
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BACK

## Component Location Index

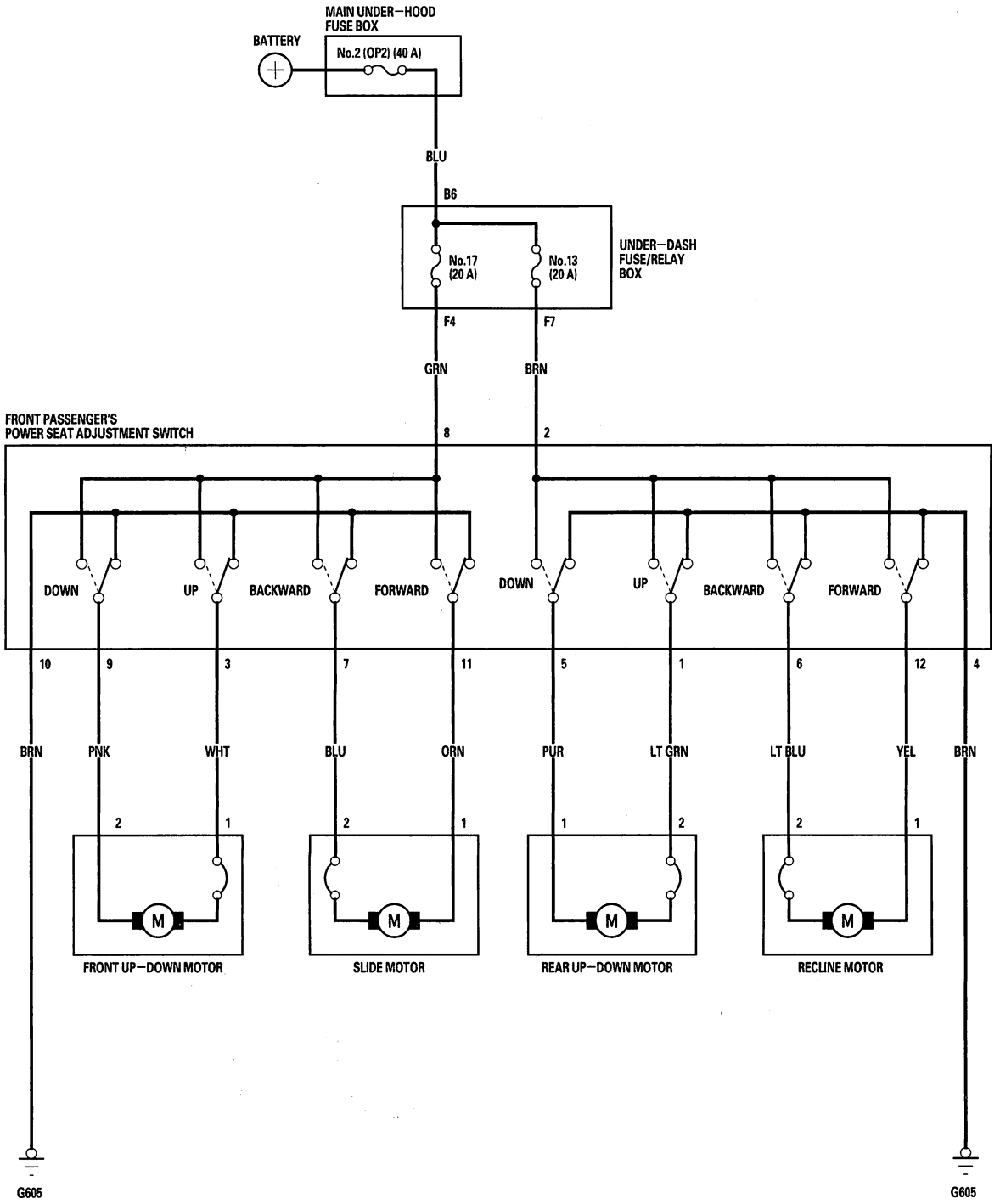
**For the driver's power seat, refer to the Driving Position Memory System (DPMS)**
page 22-414




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# Power Seats

## Circuit Diagram - Front Passenger's Power Seat




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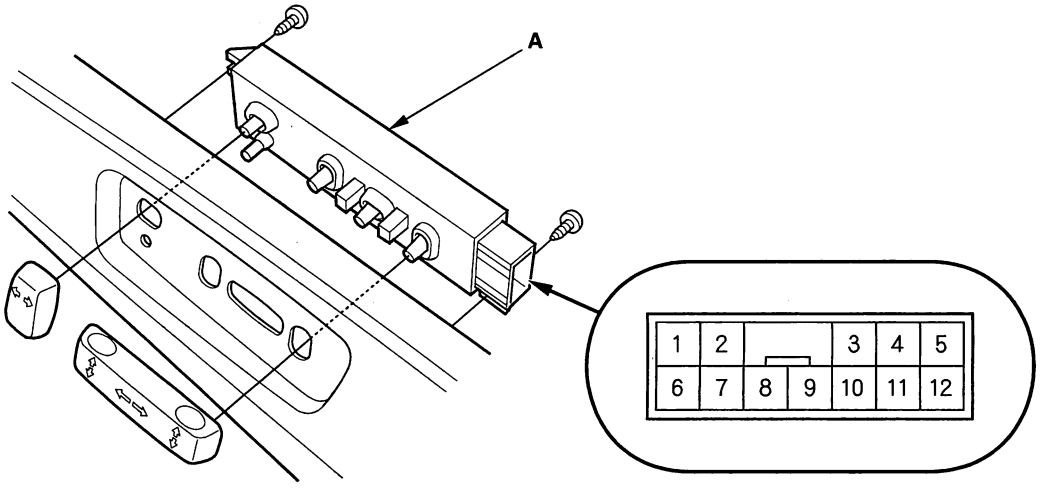
BACK

# Power Seat Adjustment Switch Test/Replacement

## Passenger's Switch

1. Remove the power seat adjustment switch knobs and recline cover from the passenger's seat, then remove the power seat switch (see page 20-144).

2. Disconnect the 12P connector from the power seat adjustment switch (A).




3. Reinstall the adjustment switch knobs to the switch.

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

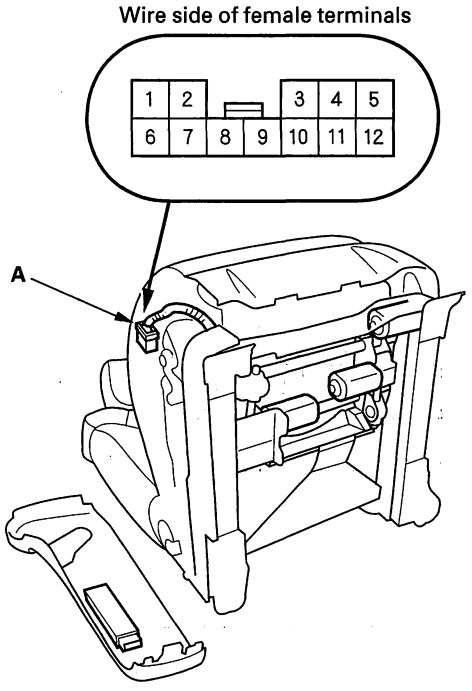
| Position \ Terminal | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SLIDE SWITCH | Forward | | | | | | | ○ | ○ | | ○ | ○ | |
| | Backward | | | | | | | ○ | ○ | | ○ | ○ | |
| RECLINE SWITCH | Forward | | ○ | | ○ | ○ | ○ | | | | | | ○ |
| | Backward | | ○ | | ○ | | ○ | | | | | | ○ |
| FRONT UP-DOWN SWITCH | UP | | | ○ | | | | | ○ | ○ | ○ | | |
| | DOWN | | | ○ | | | | | ○ | ○ | ○ | | |
| REAR UP-DOWN SWITCH | UP | ○ | ○ | | ○ | ○ | | | | | | | |
| | DOWN | ○ | ○ | | ○ | ○ | | | | | | | |

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

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## Front Passenger's Power Seat Motor Test

1. Remove the front passenger's seat (see page 20-141).
2. Remove the power seat adjustment switch (see page 22-239) and disconnect the 12P connector (A) from the switch.




3. At the power seat adjustment switch 12P connector, test the motor by applying battery power and ground to the terminals according to the table.

**Slide motor:**

| Terminal / Position | 7 | 11 |
|---|---|---|
| Forward | ⊖ | ⊕ |
| Backward | ⊕ | ⊖ |

**Recline motor:**

| Terminal / Position | 6 | 12 |
|---|---|---|
| Forward | ⊖ | ⊕ |
| Backward | ⊕ | ⊖ |

**Front up-down motor:**

| Terminal / Position | 3 | 9 |
|---|---|---|
| UP | ⊕ | ⊖ |
| DOWN | ⊖ | ⊕ |

**Rear up-down motor:**

| Terminal / Position | 1 | 5 |
|---|---|---|
| UP | ⊕ | ⊖ |
| DOWN | ⊖ | ⊕ |

4. If the motor does not run or fails to run smoothly, check for an open in the front passenger's seat wire harness between the power seat adjustment switch and each motor. If the wire harness is OK, replace the appropriate motor (see page 20-144).

NOTE: The motors are not available separately. The slide and up-down motors are part of the slide/up-down adjuster. The recline motor is part of the recline adjuster.

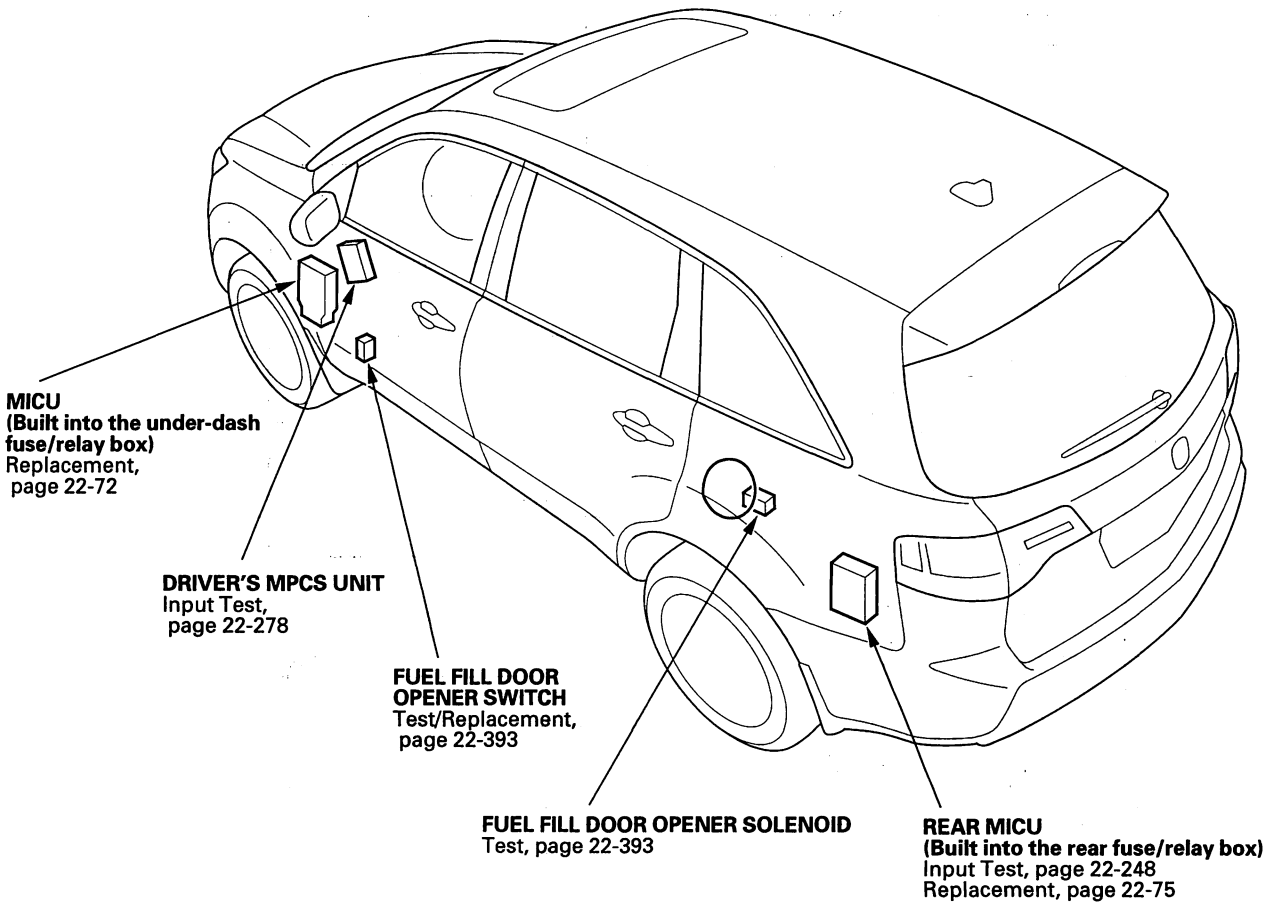
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BACK

# Fuel Fill Door Opener

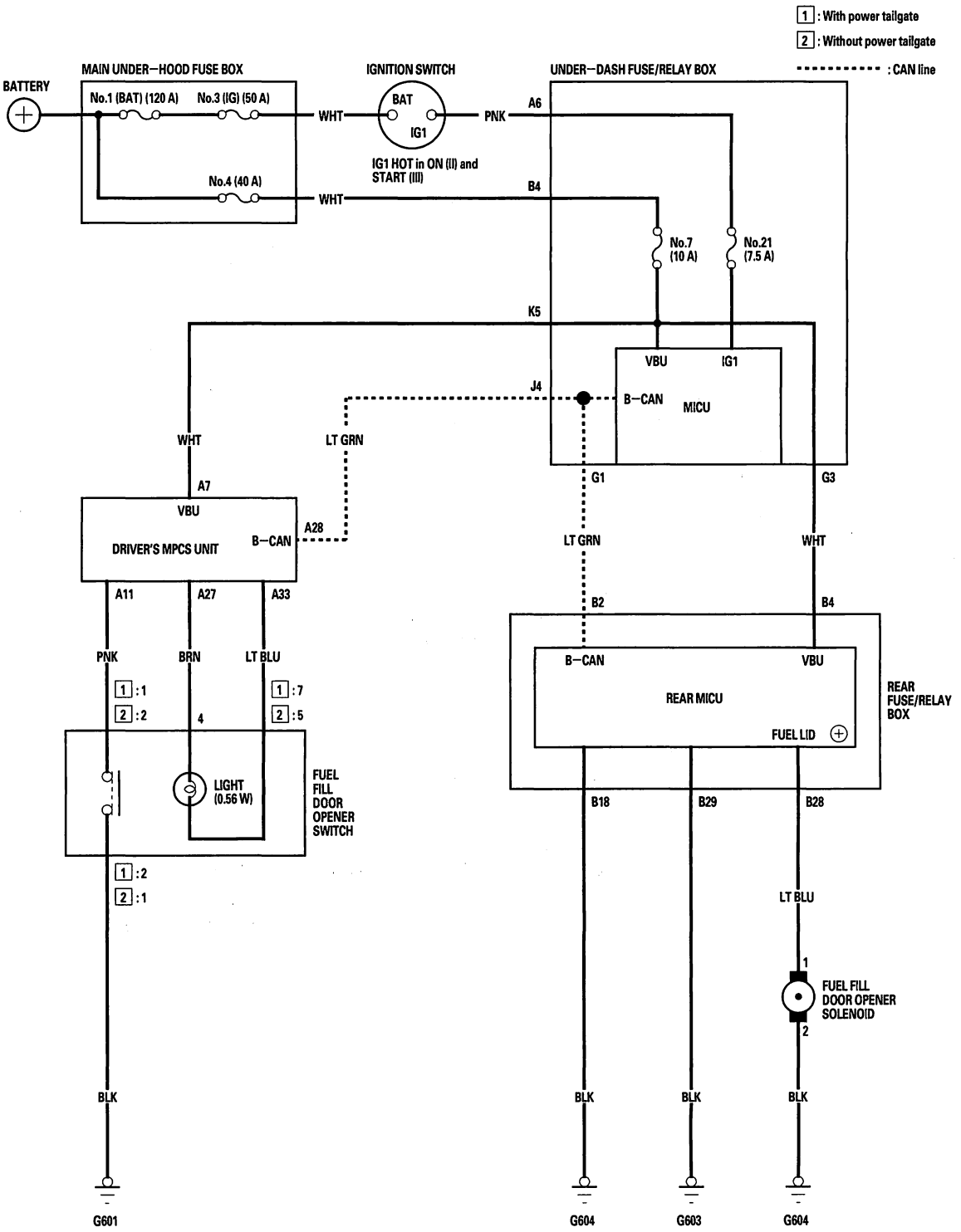
## Component Location Index




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# Fuel Fill Door Opener

## Circuit Diagram




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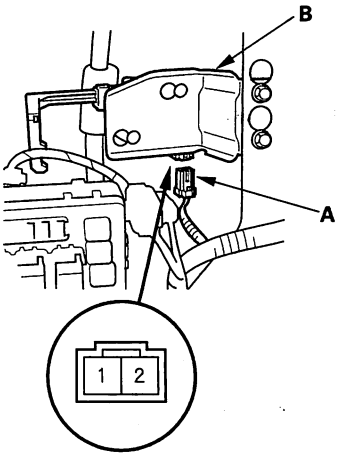


BACK

## Fuel Fill Door Opener Solenoid Test

NOTE: Before testing, check the B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Open the tailgate, and remove the left side trim panel (see page 20-90).
2. Disconnect the 2P connector (A) from the fuel fill door opener solenoid (B).



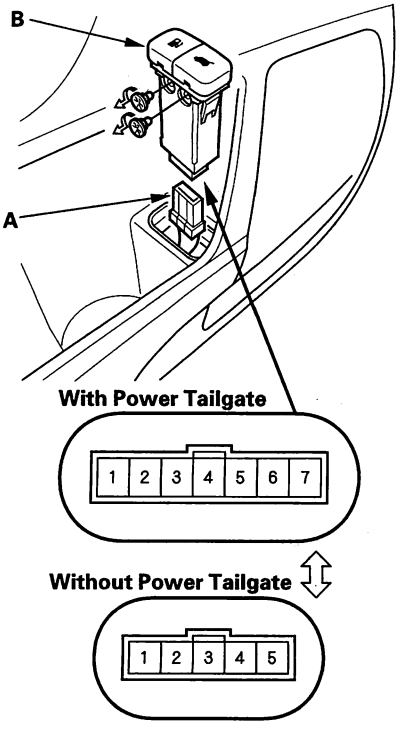

3. Check solenoid operation by connecting power to the No. 1 terminal and ground to the No. 2 terminal. To prevent damage to the solenoid, apply battery voltage only momentarily. The solenoid should work.
4. If the solenoid does not work as specified, replace it.

## Fuel Fill Door Opener Switch Test/ Replacement

NOTE: Before testing, check the B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Remove the driver's door panel (see page 20-8).
2. Disconnect the 5P (or 7P)* connector (A) from the fuel fill door opener switch (B).

*: With power tailgate

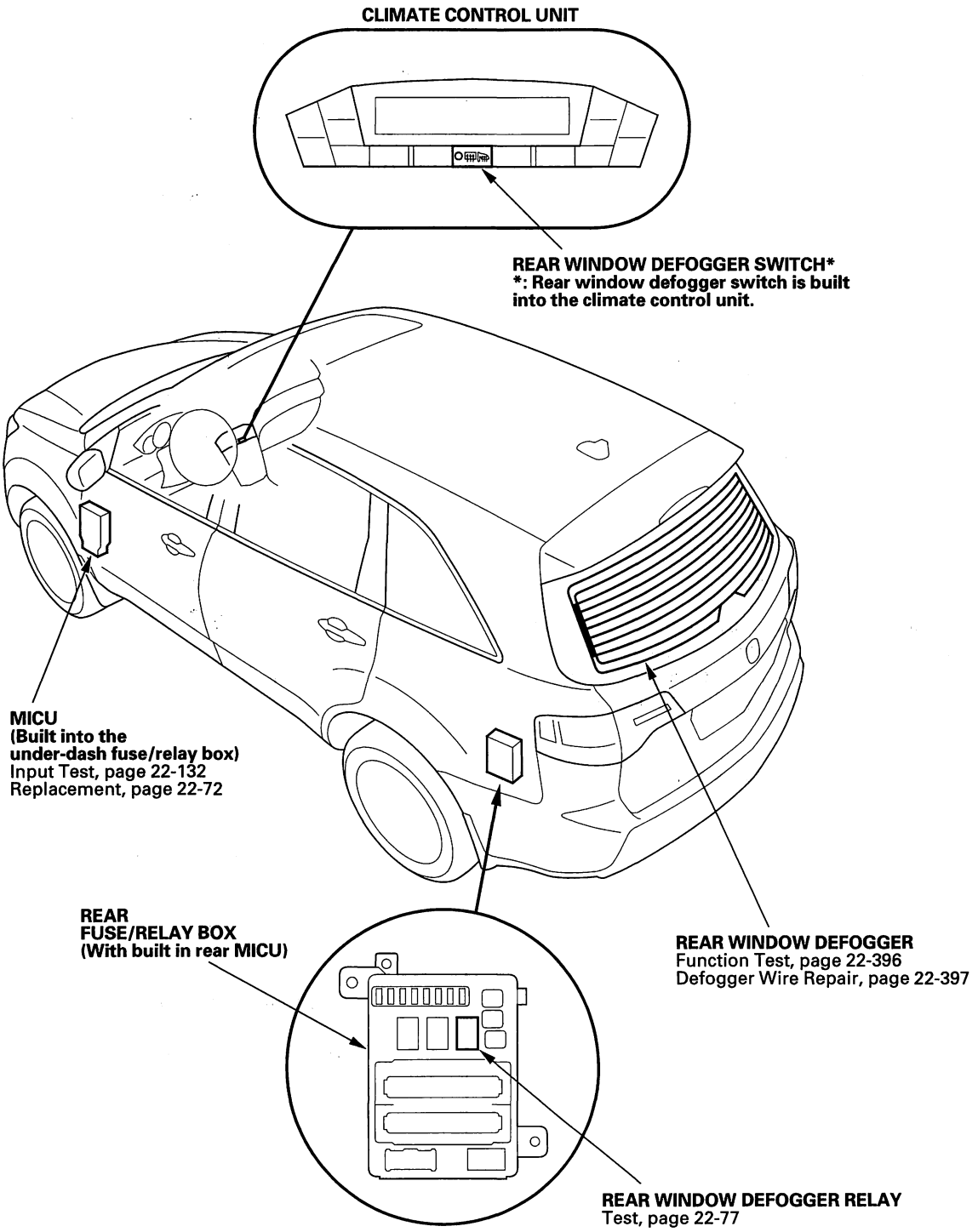



3. Check for continuity between the No. 1 and No. 2 terminals.
   - There should be continuity with the switch pressed.
   - There should be no continuity with the switch released.
4. If the continuity is not as specified, replace the switch.

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# Rear Window Defogger

## Component Location Index

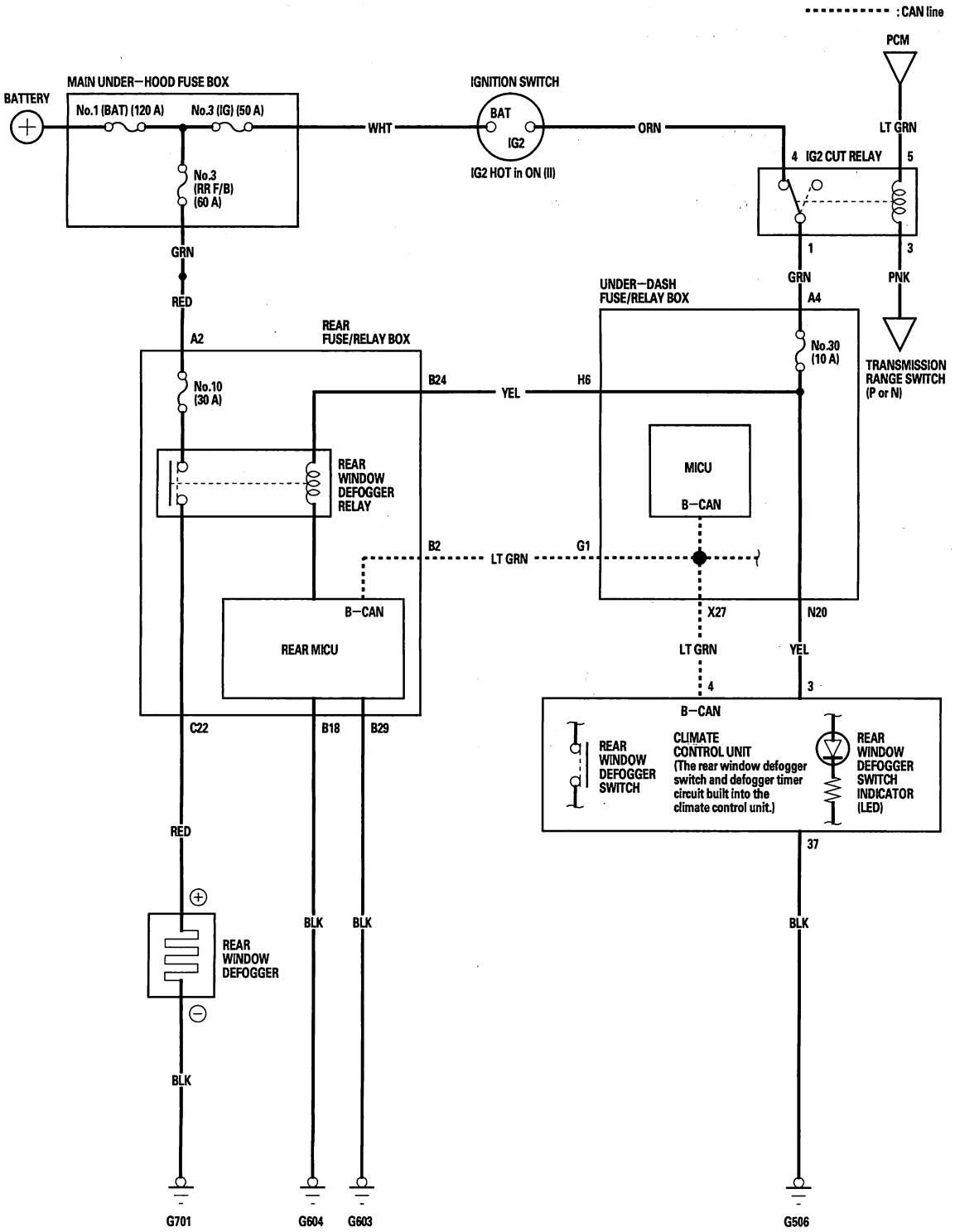



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## Circuit Diagram




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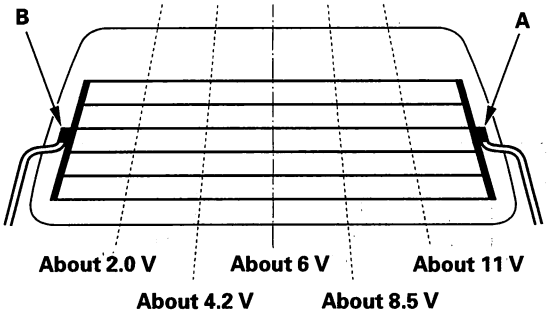
## Function Test

Before troubleshooting the rear window defogger circuit, perform multiplex integrated control system troubleshooting using B-CAN System Diagnosis Test Mode A (see page 22-112).

NOTE:
- Be careful not to scratch or damage the defogger wires with the tester probe.
- Before testing, check the No. 30 (10 A) fuse in the under-dash fuse/relay box and the No. 10 (30 A) fuse in the rear fuse/relay box.

1. Measure the voltage between the positive terminal (A) and body ground with the ignition switch and defogger switch ON.
   There should be battery voltage.

   - If there is no voltage, check for:
     – Faulty rear window defogger relay.
     – Faulty rear MICU.
     – Faulty climate control unit.
     – An open in the RED wire to the positive terminal.
   - If there is voltage, go to step 2.




2. Disconnect the negative terminal (B) from the rear window defogger.

3. Check for continuity between the negative terminal and body ground.

   If there is no continuity, check for an open in the wire or poor ground (G701). If there is continuity, go to step 4.

4. Reconnect the negative terminal to the rear window defogger.

5. Turn the ignition switch ON (II) and the rear window defogger switch ON.

6. Touch the voltmeter positive probe to the each points on each defogger wire, and the negative probe to the negative terminal.

   - If the voltage is as specified, the defogger wire up to that point is OK.
   - If the voltage is not as specified, repair the defogger wire.

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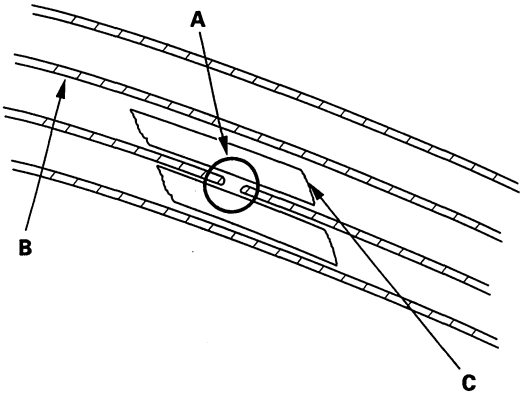


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## Defogger Wire Repair

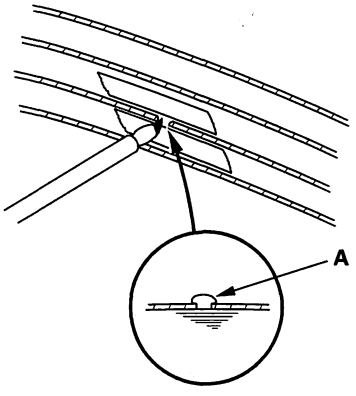
NOTE: To make an effective repair, the broken section must be no longer than 1 inch (25 mm).

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




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

3. Using a small brush, apply a heavy coat of silver conductive paint (commercially available) extending about 1/8" on both sides of the break. Allow 25 minutes to dry.

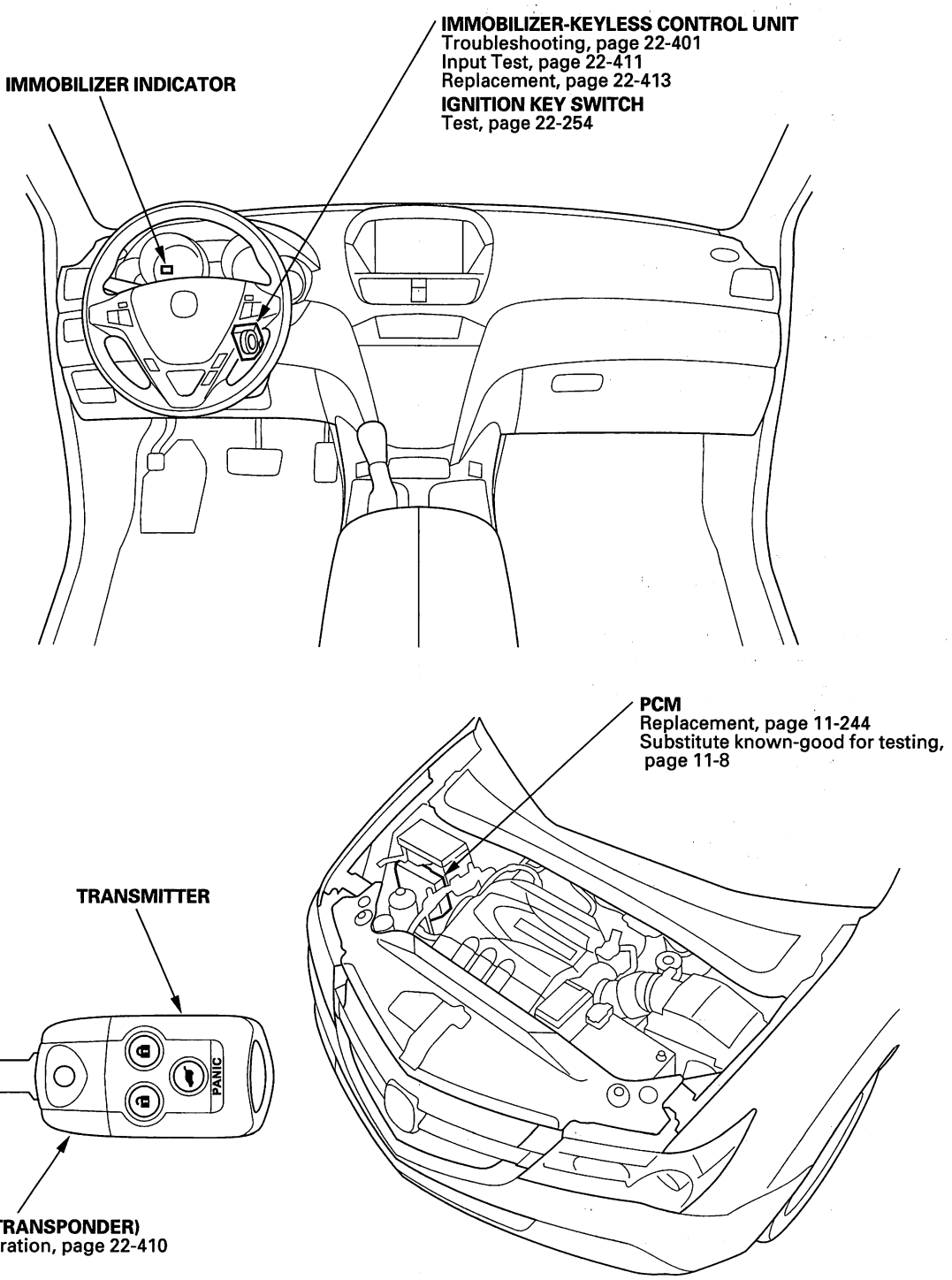



4. Perform the function test to confirm that the wire is repaired.

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

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## Component Location Index



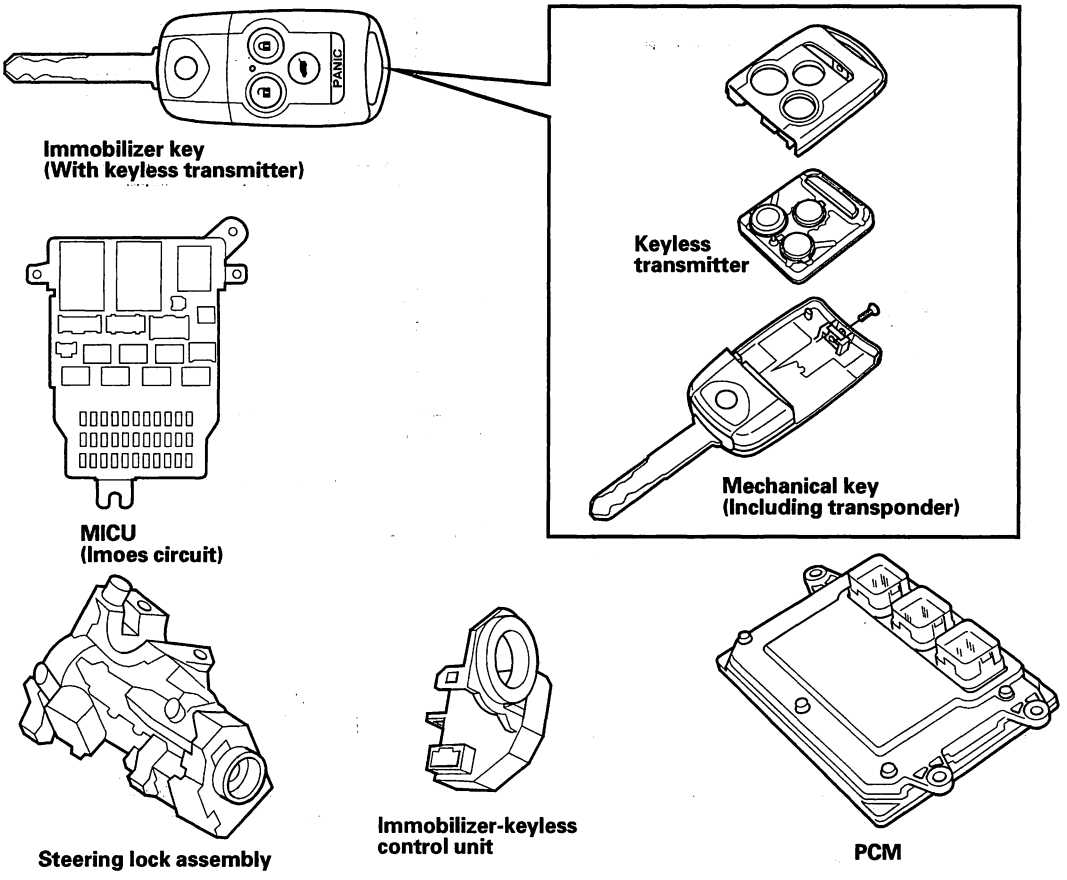

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## System Description

The vehicle is equipped with an immobilizer system that will disable the vehicle unless a programmed ignition key is used.
This system consists of a transponder, a keyless transmitter, immobilizer-keyless control unit, immobilizer indicator, IMOES unit (built into the MICU), and the PCM.
When the immobilizer key (programmed by the HDS) is inserted into the ignition switch and turned to the ON (II) position, the immobilizer-keyless control unit sends power to the transponder in the ignition key. The transponder then sends a coded signal back to the immobilizer-keyless control unit which then sends a coded signal to the IMOES unit, which confirms the code and signals the PCM to continue to supply power to the fuel pump circuit.

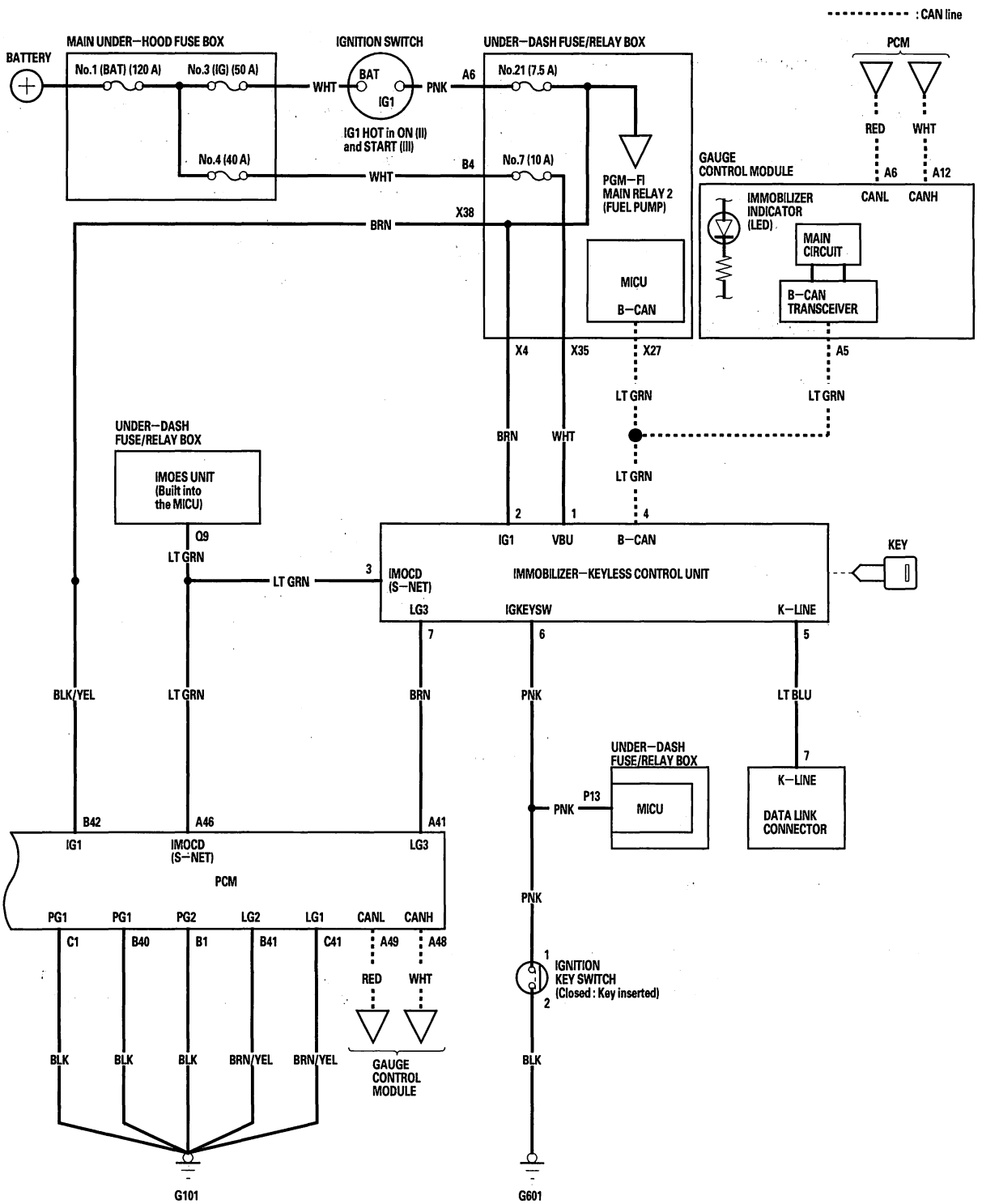



If the wrong key has been used or the code was not received or recognized by the unit, the vehicle will not start, then shut off, and the indicator will quickly flash once, then it will blink until the ignition switch is turned OFF. When the ignition switch is turned OFF, the indicator will blink ten times to signal that the unit has reset correctly, then the indicator will go off.

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# Immobilizer System

## Circuit Diagram




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## DTC Troubleshooting

### **DTC B1905:** Immobilizer-Keyless Control Unit Lost Communication with Driver's MPCS Unit (DRLOCKSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1905 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the immobilizer-keyless control unit and the driver's MPCS unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1013, B1065, B1182, and/or B1356 also indicated?*

   **YES**—Do the driver's MPCS unit input test (see page 22-137). ■

   **NO**—Do the immobilizer-keyless control unit input test (see page 22-411). ■

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## DTC Troubleshooting (cont'd)

### **DTC B1906:** Immobilizer-Keyless Control Unit Lost Communication with Gauge Control Module (A/T Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1906 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the immobilizer-keyless control unit and the gauge control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1061, B1359, B1808, and B1956 also indicated?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Do the immobilizer-keyless control unit input test (see page 22-411). ■

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# Symptom Troubleshooting Information

## General Check before Troubleshooting

Before troubleshooting the immobilizer system, check the following general items to minimize troubleshooting time:

- If the battery is low; fully charge the battery, then troubleshoot the immobilizer system.
- The ignition key is not a genuine Honda part; use the Honda-approved key blank, register the key, then troubleshoot the immobilizer system.
- Check to see if a key ring, keys, or a key case is used; remove the key from it, and troubleshoot the immobilizer system with a key only.
- Check to see if an aftermarket electrical part is attached; remove it, then troubleshoot the immobilizer system.

## Symptom Troubleshooting Using the Immobilizer Indicator Lighting Pattern

The blinking pattern of the immobilizer indicator light can help troubleshoot the condition of the immobilizer system. Following are descriptions of the four possible patterns.

**Normal operation**
If the immobilizer code is identified, the immobilizer indicator comes on for a maximum of 2 seconds, then goes off after turning the ignition switch ON (II).
The immobilizer indicator does not come on when the ignition switch is turned OFF.

**Immobilizer code is not identified**
If the immobilizer code is not identified, the immobilizer indicator comes on for a maximum of 2 seconds, then blinks after turning the ignition switch ON (II). The immobilizer indicator blinks ten times, then goes off when the ignition switch is turned OFF.
The state of the immobilizer key registration and the IMOCD line can be checked by doing a SYSTEM CHECK with the HDS (see page 22-406).

**Immobilizer indicator does not come on**
If the immobilizer indicator does not come on after turning the ignition switch ON (II), an open or short in the F-CAN lines between the PCM and the gauge control module. Watch the malfunction indicator lamp (MIL). If the MIL stays on, go to the PGM-FI system troubleshooting (see page 11-3).

**Immobilizer indicator does not go off**
If the immobilizer indicator does not go off after turning the ignition switch ON (II), do the gauge control module self-diagnostic function (see page 22-315). If the indicator drive circuit is OK, do the SYSTEM CHECK with the HDS.

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(cont'd)

## Symptom Troubleshooting Information (cont'd)

### Symptom Troubleshooting Using Malfunctioning Circuit Functions

If a malfunction occurs in the immobilizer circuit, use the table to cross-reference the malfunctioning function to the line(s) that should be checked table:

| Function / Line Error | | Immobilizer Indicator | Engine Start | Key Registration | Tester Communication | Keyless Operation |
|---|---|---|---|---|---|---|
| Terminal No. | Cause of Malfunction | | | | | |
| 1 | VBU line open or short | Comes on, then goes off. | Possible | Impossible | Possible | Impossible |
| 2 | IG1 line open or short | Blinking | Impossible | Impossible | Impossible | Possible |
| 3 | IMOCD (S-NET) line open or short | Blinking | Impossible | Impossible | Impossible | Possible |
| 4 | B-CAN line open or short | Comes on, then goes off. | Possible | Impossible | Immobilizer: Possible<br>Keyless: Impossible | Impossible |
| 5 | K-LINE line open or short | Comes on, then goes off. | Possible | Impossible | Impossible | Possible |
| 6 | KEYSW line open | Comes on, then goes off. | Possible | Possible | Possible | Possible (in spite of the key is in the ignition switch ) |
| | KEYSW line short to ground | | | | | Impossible (panic only works with ignition switch OFF ) |
| 7 | GND (LG) line open | Blinking | Impossible | Impossible | Impossible | Impossible |

### System Check and Status Log

NOTE: The HDS can be used to:
- Check the state of the immobilizer key registration and the IMOCD (S-NET) line by doing a SYSTEM CHECK.
- Check the number of times the immobilizer control unit-receiver doesn't permit the engine to run by checking the STATUS LOG.

1. Connect the HDS to the data link connector, then turn the ignition switch ON (II) and follow the prompts to the MAIN MENU.

   NOTE: If the HDS does not communicate with the vehicle, go to the DLC circuit troubleshooting (see page 11-223).

2. At the MAIN MENU, enter IMMOBILIZER, then select the IMMOBILIZER SETUP.

3. Do the SYSTEM CHECK. If there is a system check number, do the troubleshooting for the item indicated.

4. Check the status log using the HDS. Troubleshoot the line with the highest counts. If all the lines are "0" zero, the problem may not be caused by the immobilizer system, check for ignition or fuel problems.

   NOTE: Once repaired, clear the status log by removing the No. 4 (40 A) fuse in the main under-hood fuse box or disconnecting the battery.

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## Symptom Troubleshooting

1. Troubleshoot the immobilizer system by the order of the priority shown:

| Order of Priority | Symptom | Possible cause |
|---|---|---|
| 1 | Immobilizer indicator blinks after the ignition switch is turned OFF. | Symptom troubleshooting (see page 22-408). |
| 2 | Engine does not start with the immobilizer key. | Symptom troubleshooting (see page 22-409). |
| 3 | Immobilizer indicator does not come on. | Check the MIL indication.<br>• If the MIL comes on, go to the PGM-FI System MIL circuit troubleshooting (see page 11-222).<br>• If the MIL does not come on, replace the gauge control module. |
| 4 | Immobilizer indicator does not go off. | Symptom troubleshooting (see page 22-409). |

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## System Check

1. Connect the HDS to the data link connector.
2. Turn the ignition switch ON (II).
3. Monitor the System Check in the Immobilizer Info with the HDS.
4. If the HDS displays the "Immobilizer system is normal", the immobilizer system is OK. If the HDS displays any other messages, check as follows:

| Status Log No. | System Check | Possible Failures |
|---|---|---|
| A-1 | Immobilizer system is not normal | • This key is not registered in the immobilizer-keyless control unit. Try to register keys by using "KEYS".<br>• The communication was not good between the antenna and the immobilizer key by influence of metal such as key chains.<br>• The communication was not good between the antenna and the immobilizer key by battery voltage low. |
| A-2 | Immobilizer system is not normal | • Intermittent interruption between transponder and immobilizer-keyless control unit.<br>• The immobilizer key type is different. It is not for this vehicle but for another one or for other company's one.<br>• Key failure (transponder failure)<br>• The communication was not good between the antenna and the immobilizer key by influence of metal such as key chains.<br>• The communication was not good between the antenna and the immobilizer key by battery voltage low. |
| A-3 | Immobilizer system is not normal | • The ignition switch was turned ON (II) with a non-immobilizer key.<br>• The immobilizer key type is different. It is not for this vehicle but for another one or for other company's one.<br>• Key failure (transponder failure)<br>• The communication was not good between the antenna and the immobilizer key by influence of metal such as key chains.<br>• The communication was not good between the antenna and the immobilizer key by battery voltage low.<br>• Immobilizer-keyless control unit failure |
| B-1 | Immobilizer system is not normal | • The PCM was not registered. Try to register the PCM by using "REPLACE PCM".<br>• The communication was not good between the PCM and the immobilizer-keyless control unit by battery voltage low.<br>• The communication was not good between the immobilizer-keyless control unit and the PCM by influence of some noise. |
| B-2 | Immobilizer system is not normal | • The PCM was not registered. Try to register the PCM by using "REPLACE PCM".<br>• The communication was not good between the PCM and the immobilizer-keyless control unit by battery voltage low.<br>• The communication was not good between the immobilizer-keyless control unit and the PCM by influence of some noise. |
| D-1 | Immobilizer system is not normal | • Harness short from the PCM to the immobilizer-keyless control unit. (IMOCD/S-NET line short)<br>• The communication was not good between the PCM and the immobilizer-keyless control unit by battery voltage low.<br>• The communication was not good between the immobilizer-keyless control unit and the PCM by influence of some noise.<br>• Immobilizer-keyless control unit failure<br>• PCM failure |
| D-3 | Immobilizer system is not normal | • Blown fuse<br>• Harness open from the PCM to the immobilizer-keyless control unit.<br>• The communication was not good between the PCM and the immobilizer-keyless control unit by battery voltage low.<br>• The communication was not good between the immobilizer-keyless control unit and the PCM by influence of some noise.<br>• Immobilizer-keyless control unit failure<br>• PCM failure |

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## Status Log

If you suspect there is a immobilizer system problem, check the status log.

1. Connect the HDS to the data link connector.
2. Turn the ignition switch ON (II).
3. On the HDS screen, select Honda systems, select immobilizer set-up, select immobilizer information, then select status log.
4. Check the Status log count. Troubleshoot the status with the highest count first. If no counts are listed, the immobilizer system is OK. Continue with normal symptom troubleshooting.

| Status Log No. | Detected Item | Probable Cause |
|---|---|---|
| A-1 | KEY CODE MISMATCH<br>(Code format normal, but code data is mismatch) | 1. The key was not registered<br>2. Interference from metal such as key chains<br>3. Low battery voltage |
| A-2 | KEY CODE MISMATCH<br>(Code format failure) | 1. Ignition switch was turned ON (II) with another type of immobilizer key or aftermarket key<br>2. Interference from metal such as key chains<br>3. Low battery voltage |
| A-3 | KEY CODE MISMATCH<br>(No key code or non-immobilizer key) | 1. Ignition switch was turned ON (II) with another type of immobilizer key or aftermarket key<br>2. Interference from metal such as key chains<br>3. Low battery voltage<br>4. Key failure<br>5. Immobilizer-keyless control unit failure |
| B-1 | PCM CODE MISMATCH<br>(Code format normal, but code data is mismatch) | 1. PCM was not registered correctly<br>2. Low battery voltage<br>3. Poor or loose terminal connections at the immobilizer-keyless control unit<br>4. Communication line electrical noise |
| B-2 | PCM MISMATCH<br>(Code format failure) | 1. PCM was not registered correctly<br>2. Low battery voltage<br>3. Poor or loose terminal connections at the immobilizer-keyless control unit<br>4. Communication line electrical noise |
| D-1 | IMOCD/S-NET LINE PROBLEM<br>(Short to ground) | 1. Low battery voltage<br>2. Poor or loose terminal connections at the immobilizer-keyless control unit and the PCM<br>3. Communication line electrical noise |
| D-3 | IMOCD/S-NET LINE PROBLEM<br>(Open line or PCM failure) | 1. Open or short in the harness from the PCM to the immobilizer-keyless control unit<br>2. Low battery voltage<br>3. Poor or loose terminal connections at the immobilizer-keyless control unit and the PCM<br>4. Communication line electrical noise |

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## Symptom Troubleshooting

### Immobilizer indicator blinks

NOTE: Before troubleshooting, check the items listed in "General Check before Troubleshooting".

1. Turn the ignition switch OFF.
2. Connect the HDS, then turn the ignition switch ON (II).
3. Enter the IMMOBILIZER, then select the IMMOBILIZER SETUP.
4. Check the SYSTEM CHECK and STATUS LOG information.

   *Is the SYSTEM CHECK indicated?*

   **YES**—Troubleshoot the immobilizer system according to the result of the SYSTEM CHECK/ STATUS LOG (see page 22-406). ■

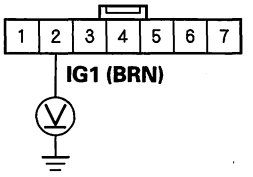
   **NO**—Go to step 5.
5. Turn the ignition switch OFF.
6. Enter the vehicle, and remove the ignition key from the ignition switch, then close the all doors.
7. Operate the keyless transmitter LOCK and UNLOCK several times in the vehicle.

   *Do the door lock actuators work normally?*

   **YES**—Go to step 8.

   **NO**—Check for a poor ground (G101) and/or an open in the wire between the immobilizer-keyless control unit 7P connector No. 7 terminal and PCM connector A (49P) No. 41 terminal. ■
8. Turn the ignition switch ON (II).
9. Measure the voltage between the immobilizer-keyless control unit 7P connector No. 2 terminal and body ground.

**IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR**




Wire side of female terminals

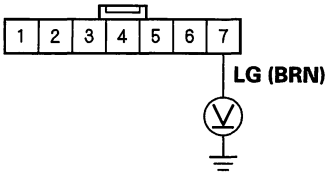
*Is there battery voltage?*

**YES**—Go to step 10.

**NO**—Check fuse No. 21 (7.5 A) in the under-dash fuse/relay box or for an open in the BRN wire between the under-dash fuse-relay box and the immobilizer-keyless control unit. ■

10. Measure the voltage at the immobilizer-keyless control unit 7P connector No. 7 terminal and body ground.

**IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR**




Wire side of female terminals

*Is there less than 0.5 V?*

**YES**—Replace the immobilizer-keyless control unit. ■

**NO**—Check for a poor ground (G101) and/or repair poor connection or open between the immobilizer-keyless control unit 7P connector No. 7 terminal and PCM connector A (49P) No. 41 terminal. ■

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## Engine does not start with the immobilizer key

NOTE: Before troubleshooting, check the items listed in "General Check before Troubleshooting" and "How to Troubleshoot" (see page 22-403).

1. Try to start the engine.

   *Does the engine start?*

   **YES**—Intermittent failure, the vehicle is OK at this time. Check status log (see page 22-407). ■

   **NO**—Go to step 2.

2. Turn the ignition switch OFF.

3. Turn the ignition switch ON (II), and check the immobilizer indicator indication.

   *Does the indicator quickly flash twice and turn off?*

   **YES**—Go to step 4.

   **NO**—Do the immobilizer-keyless control unit input test (see page 22-411). ■

4. Turn the ignition switch to START (III).

   *Does the starter crank?*

   **YES**—Go to step 5.

   **NO**—Go to Starting System troubleshooting and check the starter motor circuit. ■

5. Try to start the engine with a different known-good immobilizer key.

   *Does the engine start?*

   **YES**—Replace the immobilizer key. ■

   **NO**—Go to the PGM-FI System Symptom Troubleshooting. ■

## Immobilizer indicator does not go off

1. Turn the ignition switch OFF.

2. Connect the HDS to the data link connector.

3. Turn the ignition switch ON (II).

4. Enter the IMMOBILIZER, then select the IMMOBILIZER INFORMATION.

5. Do the SYSTEM CHECK with the HDS.

   *Is N-1 OK indicated?*

   **YES**—Do the gauge control module self-test. If the gauge control module is faulty, replace it. ■

   **NO**—Substitute a known-good immobilizer-keyless control unit, then register it and recheck. If the symptom goes away, replace the original immobilizer-keyless control unit. ■

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## Immobilizer Key Registration

NOTE:
- The HDS is required for registration of the immobilizer keys.
- Check for aftermarket electrical equipment that can cause problems with transponder operation.
- The immobilizer-keyless control unit can store up to six immobilizer Keys.

### Add one new key

1. Have a registered key, a new immobilizer key, and the first password from the iN system.
2. Connect the HDS to the data link connector.
3. Turn the ignition switch ON (II).
4. Select "IMMOBILIZER" from the "SYSTEM SELECT" menu.
5. Select "Add and Delete Keys", then "Add 1 key".
6. Do the registration according to the instructions on the HDS screen.
7. Check if the engine can be started by the newly registered key. Check the keyless remote operation to make sure that it functions properly.

### Delete or add multiple keys

NOTE:
- If any of the registered keys were lost, do the following procedure to delete the lost registered key.
- When deleting keys, it is necessary to delete all stored remote transmitters. Refer to the keyless transmitter programming to delete and reprogram the remotes (see page 22-177).

1. Have all registered keys, all new keys, and the first password.
2. Connect the HDS to the data link connector.
3. Turn the ignition switch ON (II).
4. Select "IMMOBILIZER" from the "SYSTEM SELECT" menu.
5. Select "Add and Delete Keys", or "Delete or Add Multiple Keys".
6. Do the registration according to the instruction of HDS screen.
7. Check if the engine can be started by all the registered keys.

### All keys are lost

NOTE: When deleting keys, it is necessary to delete all stored remote transmitters. Refer to the keyless transmitter programming to delete and reprogram the remotes (see page 22-177).

1. Prepare all new keys and have the immobilizer PCM code.
2. Connect the HDS to the data link connector.
3. Turn the ignition switch ON (II).
4. Select "IMMOBILIZER" from the "SYSTEM SELECT" menu.
5. Select "Add and Delete Keys", then "ALL KEYS LOST".
6. Do the registration according to the instruction of HDS screen.
7. Check if the engine can be started by all the registered keys.

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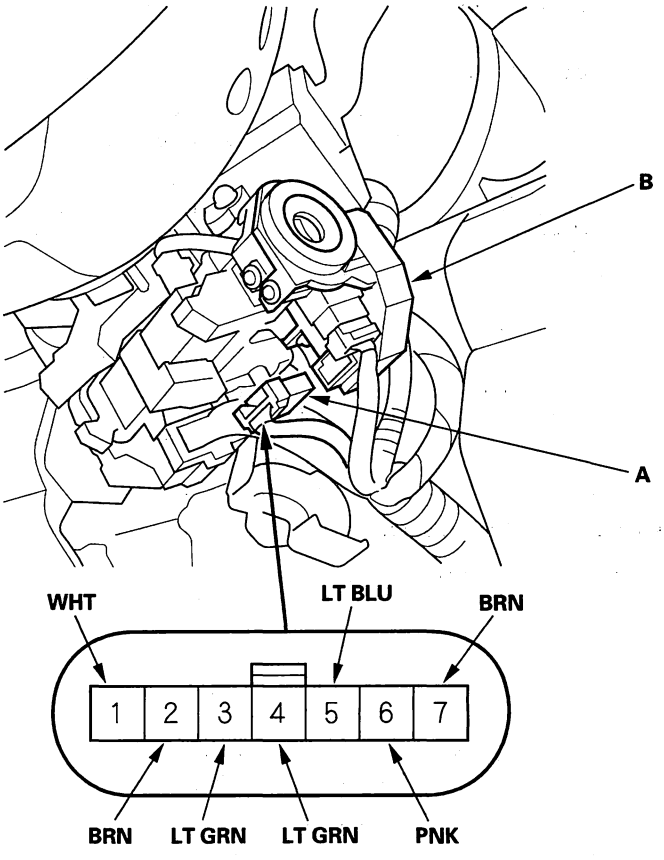
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## Immobilizer-keyless Control Unit Input Test

NOTE: Before troubleshooting the immobilizer system, troubleshoot the B-CAN System Diagnosis Test Mode A (see page 22-112) and check the No. 21 (7.5 A) and No. 7 (10 A) fuses in the under-dash fuse/relay box.

1. Remove the steering column covers (see page 20-129).

2. Disconnect the 7P connector (A) from the immobilizer-keyless control unit (B).




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)

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## Immobilizer-keyless Control Unit Input Test (cont'd)

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 |
|---|---|---|---|---|
| 3 | LT GRN | Immobilizer-keyless control unit 7P, the PCM connector A (49P), and the MICU 14P connector disconnected. | Check for continuity between the No. 3 terminal and the PCM connector A (49P) No. 46 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the No. 3 terminal and under-dash fuse/relay box connector Q (14P) No. 9 terminal: There should be continuity. | |
| | | | Check for continuity between the No. 3 terminal and body ground: There should be no continuity. | A short in the wire |
| 4 | LT GRN | Immobilizer-keyless control unit 7P, the under-dash fuse/relay box connector X (39P) disconnected. | Check for continuity between the No. 4 terminal and under-dash fuse/relay box connector X (39P) No. 27 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the No. 4 terminal and body ground: There should be no continuity. | A short in the wire |
| 5 | LT BLU | Immobilizer-keyless control unit 7P disconnected. | Check for continuity between the No. 5 terminal and the data link connector (16P) No. 7 terminal: There should be continuity. | An open in the wire |
| | | | Check for continuity between the No. 5 terminal and body ground: There should be no continuity. | A short in the wire |

5. Reconnect the connectors to the immobilizer-keyless control unit, 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 immobilizer-keyless control unit must be faulty; replace it.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| 1 | WHT | Under all conditions | Measure the voltage between the No. 1 terminal and body ground: There should be battery voltage. | • Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 2 | BRN | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| 7 | BRN | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G101)<br>• An open in the wire<br>• Faulty PCM |
| 6 | PNK | Ignition key inserted into the ignition switch | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• Faulty ignition key switch<br>• An open in the wire |

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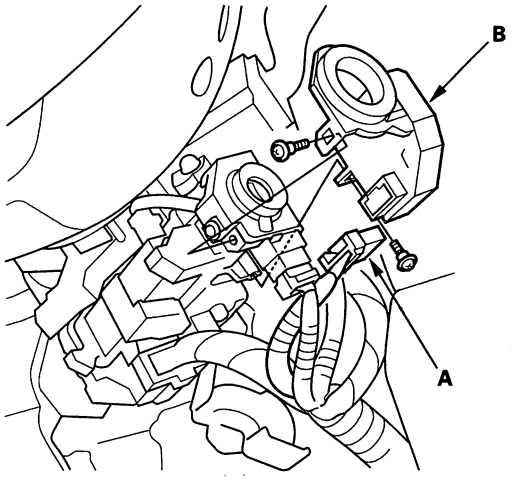


BACK

## Immobilizer-keyless Control Unit Replacement

NOTE: All registered keys (with built in remote transmitter) are necessary for replacement of the immobilizer-keyless control unit.

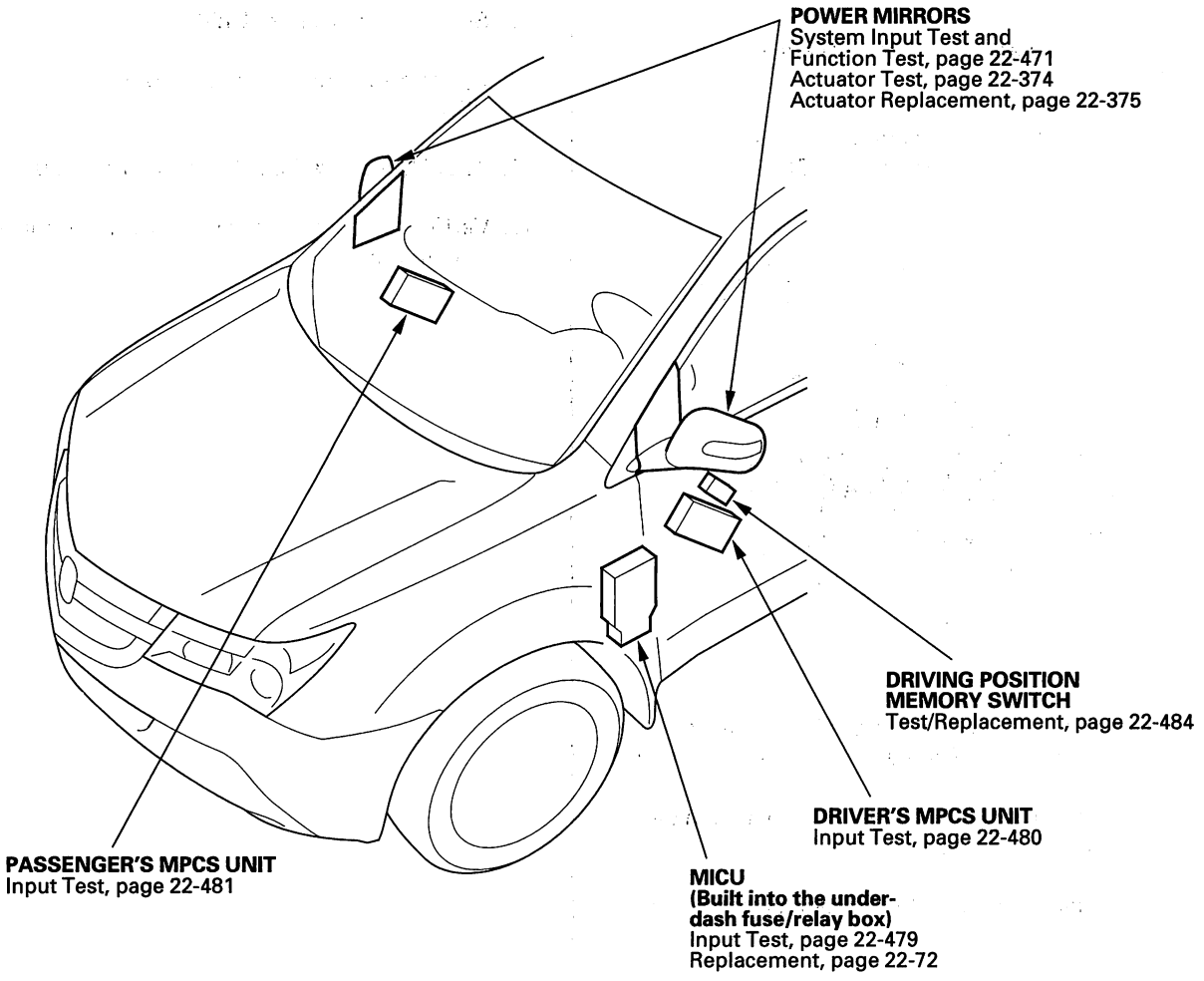
1. Remove the driver's dashboard lower cover (see page 20-119).
2. Remove the steering column covers (see page 20-129).
3. Disconnect the 7P connector (A) from the immobilizer-keyless control unit (B).




4. Remove the two screws and the immobilizer-keyless control unit from the ignition key cylinder.
5. Install the immobilizer-keyless control unit in the reverse order of removal.
6. After replacement, turn the ignition switch ON (II).
7. Connect the HDS to the data link connector.
8. Select "IMMOBI" from the "System Select" menu.
9. Select "immobilizer Setup" from the "Mode Menu".
10. Select "Replace Imm Unit".
11. Operate according to instructions of a screen of HDS.
12. After HDS operation, check the immobilizer system.
13. Verify the operation of every key and remote transmitter.

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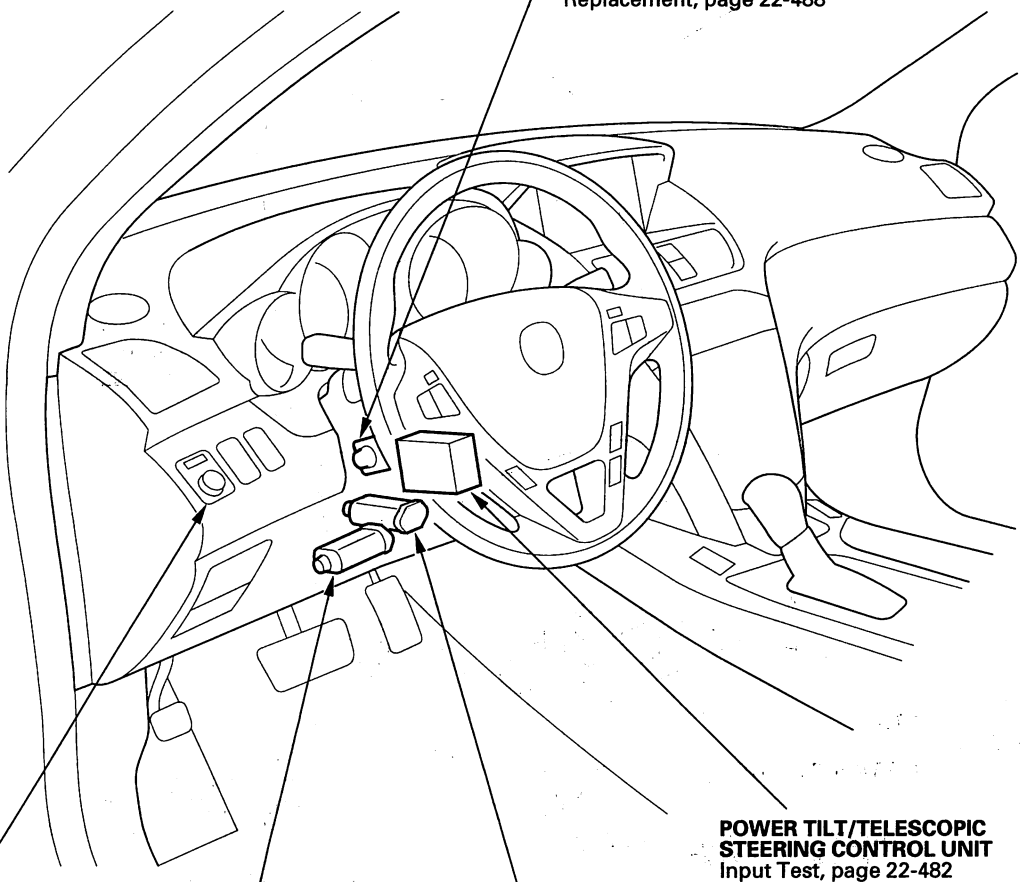
## Component Location Index




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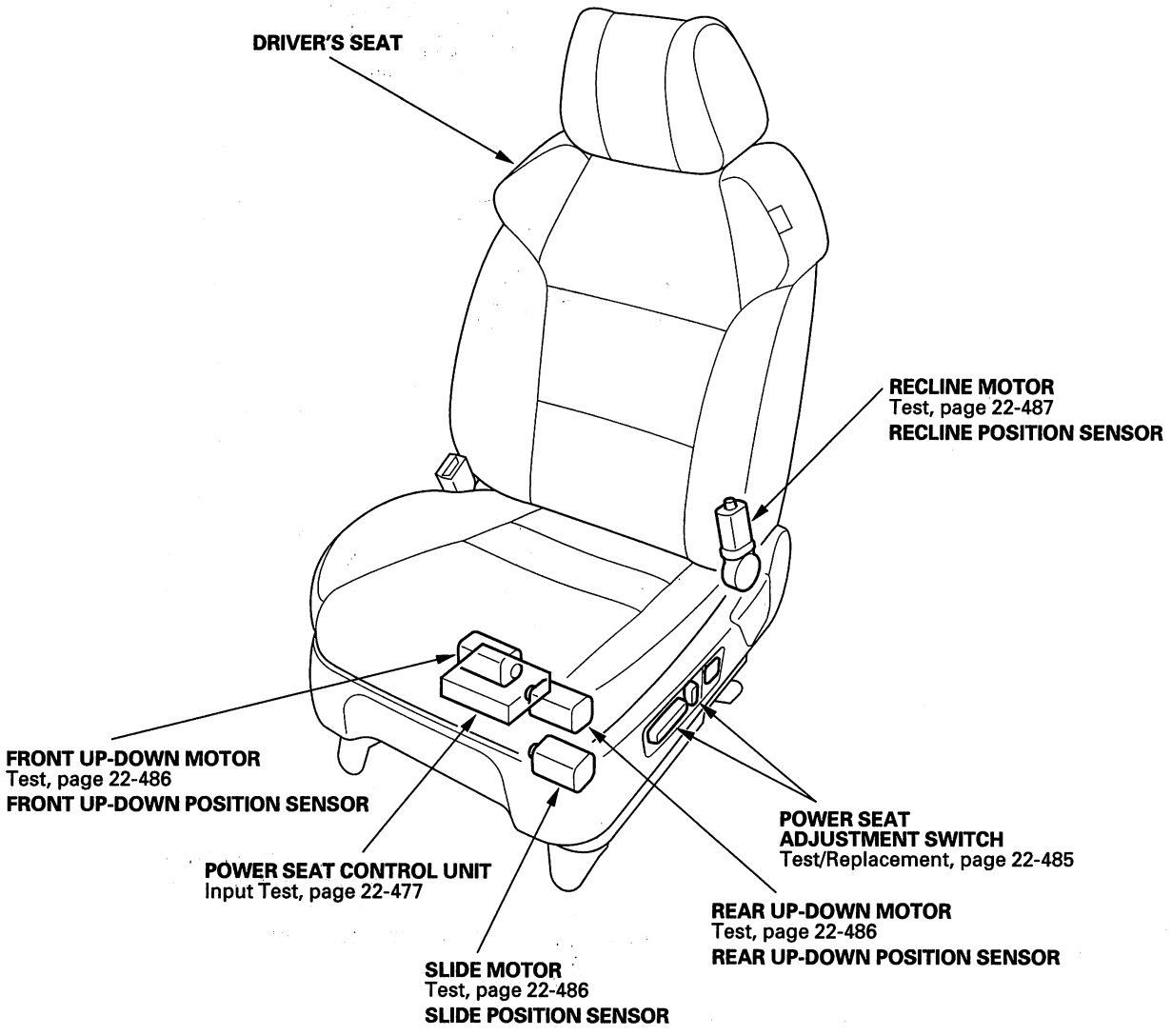

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## Component Location Index (cont'd)

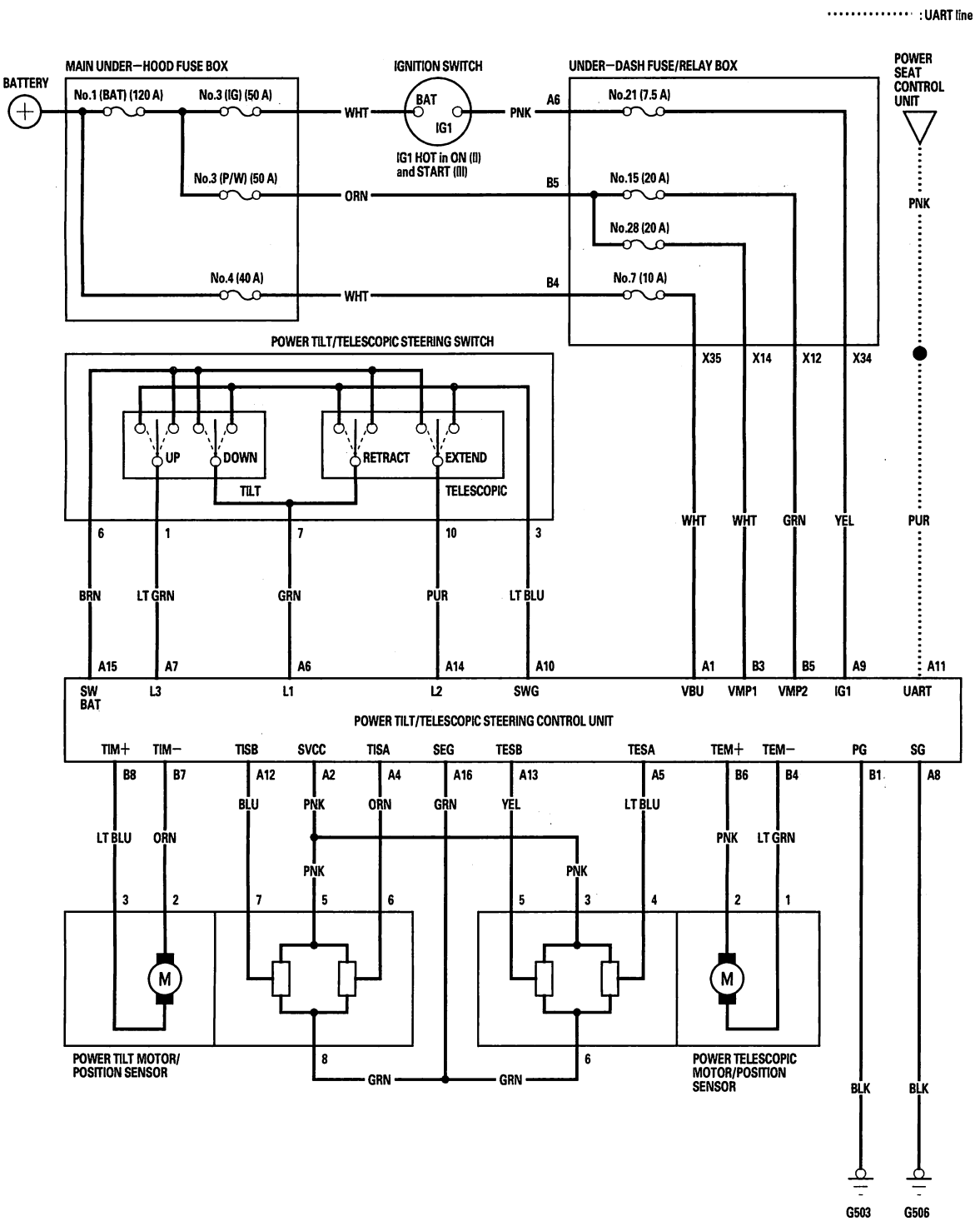



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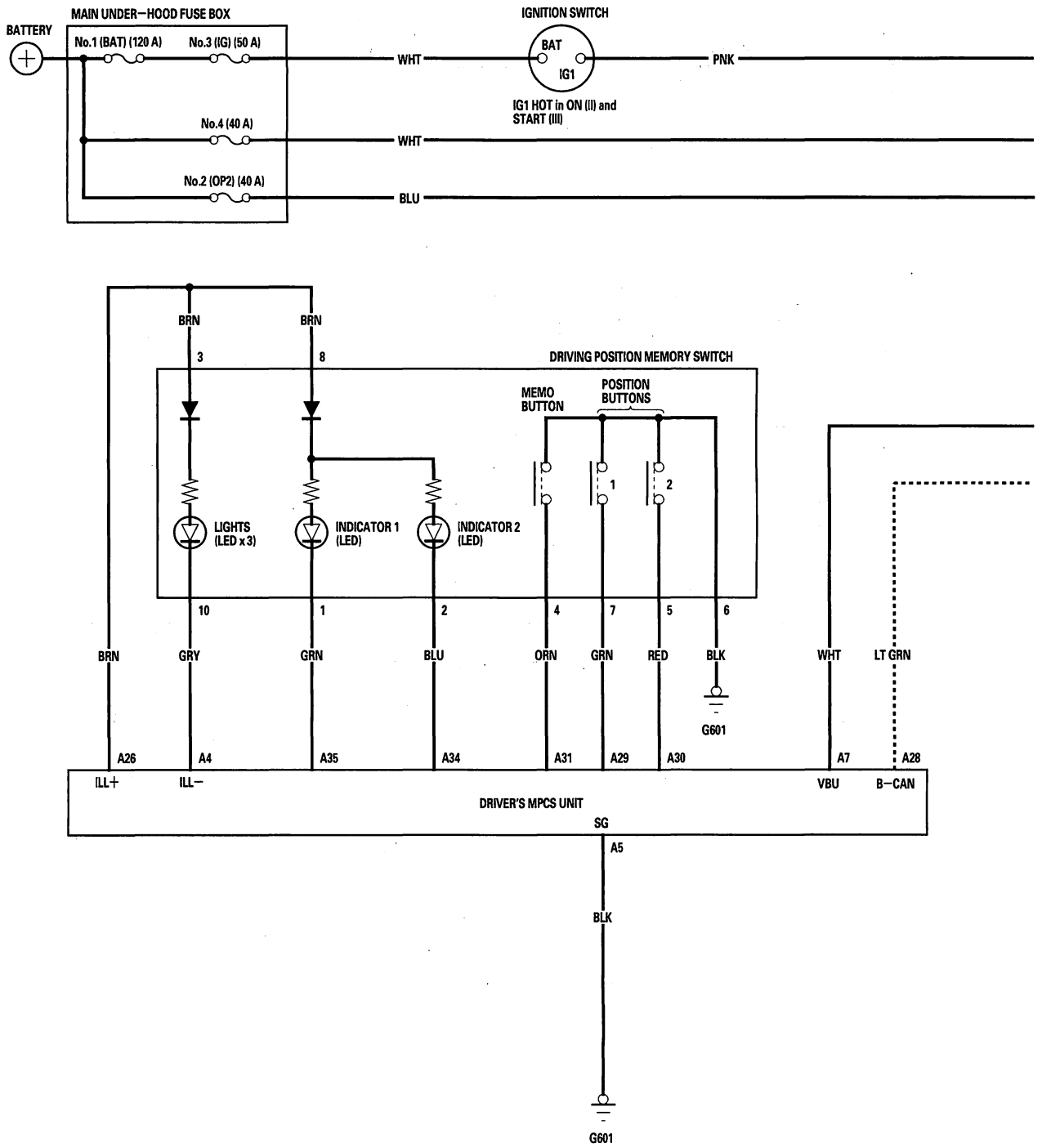
# Circuit Diagram - Power Tilt/Telescopic Steering




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# Driving Position Memory System (DPMS)

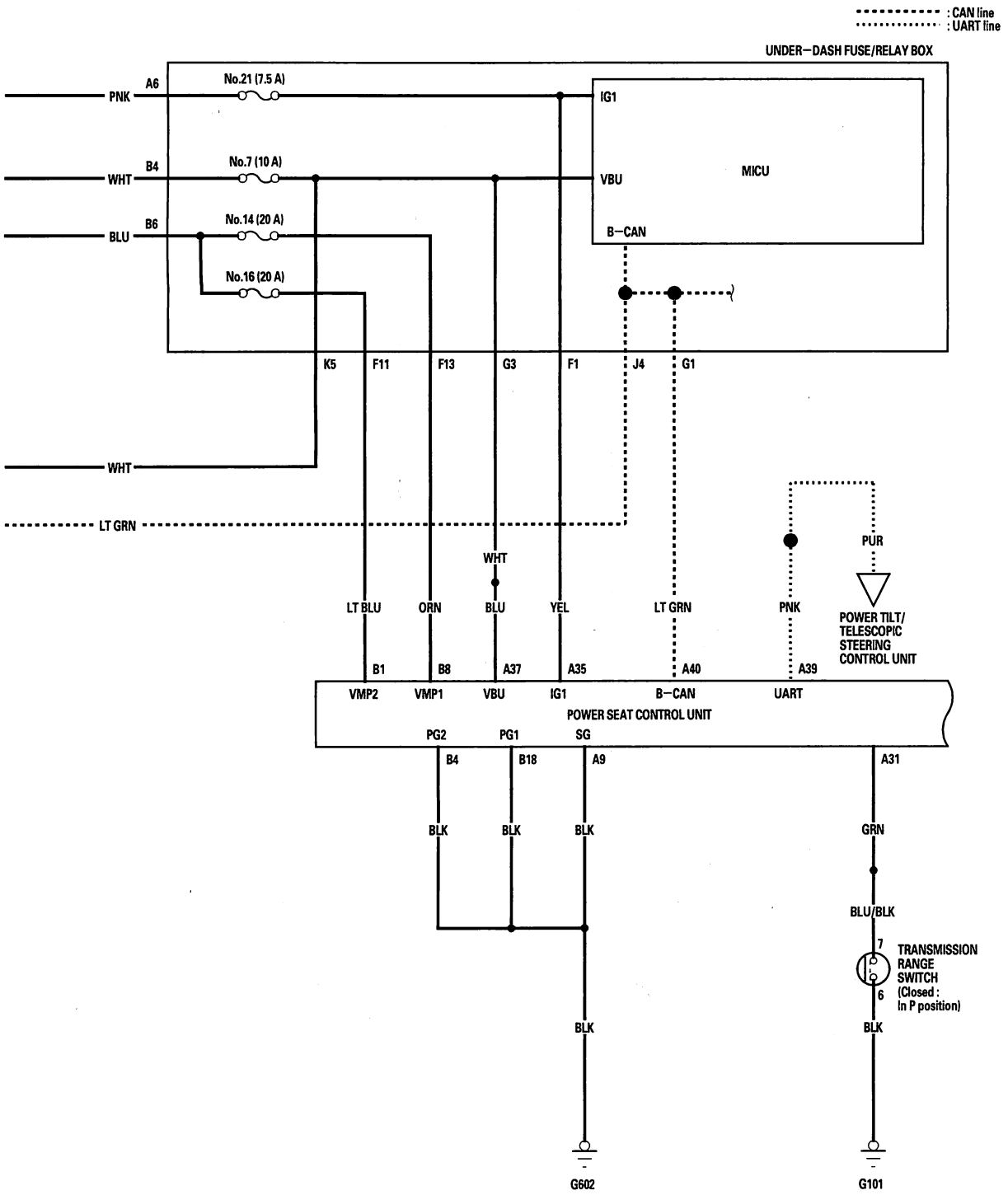
## Circuit Diagram - Power Seat




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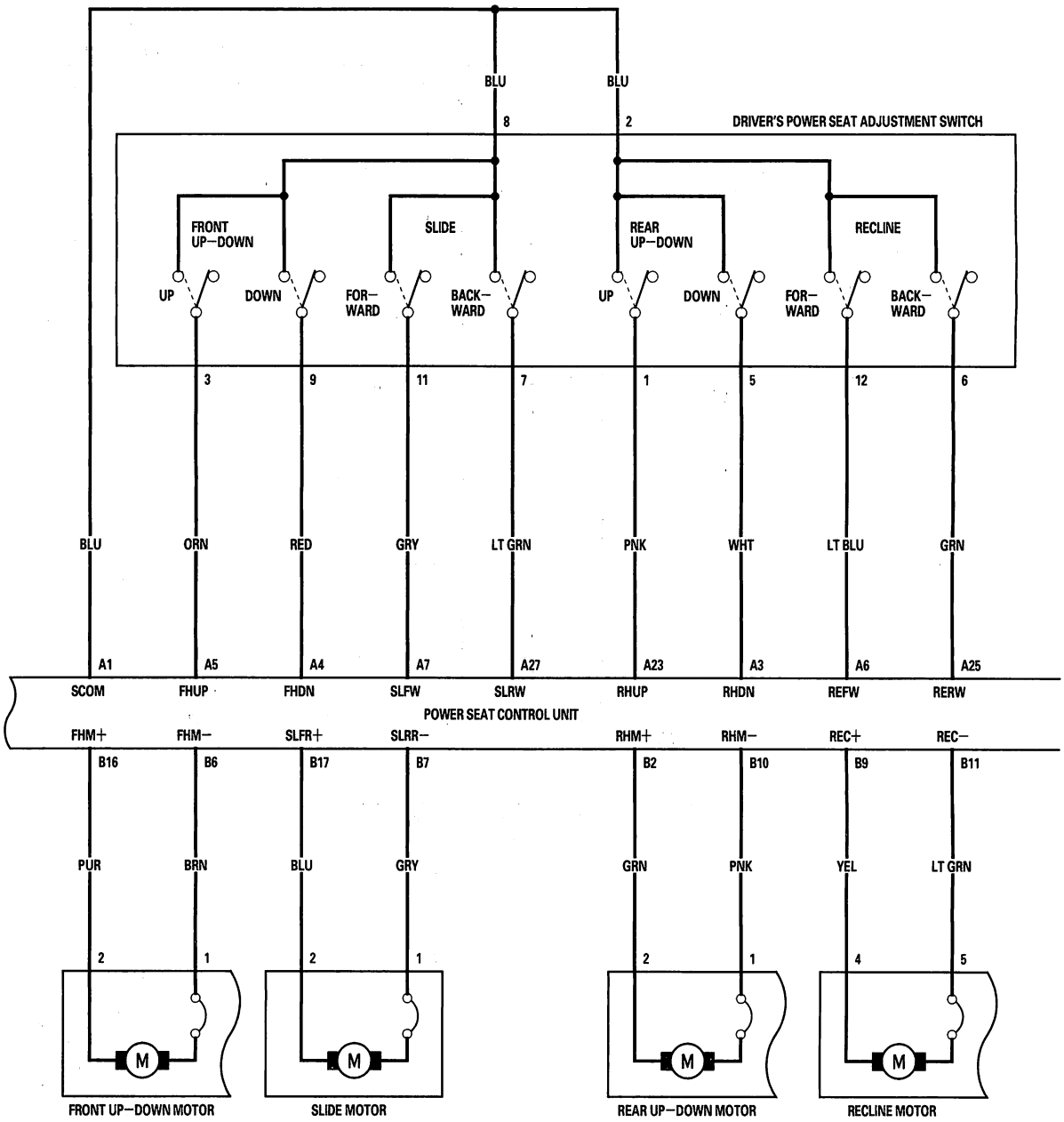
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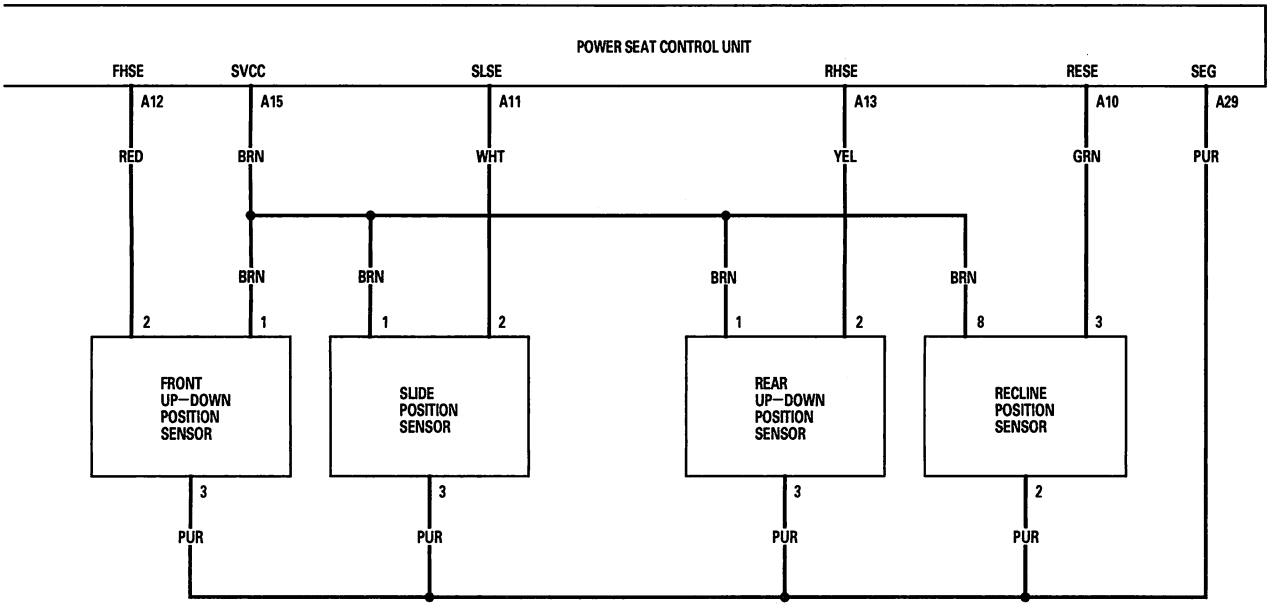
## Circuit Diagram - Power Seat (cont'd)




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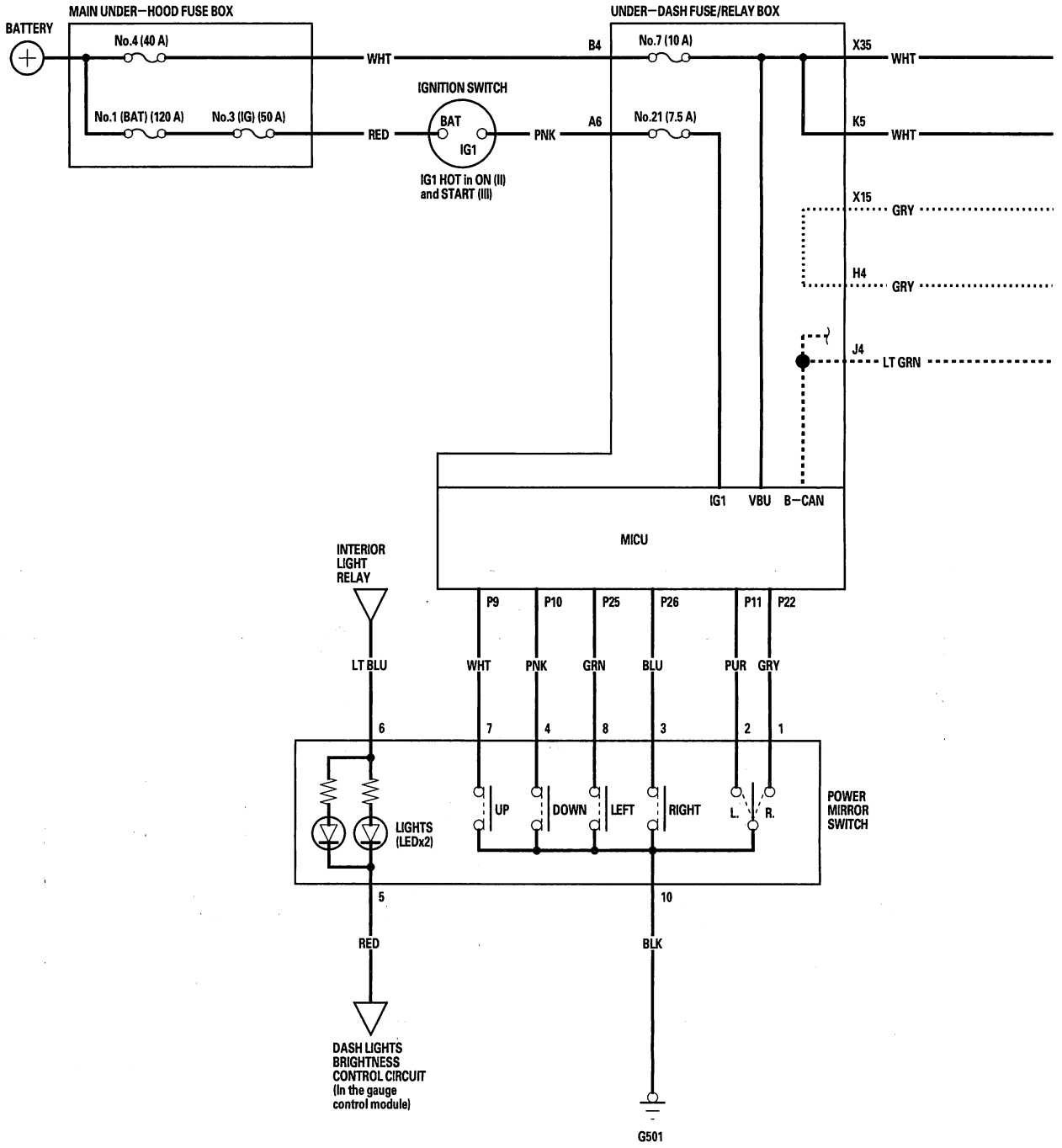
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# Driving Position Memory System (DPMS)

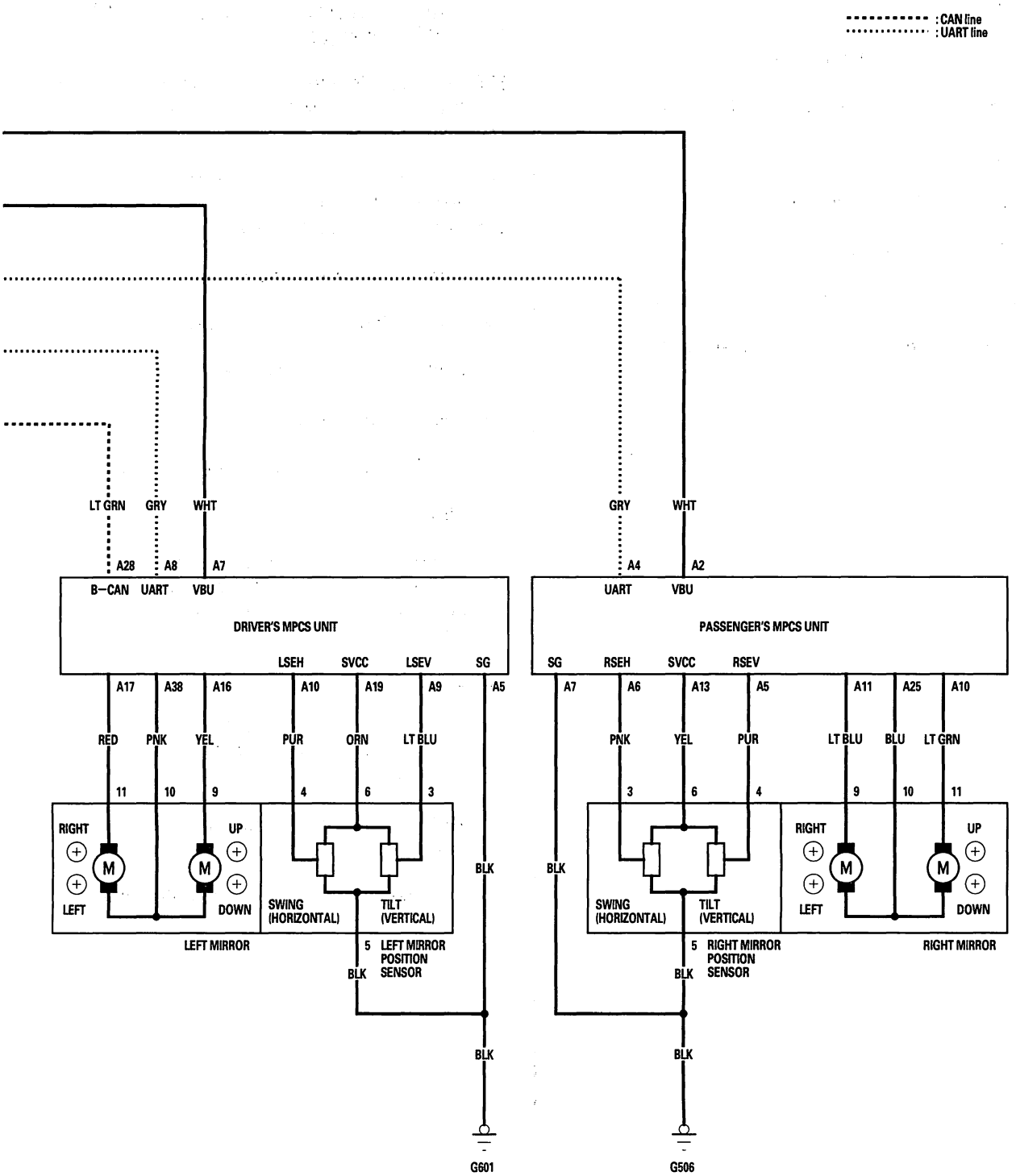
## Circuit Diagram - Power Mirror




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## DTC Troubleshooting

### **DTC B1802:** Power Seat Control Unit Internal (EEPROM) Error

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1802 indicated?*

   **YES**—Replace the power seat control unit. ■

   **NO**—Intermittent failure, the system is OK at this time. ■

### **DTC B1805:** Power Seat Control Unit Lost Communication with Gauge Control Module (VSP/NE Message)

### **DTC B1808:** Power Seat Control Unit Lost Communication with Gauge Control Module (A/T Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1805 and/or B1808 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power seat control unit and the gauge control module. ■

5. Check for DTCs with the HDS.

   *Are DTCs B1011, B1060, B1061, B1205, B1357, B1359, B1408, B1805, B1806, B1906, and B2160 also indicated?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Replace the power seat control unit. ■

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**DTC B1806:** Power Seat Control Unit Lost Communication with MICU (MICU Message)

**DTC B1810:** Power Seat Control Unit Lost Communication with MICU (MIRRORSW Message)

**DTC B1811:** Power Seat Control Unit Lost Communication with MICU (DOORSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1806, B1810, and/or B1811 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connection between the power seat control unit and the MICU. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1055, B1057, B1157, B1159, B1255, B1355, B1955, B2155, B2156, and B2161 also indicated?*

   **YES**—Do the MICU input test (see page 22-132). ■

   **NO**—Do the power seat control unit input test (see page 22-477). ■

**DTC B1812:** Power Seat Control Unit Lost Communication with Driver's MPCS Unit (MEMSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1812 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power seat control unit and the driver's MPCS unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1013, B1015, B1065, B1182, B1356, B1358, and B1905 also indicated?*

   **YES**—Do the driver's MPCS unit input test (see page 22-278). ■

   **NO**—Do the power seat control unit input test (see page 22-477). ■

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## DTC Troubleshooting (cont'd)

### DTC B1825: Power Seat Slide Motor Pulse Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

DTC B1825 is stored when the slide switch is operated more than 1 second after the seat slides to the most forward or most backward position, even when the system is OK.

1. Turn the ignition switch OFF and then back ON (II).
2. Clear the DTCs with the HDS.
3. Operate the power seat adjustment switch in all directions for more than 1 second each.
4. Check for DTCs with the HDS.

   *Is DTC B1825 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the slide position sensor is OK at this time. Check for loose or poor connections at the power seat control unit connector. ■
5. Check for DTCs with the HDS.

   *Is DTC B1836 also indicated?*

   **YES**—Troubleshoot B1836 first. ■

   **NO**—Go to step 6.
6. Check for DTCs with the HDS.

   *Are DTCs B1826, B1827 and/or B1828 also indicated?*

   **YES**—Go to step 17.

   **NO**—Go to step 7.
7. Turn the ignition switch OFF, and then back ON (II).
8. Operate the slide switch for 2 seconds, and check the slide motor operation.

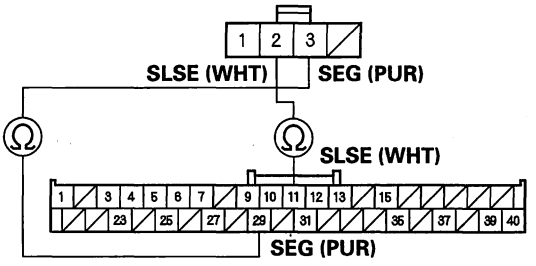
   *Does the slide motor run smoothly?*

   **YES**—Go to step 9.

   **NO**—Go to step 26.
9. Turn the ignition switch OFF.
10. Disconnect the power seat control unit connector A (40P).
11. Disconnect the slide position sensor 4P connector.
12. Check for continuity between the power seat control unit connector A (40P) terminals No. 11 and No. 29 and the slide position sensor 4P connector No. 2 and No. 3 terminals respectively.

**SLIDE POSITION SENSOR 4P CONNECTOR**

Wire side of female terminals




Wire side of female terminals

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire. ■

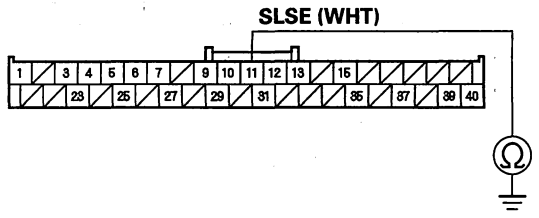
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13. Check for continuity between body ground and the power seat control unit connector A (40P) No. 11 terminal.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

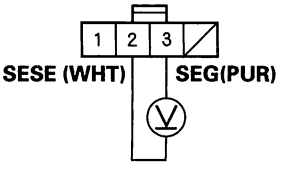
**NO**—Go to step 14.

14. Reconnect power seat control unit connector A (40P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between the slide position sensor 4P connector No. 2 (+) and No. 3 (−) terminals.

**SLIDE POSITION SENSOR 4P CONNECTOR**




Wire side of female terminals

*Is there about 5 V?*

**YES**—Faulty slide position sensor, replace the slide motor. ■

**NO**—If there is no voltage, replace the power seat control unit. If there is battery voltage, repair a short in the wire (sensor line). ■

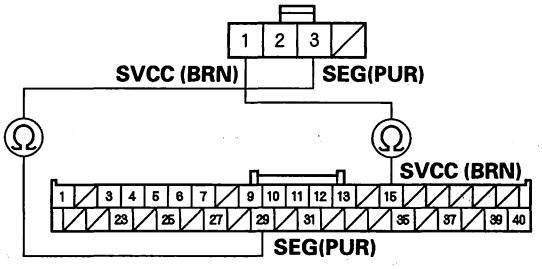
17. Turn the ignition switch OFF.

18. Disconnect power seat control unit connector A (40P).

19. Disconnect the slide position sensor 4P connector.

20. Check for continuity between the power seat control unit connector A (40P) No. 15 and No. 29 terminals and the slide position sensor 4P connector No. 1 and No. 3 terminals respectively.

**SLIDE POSITION SENSOR 4P CONNECTOR**
Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 21.

**NO**—Repair open in the wire. ■

21. Disconnect the 4P connector from the front up-down position sensor and the rear up-down position sensor, then disconnect the recline motor/ lumbar support motor 8P connector.

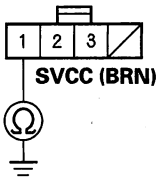
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## DTC Troubleshooting (cont'd)

22. Check for continuity between body ground and the slide position sensor 4P connector No. 1 terminal.

**SLIDE POSITION SENSOR 4P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

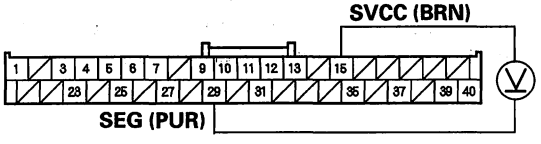
**NO**—Go to Step 23.

23. Reconnect the power seat control unit connector A (40P).

24. Turn the ignition switch ON (II).

25. Measure the voltage the between power seat control unit connector A (40P) No. 15 and No. 29 terminals.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there battery voltage when the slide switch is operated?*

**YES**—Replace the slide motor/position sensor. ■

**NO**—Replace the power seat control unit. ■

26. Turn the ignition switch OFF.

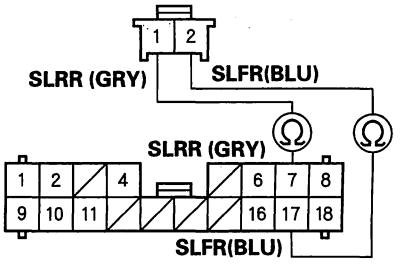
27. Disconnect the power seat control unit connector B (18P).

28. Disconnect the slide motor 2P connector.

29. Check for continuity between the power seat control unit connector B (18P) No. 7 and No. 17 terminals and the slide motor 2P connector No. 1 and No. 2 terminals respectively.

**SLIDE MOTOR 2P CONNECTOR**

Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR B (18P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 30.

**NO**—Repair open in the wire. ■

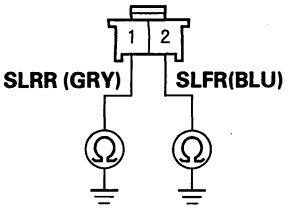
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30. Check for continuity between body ground and the slide motor 2P connector No. 1 and No. 2 terminals individually.

**SLIDE MOTOR 2P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 31.

31. Test the slide motor (see page 22-486).

*Is the motor OK?*

**YES**—Replace the power seat control unit. ■

**NO**—Replace the slide motor/position sensor. ■

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## DTC Troubleshooting (cont'd)

### DTC B1826: Power Seat Front Up-down Motor Pulse Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

DTC B1826 is stored when the front up-down switch is operated more than 1 second after the seat moves to the most up or most down position, even when the system is OK.

1. Turn the ignition switch OFF and then back ON (II).
2. Clear the DTCs with the HDS.
3. Operate the power seat adjustment switch in all directions for more than 1 second each.
4. Check for the DTCs with the HDS.

   *Is DTC B1826 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the front up-down motor/position sensor is OK at this time. Check for loose or poor connections at the power seat control unit connectors.■
5. Check for DTCs with the HDS.

   *Is DTC B1836 also indicated?*

   **YES**—Troubleshoot B1836 first.■

   **NO**—Go to step 6.
6. Check for DTCs with the HDS.

   *Are DTCs B1825, B1827 and/or B1828 also indicated?*

   **YES**—Go to step 17.

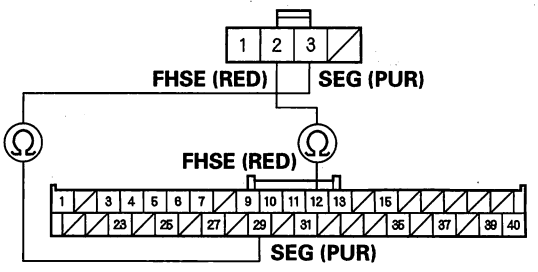
   **NO**—Go to step 7.
7. Turn the ignition switch OFF, and then back ON (II).
8. Operate the front up-down switch for 2 seconds, and check the front up-down motor operation.

   *Does the front up-down motor run smoothly?*

   **YES**—Go to step 9.

   **NO**—Go to step 26.
9. Turn the ignition switch OFF.
10. Disconnect the power seat control unit connector A (40P).
11. Disconnect the front up-down position sensor 4P connector.
12. Check for continuity between the power seat control unit connector A (40P) No. 12 and No. 29 terminals and the front up-down position sensor 4P connector No. 2 and No. 3 terminals respectively.

**FRONT UP-DOWN POSITION SENSOR 4P CONNECTOR**
Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.■

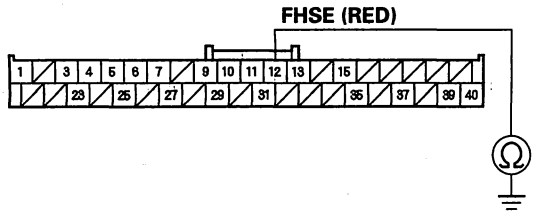
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13. Check for continuity between the power seat control unit connector A (40P) No. 12 terminal and body ground.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

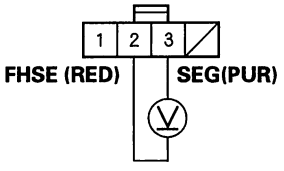
**NO**—Go to step 14.

14. Reconnect power seat control unit connector A (40P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between the front up-down position sensor 4P connector No. 2 (+) and No. 3 (−) terminals.

**FRONT UP-DOWN POSITION SENSOR 4P CONNECTOR**




Wire side of female terminals

*Is there about 5 V?*

**YES**—Faulty front up-down position sensor, replace the front up-down motor. ■

**NO**—If there is no voltage, replace the power seat control unit. If there is battery voltage, repair a short in the wire (sensor line). ■

17. Turn the ignition switch OFF.

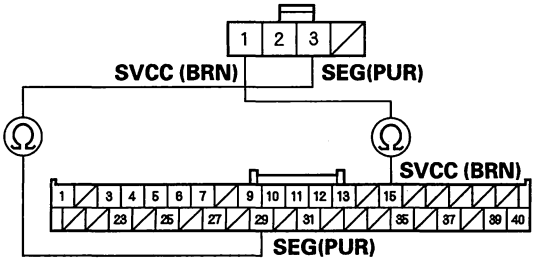
18. Disconnect the power seat control unit connector A (40P).

19. Disconnect the front up-down position sensor 4P connector.

20. Check for continuity between the power seat control unit connector A (40P) No. 15 and No. 29 terminals and the front up-down position sensor 4P connector No. 1 and No. 3 terminals respectively.

**FRONT UP-DOWN POSITION SENSOR 4P CONNECTOR**

Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 21.

**NO**—Repair open in the wire. ■

21. Disconnect the 4P connector from the slide position sensor and the rear up-down position sensor, then disconnect the recline motor/lumbar support motor 8P connector.

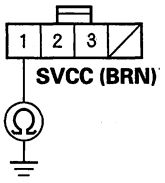
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## DTC Troubleshooting (cont'd)

22. Check for continuity between body ground and the front up-down position sensor 4P connector No. 1 terminal.

**FRONT UP-DOWN POSITION SENSOR 4P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

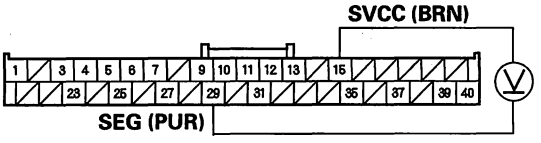
**NO**—Go to step 23.

23. Reconnect power seat control unit connector A (40P).

24. Turn the ignition switch ON (II).

25. Measure the voltage between the power seat control unit connector A (40P) No. 15 and No. 29 terminals.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there battery voltage when the front up-down switch is operated?*

**YES**—Replace the front up-down motor/position sensor.■

**NO**—Replace the power seat control unit.■

26. Turn the ignition switch OFF.

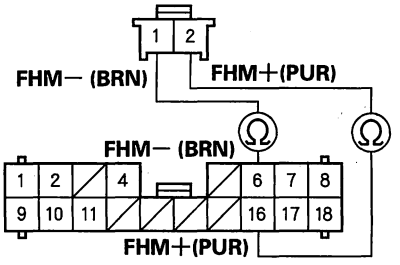
27. Disconnect the power seat control unit connector B (18P).

28. Disconnect the front up-down motor 2P connector.

29. Check for continuity between the power seat control unit connector B (18P) No. 6 and No. 16 terminals and the front up-down motor 2P connector No. 1 and No. 2 terminals respectively.

**FRONT UP-DOWN MOTOR 2P CONNECTOR**

Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR B (18P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 30.

**NO**—Repair open in the wire.■

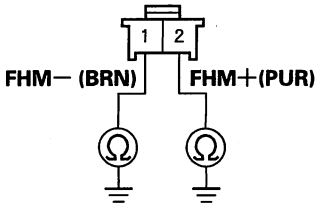
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30. Check for continuity between body ground and the front up-down motor 2P connector No. 1 and No. 2 terminals individually.

**FRONT UP-DOWN MOTOR 2P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 31.

31. Test the front up-down motor (see page 22-486).

*Is the motor OK?*

**YES**—Replace the power seat control unit.■

**NO**—Replace the front up-down motor/position sensor.■

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## DTC Troubleshooting (cont'd)

### **DTC B1827:** Power Seat Rear Up-down Motor Pulse Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

DTC B1827 is stored when the rear up-down switch is operated more than 1 second after the seat moves to the most up or most down position, even when the system is OK.

1. Turn the ignition switch OFF and then back ON (II).
2. Clear the DTCs with the HDS.
3. Operate the power seat adjustment switch in all directions for more than 1 second each.
4. Check for the DTCs with the HDS.

   *Is DTC B1827 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the rear up-down motor/position sensor is OK at this time. Check for loose or poor connections at the power seat control unit connectors.■
5. Check for DTCs with the HDS.

   *Is DTC B1836 also indicated?*

   **YES**—Troubleshoot B1836 first.■

   **NO**—Go to step 6.
6. Check for DTCs with the HDS.

   *Are DTCs B1825, B1826, and/or B1828 also indicated?*

   **YES**—Go to step 17.

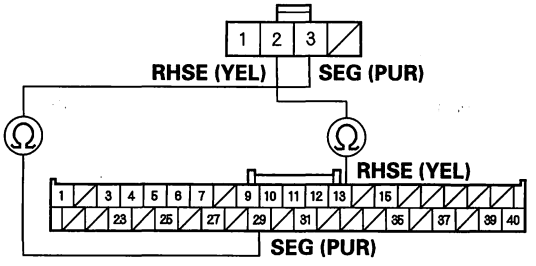
   **NO**—Go to step 7.
7. Turn the ignition switch OFF, and then back ON (II).
8. Operate the rear up-down switch for 2 seconds, and check the rear up-down motor operation.

   *Does the rear up-down motor run smoothly?*

   **YES**—Go to step 9.

   **NO**—Go to step 26.
9. Turn the ignition switch OFF.
10. Disconnect the power seat control unit connector A (40P).
11. Disconnect the rear up-down position sensor 4P connector.
12. Check for continuity between the power seat control unit connector A (40P) No. 13 and No. 29 terminals and the rear up-down position sensor 4P connector No. 2 and No. 3 terminals respectively.

**REAR UP-DOWN POSITION SENSOR 4P CONNECTOR**
Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.■

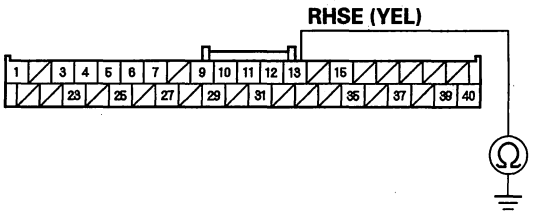
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13. Check for continuity between the power seat control unit connector A (40P) No. 13 terminal and body ground.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

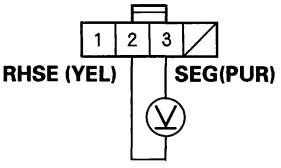
**NO**—Go to step 14.

14. Reconnect the power seat control unit connector A (40P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between the rear up-down position sensor 4P connector No. 2 (+) and No. 3 (—) terminals.

**REAR UP-DOWN POSITION SENSOR 4P CONNECTOR**




Wire side of female terminals

*Is there about 5 V?*

**YES**—Faulty rear up-down position sensor, replace the rear up-down motor. ■

**NO**—If there is no voltage, replace the power seat control unit. If there is battery voltage, repair a short in the wire (sensor line). ■

17. Turn the ignition switch OFF.

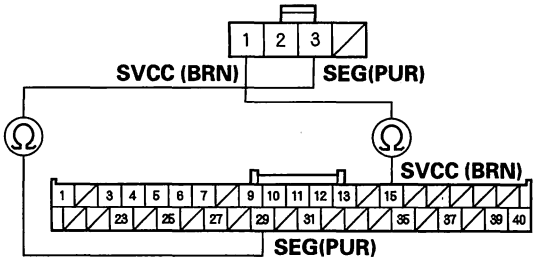
18. Disconnect the power seat control unit connector A (40P).

19. Disconnect the rear up-down position sensor 4P connector.

20. Check for continuity between the power seat control unit connector A (40P) No. 15 and No. 29 terminals and the rear up-down position sensor 4P connector No. 1 and No. 3 terminals respectively.

**REAR UP-DOWN POSITION SENSOR 4P CONNECTOR**

Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 21.

**NO**—Repair open in the wire. ■

21. Disconnect the 4P connector from the slide position sensor and the front up-down position sensor, then disconnect the recline motor/lumbar support motor 8P connector.

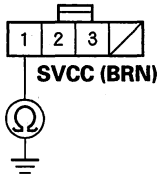
(cont'd)

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## DTC Troubleshooting (cont'd)

22. Check for continuity between body ground and the rear up-down position sensor 4P connector No. 1 terminal.

**REAR UP-DOWN POSITION SENSOR 4P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

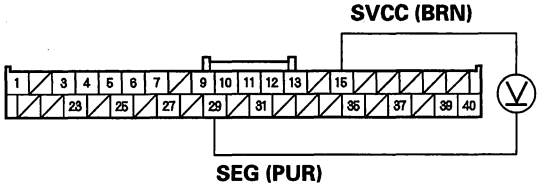
**NO**—Go to step 23.

23. Reconnect the power seat control unit connector A (40P).

24. Turn the ignition switch ON (II).

25. Measure the voltage between the power seat control unit connector A (40P) No. 15 and No. 29 terminals.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there battery voltage when the rear up-down switch is operated?*

**YES**—Replace the rear up-down motor/position sensor.■

**NO**—Replace the power seat control unit.■

26. Turn the ignition switch OFF.

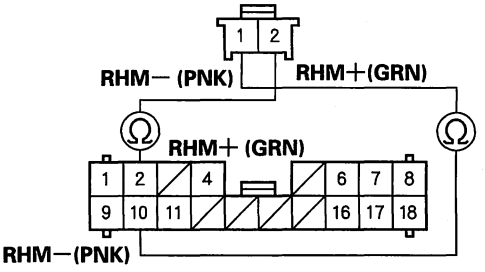
27. Disconnect the power seat control unit connector B (18P).

28. Disconnect the rear up-down motor 2P connector.

29. Check for continuity between the power seat control unit connector B (18P) No. 2 and No. 10 terminals and the rear up-down motor 2P connector No. 1 and No. 2 terminals respectively.

**REAR UP-DOWN MOTOR 2P CONNECTOR**

Wire side of female terminals




**POWER SEAT CONTROL UNIT CONNECTOR B (18P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 30.

**NO**—Repair open in the wire.■

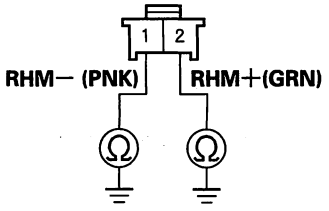
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30. Check for continuity between body ground and the rear up-down motor 2P connector No. 1 and No. 2 terminals individually.

**REAR UP-DOWN MOTOR 2P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 31.

31. Test the rear up-down motor (see page 22-486).

*Is the motor OK?*

**YES**—Replace the power seat control unit. ■

**NO**—Replace the rear up-down motor/position sensor. ■

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## DTC Troubleshooting (cont'd)

### DTC B1828: Power Seat Recline Motor Pulse Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

DTC B1828 is stored when the recline switch is operated more than 1 second after the seat back reclines to the most forward or most backward position, even when the system is OK.

1. Turn the ignition switch OFF and then back ON (II).
2. Clear the DTCs with the HDS.
3. Operate the power seat adjustment switch in all directions for more than 1 second each.
4. Check for the DTCs with the HDS.

   *Is DTC B1828 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the recline motor/position sensor is OK at this time. Check for loose or poor connections at the power seat control unit connector.■
5. Check for DTCs with the HDS.

   *Is DTC B1836 also indicated?*

   **YES**—Troubleshoot B1836 first.■

   **NO**—Go to step 6.
6. Check for DTCs with the HDS.

   *Are DTCs B1825, B1826, and/or B1827 also indicated?*

   **YES**—Go to step 17.

   **NO**—Go to step 7.
7. Turn the ignition switch OFF, and then back ON (II).
8. Operate the recline switch for 2 seconds, and check the recline motor operation.

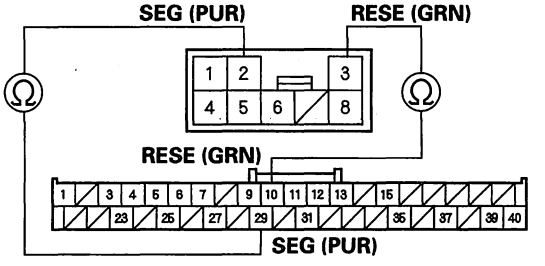
   *Does the recline motor run smoothly?*

   **YES**—Go to step 9.

   **NO**—Go to step 26.
9. Turn the ignition switch OFF.
10. Disconnect the power seat control unit connector A (40P).
11. Disconnect the recline motor/lumbar support motor subharness 8P connector.
12. Check for continuity between the power seat control unit connector A (40P) No. 10 and No. 29 terminals and the recline motor/lumbar support motor subharness 8P connector No. 2 and No. 3 terminals respectively.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR SUBHARNESS 8P CONNECTOR**

Terminal side of male terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.■

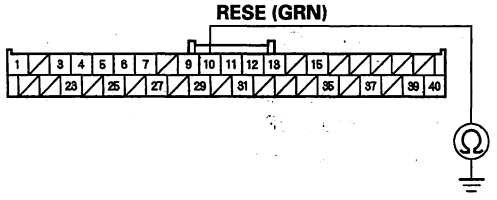
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13. Check for continuity between the power seat control unit connector A (40P) No. 10 terminal and body ground.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

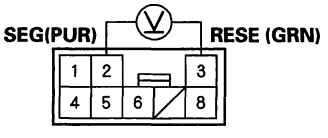
**NO**—Go to step 14.

14. Reconnect power seat control unit connector A (40P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between the recline motor/lumbar support motor subharness 8P connector No. 3 (+) and No. 2 (—) terminals.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR SUBHARNESS 8P CONNECTOR**




Terminal side of male terminals

*Is there about 5 V?*

**YES**—Check for an open/short in the wire of the recline motor/lumbar support motor subharness. If the harness is OK, replace the recline motor/position sensor. ■

**NO**—If there is no voltage, replace the power seat control unit. If there is battery voltage, repair short in the wire (sensor line). ■

17. Turn the ignition switch OFF.

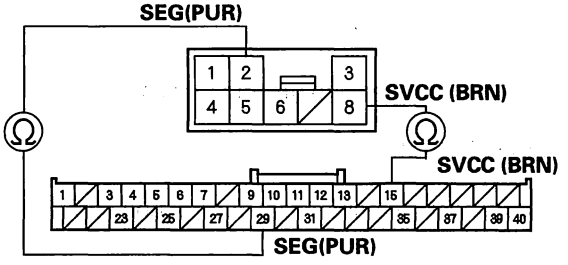
18. Disconnect the power seat control unit connector A (40P).

19. Disconnect the recline motor/lumbar support motor subharness 8P connector.

20. Check for continuity between the power seat control unit connector A (40P) No. 15 and No. 29 terminals and the recline motor/lumbar support motor subharness 8P connector No. 2 and No. 8 terminals respectively.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR SUBHARNESS 8P CONNECTOR**

Terminal side of male terminals




**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 21.

**NO**—Repair open in the wire. ■

21. Disconnect the 4P connector from the slide position sensor, the front up-down position sensor, and the rear up-down position sensor.

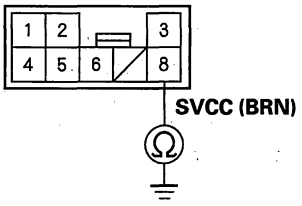
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## DTC Troubleshooting (cont'd)

22. Check for continuity between body ground and the recline motor/lumbar support subharness 8P connector No. 8 terminal.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR SUBHARNESS 8P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

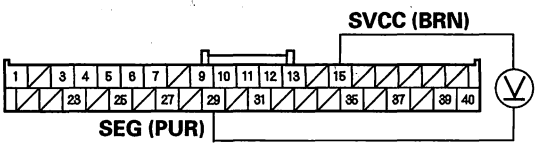
**NO**—Go to step 23.

23. Reconnect the power seat control unit connector A (40P).

24. Turn the ignition switch ON (II).

25. Measure the voltage between the power seat control unit connector A (40P) No. 15 and No. 29 terminals.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there battery voltage when the recline switch is operated?*

**YES**—Replace the recline motor/position sensor. ■

**NO**—Replace the power seat control unit. ■

26. Turn the ignition switch OFF.

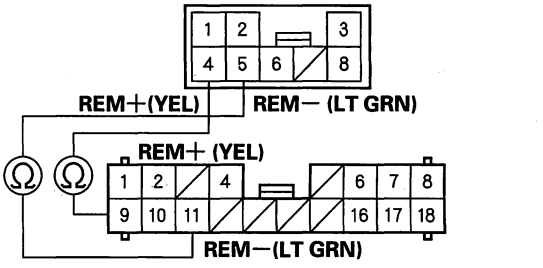
27. Disconnect the power seat control unit connector B (18P).

28. Disconnect the recline motor/lumbar support motor subharness 8P connector.

29. Check for continuity between the power seat control unit connector B (18P) No. 9 and No. 11 terminals and the recline motor/lumbar support motor subharness 8P connector No. 4 and No. 5 terminals respectively.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR SUBHARNESS 8P CONNECTOR**

Terminal side of male terminals




**POWER SEAT CONTROL UNIT CONNECTOR B (18P)**

Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 30.

**NO**—Repair open in the wire. ■

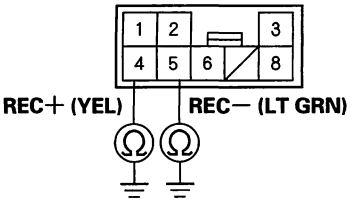
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30. Check for continuity between body ground and the recline motor/lumbar support motor subharness 8P connector No. 4 and No. 5 terminals individually.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR SUBHARNESS 8P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 31.

31. Test the recline motor (see page 22-486).

*Is the motor OK?*

**YES**—Replace the power seat control unit. ■

**NO**—Replace the recline motor/position sensor. ■

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## DTC Troubleshooting (cont'd)

### **DTC B1829:** A/T P Signal and VSS Signal Mismatch

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Start the engine.
3. Test drive at 6 mph (10 km/h) for 10 seconds.
4. Check for the DTCs with the HDS.

   *Is DTC B1829 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections at the power seat control unit connector. ■
5. Check the P indicator of the shift position indicator and the MIL.

   *Does the P indicator and MIL come on?*

   **YES**—Troubleshoot the automatic transmission system. ■

   **NO**—Go to step 6.
6. Check for the gauge control module DTCs with the HDS.

   *Are there any DTCs indicated?*

   **YES**—Troubleshoot the gauge control module. ■

   **NO**—Replace the power seat control unit. ■

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## DTC B1835: Tilt/Telescopic Switch Signal Input Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then back ON (II).
3. Operate the tilt/telescopic switch in each direction for more than 3 seconds each.
4. Check for DTCs with the HDS.

   *Is DTC B1835 indicated?*

   **YES**—Go to step 5.

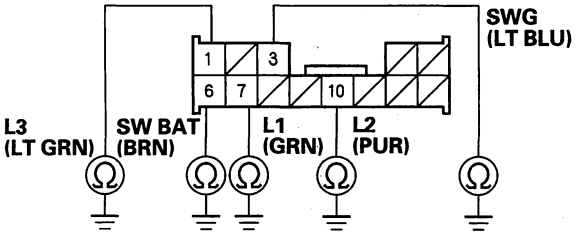
   **NO**—Intermittent failure. The power tilt/telescopic steering system is OK at this time. Check for loose or poor connections at the tilt/telescopic switch connector and at the power tilt/telescopic control unit connector. ■
5. Turn the ignition switch OFF.
6. Test the tilt/telescopic switch (see page 22-488).

   *Is the switch OK?*

   **YES**—Go to step 7.

   **NO**—Replace the switch. ■
7. Disconnect power tilt/telescopic steering control unit connector A (16P).
8. Disconnect the tilt/telescopic switch 13P connector.
9. Check for continuity between body ground and tilt/telescopic switch 13P connector terminals No. 1, No. 3, No. 6, No. 7, and No. 10 individually.

**TILT/TELESCOPIC SWITCH 13P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

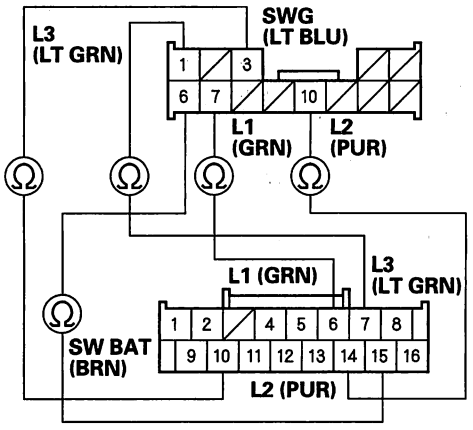
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## DTC Troubleshooting (cont'd)

10. Check for continuity between power tilt/telescopic steering control unit connector A (16P) terminals No. 7, No. 6, No. 10, No. 14, and No. 15 and the tilt/telescopic switch 13P connector terminals No. 1, No. 7, No. 3, No. 10, and No. 6 respectively.

**TILT/TELESCOPIC SWITCH 13P CONNECTOR**
Wire side of female terminals




**POWER TILT/TELESCOPIC STEERING CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals

*Is there continuity?*

**YES**—Replace the power tilt/telescopic steering control unit.■

**NO**—Repair open in the wire.■

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## **DTC B1836:** Power Seat Position Sensor Circuit Short

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

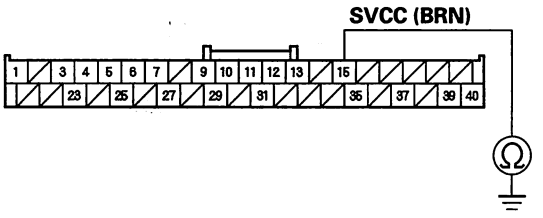
1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF and then back ON (II).
3. Operate the power seat adjustment switch in all direction for more than 1 second each.
4. Check for DTCs with the HDS.

   *Is DTC B1836 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the driving position memory system is OK at this time. Check for loose or poor connections at the power sear control unit connectors.■
5. Turn the ignition switch OFF.
6. Disconnect power seat control unit connector A (40P).
7. Disconnect the 4P connectors from the slide position sensor, the front up-down position sensor, and the rear up-down position sensor, and disconnect the 8P connector from the recline motor/lumber support motor subharness.
8. Check for continuity between power seat control unit connector A (40P) terminal No. 15 and body ground.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

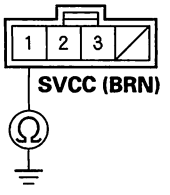
*Is there continuity?*

**YES**—Repair short to ground in the wire.■

**NO**—Go to step 9.

9. Check for continuity between body ground (motor body) and the No. 1 terminal of the slide position sensor, the front up-down position sensor, and the rear up-down position sensor.

**SLIDE POSITION SENSOR CONNECTOR (3P)**
**FRONT UP-DOWN POSITION SENSOR CONNECTOR (3P)**
**REAR UP-DOWN POSITION SENSOR CONNECTOR (3P)**




Terminal side of male terminals

*Is there continuity?*

**YES**—Replace the motor/position sensor that has continuity.■

**NO**—Go to step 10.

(cont'd)

BACK

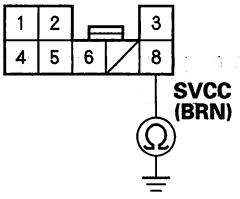


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## DTC Troubleshooting (cont'd)

10. Check for continuity between body ground (seat frame) and the No. 8 terminal of the recline motor/lumber support motor subharness.

**RECLINE MOTOR/LUMBAR SUPPORT MOTOR 8P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Check for a short to ground in the wire of the recline motor/lumber support motor subharness. If the harness is bad, repair it, if the harness is OK, replace the recline motor/position sensor. ■

**NO**—Replace the power seat control unit. ■

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BACK

## **DTC B1837:** Driving Position Memory Recall Timeout

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTC with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Move the steering position to the full tilt up and full telescopic out positions with the power tilt/telescopic steering switch.
4. Move both power mirrors to the full up and full left positions with the power mirror switch.
5. Move the power seat to the full front up and full rear up positions, then slide the seat all the way back and completely recline the seat-back backward with the power seat adjustment switch.
6. Put this seating position into memory with the driving position memory switch.
7. Manually move the seat away from the positions just memorized.
8. Recall the memory positions with the driving position memory switch.
9. Wait for 3 minutes.
10. Check for DTCs with the HDS.

    *Are any DTCs indicated?*

    **YES**—Go to step 11.

    **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
11. Check for DTCs with the HDS.

    *Are any DTCs other than B1837 indicated?*

    **YES**—Go to the indicated DTCs troubleshooting.■

    **NO**—Go to step 12.
12. Clear the DTCs with the HDS, and wait for 6 seconds.
13. Move the motors shown one at a time, and check the operation time.

    - Steering tilt motor up and down
    - Steering telescopic motor pulled and pushed
    - Power mirror actuator (up, down, left, right)
    - Power seat (slide forward/backward, recline forward/backward, front up-down, rear up-down)

    *Does any motor fail to run smoothly?*

    **YES**—Go to the failed motor test:

    - Power tilt/telescopic motor test (see page 22-488).
    - Power mirror actuator test (see page 22-374).
    - Power seat motor test (see page 22-486).

    If the motor is OK, check the engagement of the motor gear.■

    **NO**—Go to the each input test:

    - Power seat control unit input test (see page 22-477).■
    - Power tilt/telescopic steering control unit input test (see page 22-482).■
    - Driver's MPCS unit input test (see page 22-278).■

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## DTC Troubleshooting (cont'd)

### DTC B1840: Tilt Motor Pulse Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the tilt switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1840 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Clear the DTCs with the HDS.

   *Is DTC B1841 also indicated?*

   **YES**—Go to step 17.

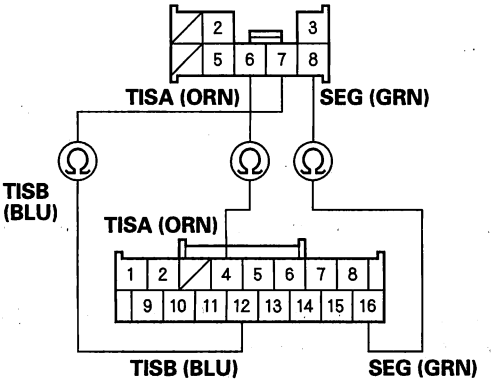
   **NO**—Go to step 6.
6. Clear the DTCs with the HDS.
7. Turn the ignition switch OFF, and then back ON (II).
8. Operate the tilt switch for 2 seconds, and check the tilt motor operation.

   *Does the tilt motor run smoothly?*

   **YES**—Go to step 9.

   **NO**—Go to step 26.
9. Turn the ignition switch OFF.
10. Disconnect power tilt/telescopic control unit connector A (16P).
11. Disconnect the tilt motor/position sensor 8P connector.
12. Check for continuity between power tilt/telescopic control unit connector A (16P) terminals No. 4, No. 12, and No.16 and tilt motor/position sensor 8P connector terminals No. 6, No. 7, and No. 8 respectively.

**TILT MOTOR/POSITION SENSOR 8P CONNECTOR**
Wire side of female terminals




**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals

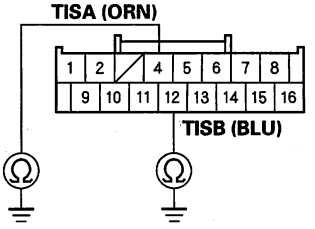
*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire.■

13. Check for continuity between body ground and power tilt/telescopic control unit connector A (16P) terminals No. 4 and No. 12 individually.

**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 14.

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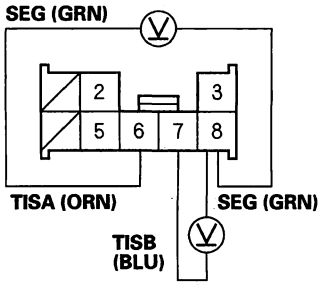
BACK

14. Reconnect power tilt/telescopic control unit connector A (16P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between tilt motor/position sensor 8P connector terminals No. 6 and No. 8 and between terminals No. 7 and No. 8.

**TILT MOTOR/POSITION SENSOR 8P CONNECTOR**




Wire side of female terminals

*Is there about 5 V?*

**YES**—Faulty tilt motor/position sensor, replace the tilt motor assembly. ■

**NO**—If there is no voltage, replace the power tilt/telescopic control unit. If there is battery voltage, repair short in the wire. ■

17. Turn the ignition switch OFF.

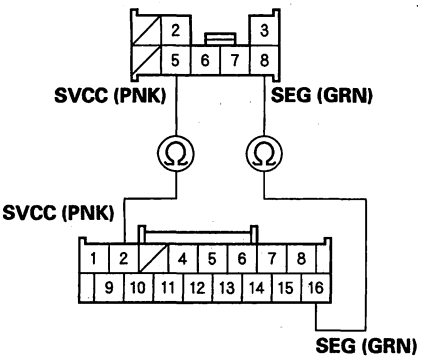
18. Disconnect power tilt/telescopic control unit connector A (16P).

19. Disconnect the tilt motor/position sensor 8P connector.

20. Check for continuity between power tilt/telescopic control unit connector A (16P) terminals No. 2 and No. 16 and tilt motor/position sensor 8P connector terminals No. 5 and No. 8 respectively.

**TILT MOTOR/POSITION SENSOR 8P CONNECTOR**

Wire side of female terminals




**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**

Wire side of female terminals

*Is there continuity?*

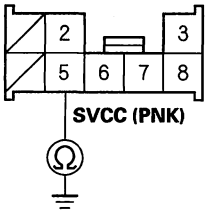
**YES**—Go to step 21.

**NO**—Repair open in the wire. ■

21. Disconnect the telescopic motor/position sensor 6P connector.

22. Check for continuity between tilt motor/position sensor 8P connector terminal No. 5 and body ground.

**TILT MOTOR/POSITION SENSOR 8P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 23.

(cont'd)

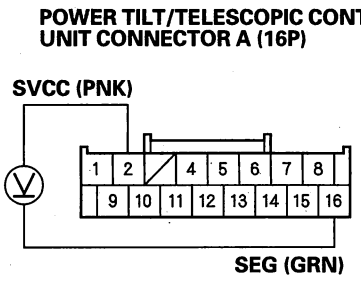
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## DTC Troubleshooting (cont'd)

23. Reconnect power tilt/telescopic control unit connector A (16P).

24. Turn the ignition switch ON (II).

25. Measure the voltage between power tilt/telescopic control unit connector A (16P) terminals No. 2 and No. 16.




*Is there battery voltage when the tilt switch is operated?*

**YES**—Faulty tilt motor/position sensor, replace the tilt motor assembly.■

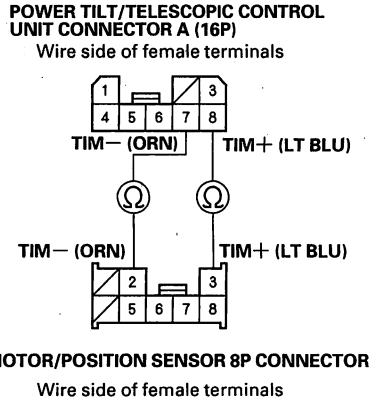
**NO**—Replace the power tilt/telescopic control unit.■

26. Turn the ignition switch OFF.

27. Disconnect power tilt/telescopic control unit connector B (8P).

28. Disconnect the tilt motor/position sensor 8P connector.

29. Check for continuity between power tilt/telescopic control unit connector B (8P) terminals No. 7 and No. 8 and tilt motor/position sensor 8P connector terminals No. 2 and No. 3 respectively.

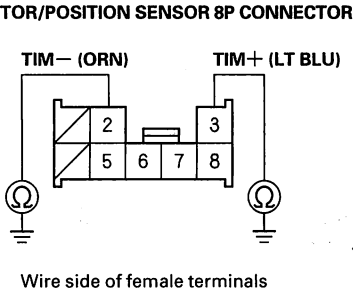



*Is there continuity?*

**YES**—Go to step 30.

**NO**—Repair open in the wire.■

30. Check for continuity between body ground and tilt motor/position sensor 8P connector terminals No. 2 and No. 3 individually.




*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 31.

31. Test the tilt motor (see page 22-488).

*Is the motor OK?*

**YES**—Replace the power tilt/telescopic control unit.■

**NO**—Replace the tilt motor/position sensor.■

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## DTC B1841: Telescopic Motor Pulse Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the telescopic switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1841 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Clear the DTCs with the HDS.

   *Is DTC B1840 also indicated?*

   **YES**—Go to step 17.

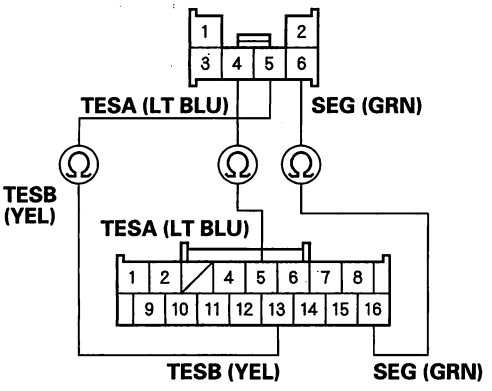
   **NO**—Go to step 6.
6. Clear the DTCs with the HDS.
7. Turn the ignition switch OFF and then back ON (II).
8. Operate the telescopic switch for 2 seconds, and check the telescopic motor operation.

   *Does the tilt motor run smoothly?*

   **YES**—Go to step 9.

   **NO**—Go to step 26.
9. Turn the ignition switch OFF.
10. Disconnect power tilt/telescopic control unit connector A (16P).
11. Disconnect the telescopic motor/position sensor 6P connector.
12. Check for continuity between power tilt/telescopic control unit connector A (16P) terminals No. 5, No. 13, and No.16 and telescopic motor/position sensor 6P connector terminals No. 4, No. 5, and No. 6 respectively.

**TELESCOPIC MOTOR/POSITION SENSOR 6P CONNECTOR**
Wire side of female terminals




**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals

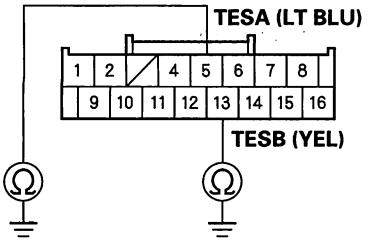
*Is there continuity?*

**YES**—Go to step 13.

**NO**—Repair open in the wire. ■

13. Check for continuity between body ground and power tilt/telescopic control unit connector A (16P) terminals No. 5 and No. 13 individually.

**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 14.

(cont'd)

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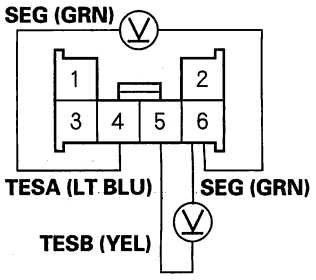
## DTC Troubleshooting (cont'd)

14. Reconnect power tilt/telescopic control unit connector A (16P).

15. Turn the ignition switch ON (II).

16. Measure the voltage between telescopic motor/position sensor 6P connector terminals No. 4 and No. 6 and between terminals No. 5 and No. 6.

**TELESCOPIC MOTOR/POSITION SENSOR 6P CONNECTOR**




Wire side of female terminals

*Is there about 5 V?*

**YES**—Faulty telescopic motor/position sensor, replace the telescopic motor assembly. ■

**NO**—If there is no voltage, replace the power tilt/telescopic control unit. If there is battery voltage, repair a short in the wire. ■

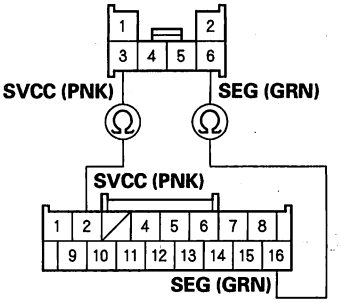
17. Turn the ignition switch OFF.

18. Disconnect power tilt/telescopic control unit connector A (16P).

19. Disconnect the telescopic motor/position sensor 6P connector.

20. Check for continuity between power tilt/telescopic control unit connector A (16P) terminals No. 2 and No. 16 and telescopic motor/position sensor 6P connector terminals No. 3 and No. 6 respectively.

**TELESCOPIC MOTOR/POSITION SENSOR 6P CONNECTOR**
Wire side of female terminals




**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals

*Is there continuity?*

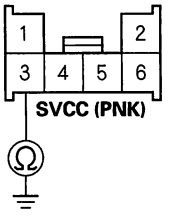
**YES**—Go to step 21.

**NO**—Repair open in the wire. ■

21. Disconnect the tilt motor/position sensor 8P connector.

22. Check for continuity between telescopic motor/position sensor 6P connector terminal No. 3 and body ground.

**TELESCOPIC MOTOR/POSITION SENSOR 6P CONNECTOR**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 23.

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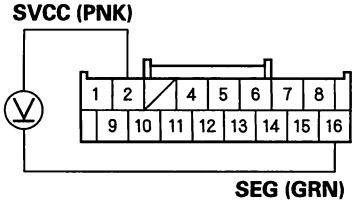
BACK

23. Reconnect power tilt/telescopic control unit connector A (16P).

24. Turn the ignition switch ON (II).

25. Measure the voltage between power tilt/telescopic control unit connector A (16P) terminals No. 2 and No. 16.

**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**




Wire side of female terminals

*Is there battery voltage when the telescopic switch is operated?*

**YES**—Faulty telescopic motor/position sensor, replace the telescopic motor assembly. ■

**NO**—Replace the power tilt/telescopic control unit. ■

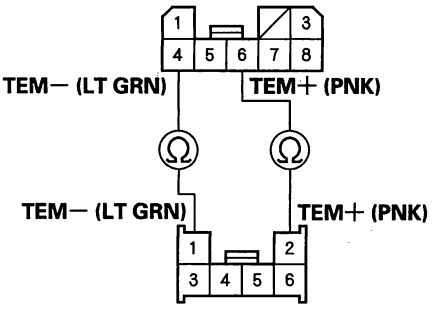
26. Turn the ignition switch OFF.

27. Disconnect power tilt/telescopic control unit connector B (8P).

28. Disconnect the telescopic motor/position sensor 6P connector.

29. Check for continuity between power tilt/telescopic control unit connector B (8P) terminals No. 4 and No. 6 and telescopic motor/position sensor 6P connector terminals No. 1 and No. 2 respectively.

**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals




**TELESCOPIC MOTOR/POSITION SENSOR 6P CONNECTOR**
Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 30.

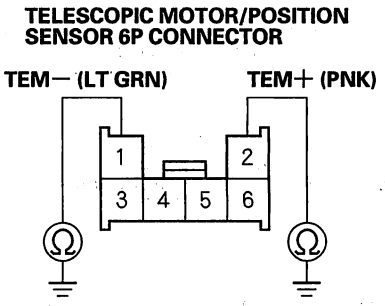
**NO**—Repair open in the wire. ■

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## DTC Troubleshooting (cont'd)

30. Check for continuity between body ground and telescopic motor/position sensor 6P connector terminals No. 1 and No. 2 individually.




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 31.

31. Test the telescopic motor (see page 22-488).

*Is the motor OK?*

**YES**—Replace the power tilt/telescopic control unit.■

**NO**—Replace the telescopic motor/position sensor.■



BACK

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## **DTC B1842:** Power Tilt/Telescopic Position Sensor Power Supply Circuit (SVCC Line) Short

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

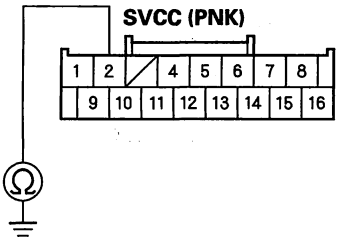
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the tilt/telescopic switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1842 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect power tilt/telescopic control unit connector A (16P).
7. Disconnect the telescopic motor/position sensor 6P connector.
8. Disconnect the tilt motor/position sensor 8P connector.
9. Check for continuity between power tilt/telescopic control unit connector A (16P) terminal No. 2 and body ground.

**POWER TILT/TELESCOPIC CONTROL UNIT CONNECTOR A (16P)**




Wire side of female terminals

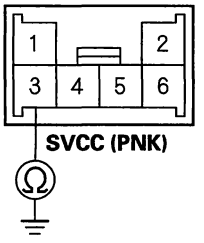
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

10. At the sensor side, check for continuity between telescopic motor/position sensor 6P connector terminal No. 3 and body ground (motor body).

**TELESCOPIC MOTOR/POSITION SENSOR 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Replace the telescopic motor/position sensor. ■

**NO**—Go to step 11.

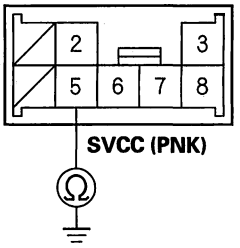
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## DTC Troubleshooting (cont'd)

11. At the sensor side, check for continuity between tilt motor/position sensor 8P connector terminal No. 5 and body ground (motor body).

**TILT MOTOR/POSITION SENSOR 8P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Replace the tilt motor/position sensor. ■

**NO**—Replace the power tilt/telescopic control unit. ■

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## DTC B1843: Power Seat Control Unit Lost Communication with Power Tilt/Telescopic Steering Control Unit (UART line)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Check for DTCs with the HDS.

   *Is DTC B1843 indicated?*

   **YES**—Go to step 4.

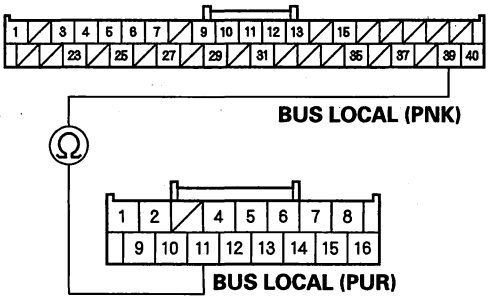
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
4. Move the tilt/telescopic steering in each direction with the tilt/telescopic switch.

   *Does the tilt/telescopic steering move in each direction smoothly?*

   **YES**—Go to step 5.

   **NO**—Go to step 10.
5. Turn the ignition switch OFF.
6. Disconnect the power seat control unit connector A (40P).
7. Disconnect power tilt/telescopic control unit connector A (16P).
8. Check for continuity between power seat control unit connector A (40P) terminal No. 39 and power tilt/telescopic control unit connector A (16P) terminal No. 11.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**
Wire side of female terminals




**POWER TILT/TELESCOPIC STEERING CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals

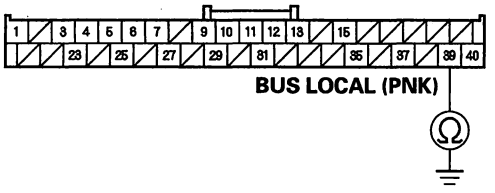
*Is there continuity?*

**YES**—Go to step 9.

**NO**—Repair open in the wire. ■

9. Check for continuity between power seat control unit connector A (40P) terminal No. 39 and body ground.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Substitute a known-good power tilt/telescopic control unit and recheck. If DTC B1843 is still indicated, replace the power seat control unit. ■

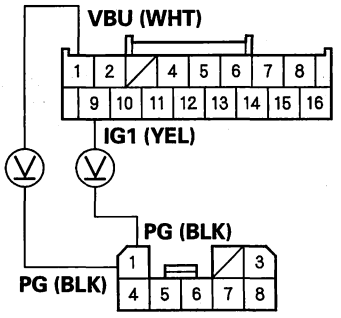
(cont'd)

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## DTC Troubleshooting (cont'd)

10. Turn the ignition switch OFF.
11. Disconnect power tilt/telescopic control unit connectors A (16P) and B (8P).
12. Turn the ignition switch ON (II).
13. Measure the voltage between power tilt/telescopic control unit connector A (16P) terminal No. 9 and connector B (8P) terminal No. 1, and between connector A (16P) terminal No. 1 and connector B (8P) terminal No. 1.

**POWER TILT/TELESCOPIC STEERING CONTROL UNIT CONNECTOR A (16P)**
Wire side of female terminals




**POWER TILT/TELESCOPIC STEERING CONTROL UNIT CONNECTOR B (8P)**
Wire side of female terminals

*Is there battery voltage?*

**YES**—Replace the power tilt/telescopic control unit. ■

**NO**—Do the power tilt/telescopic control unit input test (see page 22-482). ■

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BACK

## **DTC B1844:** Power Seat Slide Switch Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

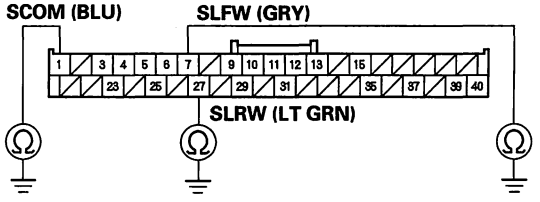
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the slide switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1844 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect power seat control unit connector A (40P).
7. Disconnect the power seat adjustment switch 12P connector.
8. Check for continuity between body ground and power seat control unit connector A (40P) terminals No. 1, No. 7, and No. 27 individually.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

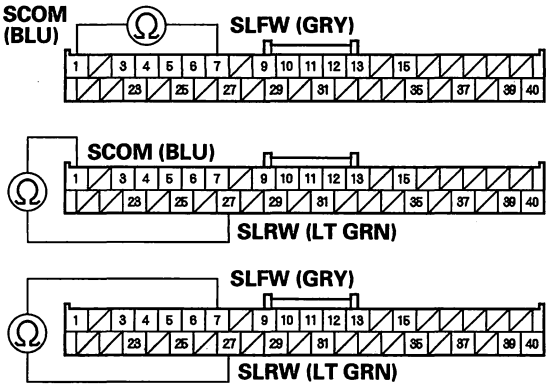
**YES**—Repair short in the wire. ■

**NO**—Go to step 9.

9. Check for continuity between these power seat control unit connector A (40P) terminals:

   - No. 1 and No. 7
   - No. 1 and No. 27
   - No. 7 and No. 27

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

10. Test the power seat adjustment switch (see page 22-485).

    *Is the switch OK?*

    **YES**—Replace the power seat control unit. ■

    **NO**—Replace the power seat adjustment switch. ■

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## DTC Troubleshooting (cont'd)

### DTC B1845: Power Seat Recline Switch Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

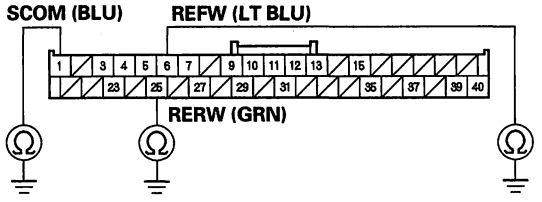
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the recline switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1845 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect power seat control unit connector A (40P).
7. Disconnect the power seat adjustment switch 12P connector.
8. Check for continuity between body ground and power seat control unit connector A (40P) terminals No. 1, No. 6, and No. 25 individually.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

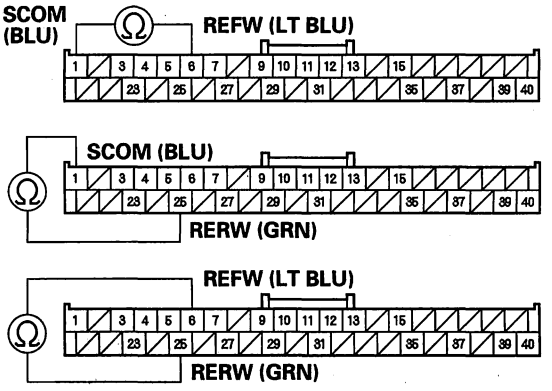
**YES**—Repair short in the wire. ■

**NO**—Go to step 9.

9. Check for continuity between these power seat control unit connector A (40P) terminals:

   - No. 1 and No. 6
   - No. 1 and No. 25
   - No. 6 and No. 25

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

10. Test the power seat adjustment switch (see page 22-485).

    *Is the switch OK?*

    **YES**—Replace the power seat control unit. ■

    **NO**—Replace the power seat adjustment switch. ■

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BACK

## DTC B1846: Power Seat Front Up-Down Switch Circuit Malfunction

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

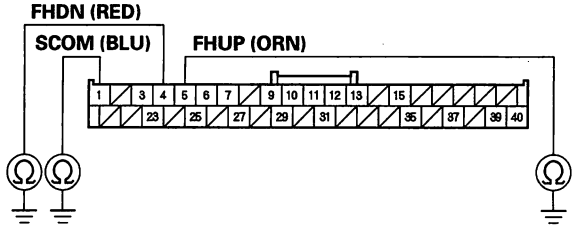
1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the front up-down switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1846 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect power seat control unit connector A (40P).
7. Disconnect the power seat adjustment switch 12P connector.
8. Check for continuity between body ground and power seat control unit connector A (40P) terminals No. 1, No. 4, and No. 5 individually.

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

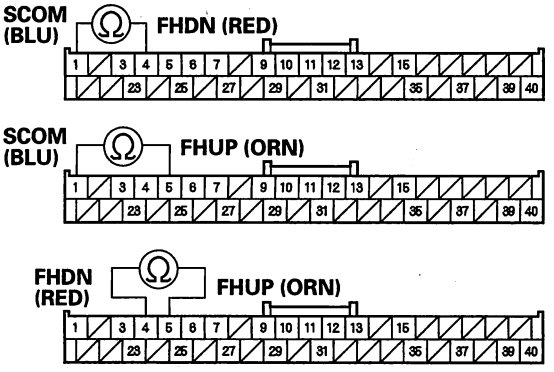
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 9.

9. Check for continuity between these power seat control unit connector A (40P) terminals:
   - No. 1 and No. 4
   - No. 1 and No. 5
   - No. 4 and No. 5

**POWER SEAT CONTROL UNIT CONNECTOR A (40P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

10. Test the power seat adjustment switch (see page 22-485).

    *Is the switch OK?*

    **YES**—Replace the power seat control unit. ■

    **NO**—Replace the power seat adjustment switch. ■

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## DTC Troubleshooting (cont'd)

### DTC B1847: Power Seat Rear Up-Down Switch Circuit Malfunction

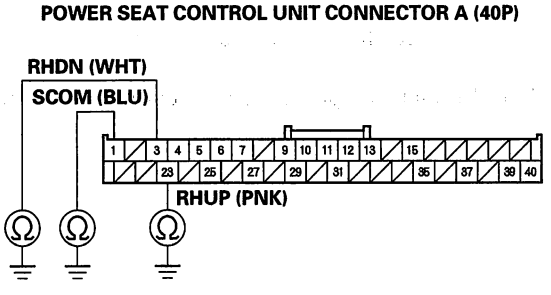
NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Operate the rear up-down switch in each direction for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1847 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Turn the ignition switch OFF.
6. Disconnect power seat control unit connector A (40P).
7. Disconnect the power seat adjustment switch 12P connector.
8. Check for continuity between body ground and power seat control unit connector A (40P) terminals No. 1, No. 3, and No. 23 individually.




Wire side of female terminals

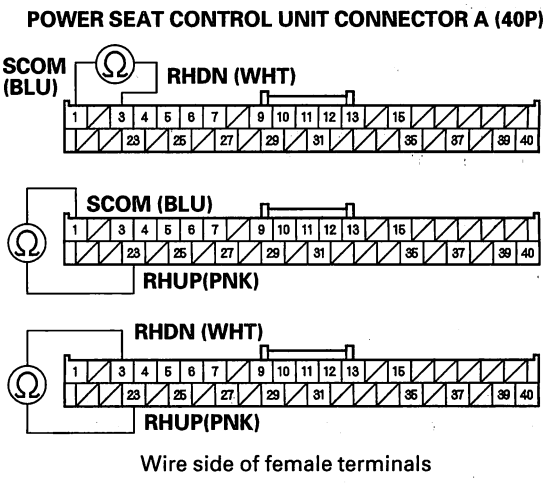
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 9.

9. Check for continuity between these power seat control unit connector A (40P) terminals:

   - No. 1 and No. 3
   - No. 1 and No. 23
   - No. 3 and No. 23




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

10. Test the power seat adjustment switch (see page 22-485).

    *Is the switch OK?*

    **YES**—Replace the power seat control unit. ■

    **NO**—Replace the power seat adjustment switch. ■

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BACK

## **DTC B2182:** Left Power Mirror Horizontal Sensor Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Move the left power mirror in each direction with the power mirror switch.
4. Check for DTCs with the HDS.

   *Is DTC B2182 indicated?*

   **YES**—Go to step 5.

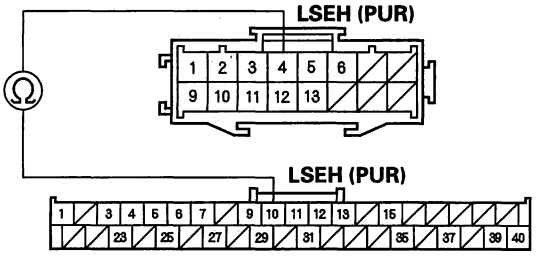
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Select POWER SEAT/POWER MIRROR from the BODY ELECTRICAL SYSTEM SELECT menu, and enter the DATA LIST.
6. Check the NORMAL/ABNORMAL information of the DRIVER DOOR MIRROR HORIZONTAL SENSOR in the DATA LIST.

   *Is the information indicator ABNORMAL?*

   **YES**—Go to step 7.

   **NO**—Replace the driver's MPCS unit. ■
7. Turn the ignition switch OFF.
8. Disconnect driver's MPCS unit connector A (40P).
9. Disconnect the left power mirror 16P connector.
10. Check for continuity between driver's MPCS unit connector A (40P) terminal No. 10 and left power mirror 16P connector terminal No. 4.

**LEFT POWER MIRROR 16P CONNECTOR**
Terminal side of male terminals




**DRIVER'S MPCS UNIT CONNECTOR A (40P)**
Wire side of female terminals

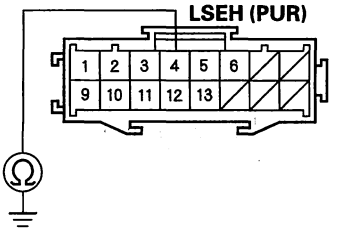
*Is there continuity?*

**YES**—Go to step 11.

**NO**—Repair open in the wire. ■

11. Check for continuity between left power mirror 16P connector terminal No. 4 and body ground.

**LEFT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 12.

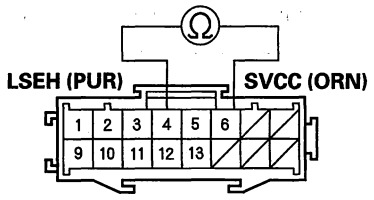
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## DTC Troubleshooting (cont'd)

12. Check for continuity between left power mirror 16P connector terminals No. 4 and No. 6.

**LEFT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

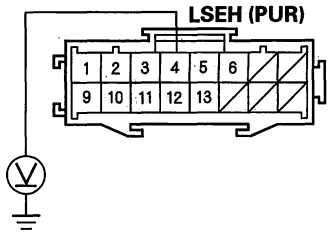
*Is there continuity?*

**YES**—Repair short in the wires. ■

**NO**—Go to step 13.

13. Reconnect driver's MPCS unit connector A (40P).
14. Turn the ignition switch ON (II).
15. Measure the voltage between left power mirror 16P connector terminal No. 4 and body ground.

**LEFT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there about 5 V?*

**YES**—Replace the left power mirror. ■

**NO**—Replace the driver's MPCS unit. ■

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BACK

## **DTC B2183:** Left Power Mirror Vertical Sensor Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Move the left power mirror in each direction with the power mirror switch.
4. Check for DTCs with the HDS.

   *Is DTC B2183 indicated?*

   **YES**—Go to step 5.

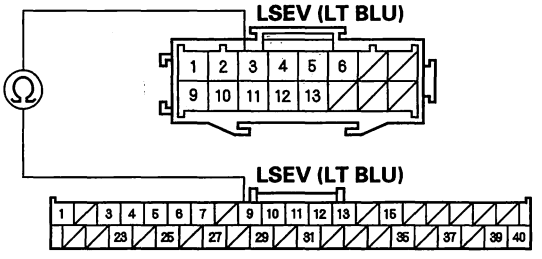
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Select POWER SEAT/POWER MIRROR from the BODY ELECTRICAL SYSTEM SELECT menu, and enter the DATA LIST.
6. Check the NORMAL/ABNORMAL information of the DRIVER DOOR MIRROR VERTICAL SENSOR in the DATA LIST.

   *Is the information indicator ABNORMAL?*

   **YES**—Go to step 7.

   **NO**—Replace the driver's MPCS unit.■
7. Turn the ignition switch OFF.
8. Disconnect driver's MPCS unit connector A (40P).
9. Disconnect the left power mirror 16P connector.
10. Check for continuity between driver's MPCS unit connector A (40P) terminal No. 9 and left power mirror 16P connector terminal No. 3.

**LEFT POWER MIRROR 16P CONNECTOR**
Terminal side of male terminals




**DRIVER'S MPCS UNIT CONNECTOR A (40P)**
Wire side of female terminals

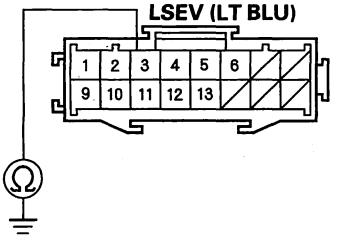
*Is there continuity?*

**YES**—Go to step 11.

**NO**—Repair open in the wire.■

11. Check for continuity between left power mirror 16P connector terminal No. 3 and body ground.

**LEFT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire.■

**NO**—Go to step 12.

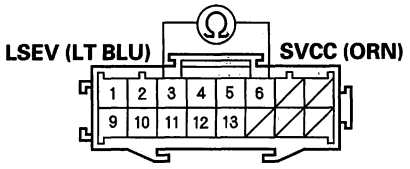
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## DTC Troubleshooting (cont'd)

12. Check for continuity between left power mirror 16P connector terminals No. 3 and No. 6.

**LEFT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

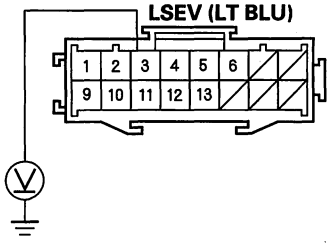
*Is there continuity?*

**YES**—Repair short in the wires.■

**NO**—Go to step 13.

13. Reconnect driver's MPCS unit connector A (40P).
14. Turn the ignition switch ON (II).
15. Measure the voltage between left power mirror 16P connector terminal No. 3 and body ground.

**LEFT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there about 5 V?*

**YES**—Replace the left power mirror.■

**NO**—Replace the driver's MPCS unit.■

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BACK

## **DTC B2184:** Right Power Mirror Horizontal Sensor Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Move the right power mirror in each direction with the power mirror switch.
4. Check for DTCs with the HDS.

   *Is DTC B2184 indicated?*

   **YES**—Go to step 5.

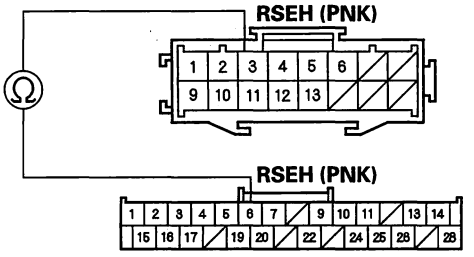
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections. ■
5. Select POWER SEAT/POWER MIRROR from the BODY ELECTRICAL SYSTEM SELECT menu, and enter the DATA LIST.
6. Check the NORMAL/ABNORMAL information of the ASSISTANT DOOR MIRROR HORIZONTAL SENSOR in the DATA LIST.

   *Is the information indicator ABNORMAL?*

   **YES**—Go to step 7.

   **NO**—Replace the passenger's MPCS unit. ■
7. Turn the ignition switch OFF.
8. Disconnect passenger's MPCS unit connector A (28P).
9. Disconnect the right power mirror 16P connector.
10. Check for continuity between passenger's MPCS unit connector A (28P) terminal No. 6 and right power mirror 16P connector terminal No. 3.

**RIGHT POWER MIRROR 16P CONNECTOR**
Terminal side of male terminals




**PASSENGER'S MPCS UNIT CONNECTOR A (28P)**
Wire side of female terminals

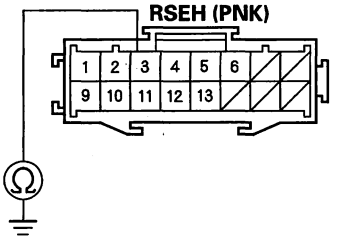
*Is there continuity?*

**YES**—Go to step 11.

**NO**—Repair open in the wire. ■

11. Check for continuity between right power mirror 16P connector terminal No. 3 and body ground.

**RIGHT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 12.

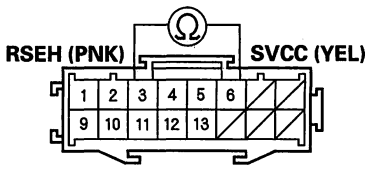
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## DTC Troubleshooting (cont'd)

12. Check for continuity between right power mirror 16 P connector terminals No. 3 and No. 6.

**RIGHT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short in the wires.■

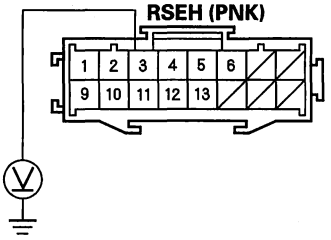
**NO**—Go to step 13.

13. Reconnect passenger's MPCS unit connector A (28P).

14. Turn the ignition switch ON (II).

15. Measure the voltage between right power mirror 16P connector terminal No. 3 and body ground.

**RIGHT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there about 5 V?*

**YES**—Replace the right power mirror.■

**NO**—Replace the passenger's MPCS unit.■

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BACK

## **DTC B2185:** Right Power Mirror Vertical Sensor Signal Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Move the right power mirror in each direction with the power mirror switch.
4. Check for DTCs with the HDS.

   *Is DTC B2185 indicated?*

   **YES**—Go to step 5.

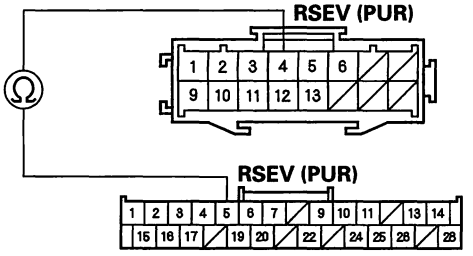
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections.■
5. Select POWER SEAT/POWER MIRROR from the BODY ELECTRICAL SYSTEM SELECT menu, and enter the DATA LIST.
6. Check the NORMAL/ABNORMAL information of the ASSISTANT DOOR MIRROR VERTICAL SENSOR in the DATA LIST.

   *Is the information indicator ABNORMAL?*

   **YES**—Go to step 7.

   **NO**—Replace the passenger's MPCS unit.■
7. Turn the ignition switch OFF.
8. Disconnect passenger's MPCS unit connector A (28P).
9. Disconnect the right power mirror 16P connector.
10. Check for continuity between passenger's MPCS unit connector A (28P) terminal No. 5 and right power mirror 16P connector terminal No. 4.

**RIGHT POWER MIRROR 16P CONNECTOR**
Terminal side of male terminals




**PASSENGER'S MPCS UNIT CONNECTOR A (28P)**
Wire side of female terminals

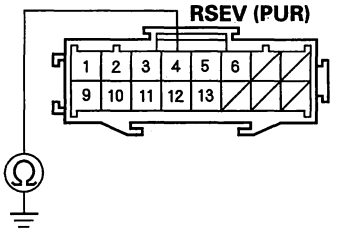
*Is there continuity?*

**YES**—Go to step 11.

**NO**—Repair open in the wire.■

11. Check for continuity between right power mirror 16P connector terminal No. 4 and body ground.

**RIGHT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire.■

**NO**—Go to step 12.

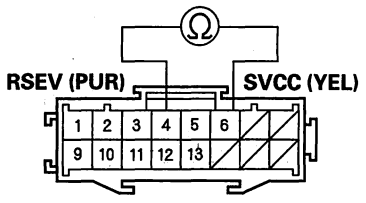
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## DTC Troubleshooting (cont'd)

12. Check for continuity between right power mirror 16 P connector terminals No. 4 and No. 6.

**RIGHT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair short in the wires. ■

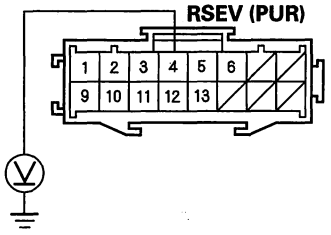
**NO**—Go to step 13.

13. Reconnect passenger's MPCS unit connector A (28P).

14. Turn the ignition switch ON (II).

15. Measure the voltage between right power mirror 16P connector terminal No. 4 and body ground.

**RIGHT POWER MIRROR 16P CONNECTOR**




Terminal side of male terminals

*Is there about 5 V?*

**YES**—Replace the right power mirror. ■

**NO**—Replace the passenger's MPCS unit. ■

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BACK

## System Input Test and Function Test

1. Connect the HDS to the DLC.
2. Turn the ignition switch ON (II).
3. From the BODY ELECTRICAL SYSTEM SELECTION menu, select POWER SEAT/POWER MIRROR, then DTCs.
   - If DTCs are found, troubleshoot the DTCs using B-CAN System Diagnosis Test Mode A (see page 22-112).
   - If no DTCs are found, go to step 4.
4. Exit the DTC mode, and select DATA LIST from the POWER SEAT/POWER MIRROR TEST MODE MENU.
5. Test each input and monitor each output under the condition shown below:
   - If the data list indication is correct, continue to the next switch. If all switches are OK, go to step 6.
   - If the data list indication is not correct, do the appropriate test at the control unit and terminal indicated in the table.
     – Voltage drop tests should be done with the ignition switch ON (II) and all connectors connected and the meter negative test lead attached to a good body ground, unless specified otherwise.
     – Continuity tests should be done with the ignition switch OFF and indicated terminals disconnected.

| Data List Input/ Command | Condition: Data List Indication | Control Unit/Terminal Number/ Test (If applicable) | Possible cause if result is not obtained |
|---|---|---|---|
| Door Mirror UP switch | Mirror select switch in LEFT, then RIGHT<br>Mirror up switch pressed: ON<br>Mirror up switch released: OFF | MICU/P9 (WHT)<br>Mirror select switch UP: 0 V<br>Center or DOWN: 5 V | • Faulty switch (see page 22-374)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Door Mirror Select in LEFT selection | Mirror select switch in LEFT position: ON<br>Select switch in CENTER or RIGHT position: OFF | MICU/P11 (PUR)<br>Mirror select switch LEFT: 0 V<br>Center or RIGHT: 5 V | • Faulty switch (see page 22-374)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Door Mirror DOWN switch | Mirror select switch in LEFT, then RIGHT<br>Mirror down switch pressed: ON<br>Mirror switch released: OFF | MICU/P10 (PNK)<br>Mirror select switch DOWN: 0 V<br>Center or UP: 5 V | • Faulty switch (see page 22-374)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Door Mirror Select in RIGHT selection | Mirror select switch in RIGHT position: ON<br>Select switch in CENTER or LEFT position: OFF | MICU/P22 (GRY)<br>Mirror select switch RIGHT: 0 V<br>Center or LEFT: 5 V | • Faulty switch (see page 22-374)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Door Mirror LEFT switch | Mirror select switch in LEFT, then RIGHT<br>Mirror left switch pressed: ON<br>Mirror switch released: OFF | MICU/P25 (GRN)<br>Mirror select switch LEFT: 0 V<br>Center or RIGHT: 5 V | • Faulty switch (see page 22-374)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Door Mirror RIGHT switch | Mirror select switch in LEFT, then RIGHT<br>Mirror right switch pressed: ON<br>Mirror switch released: OFF | MICU/P26 (BLU)<br>Mirror select switch RIGHT: 0 V<br>Center or LEFT: 5 V | • Faulty switch (see page 22-374)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |

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## System Input Test and Function Test (cont'd)

| Data List Input/ Command | Condition: Data List Indication | Control Unit/Terminal Number/ Test (If applicable) | Possible cause if result is not obtained |
|---|---|---|---|
| Slide Switch Forward | Slide switch forward: ON<br>Switch released: OFF | Power seat control unit/A1, A7 (GRY)<br>Slide switch forward: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Slide Switch Backward | Slide switch backward: ON<br>Switch released: OFF | Power seat control unit/A1, A27 (LT GRN)<br>Slide switch backward: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Recline Switch Forward | Recline switch forward: ON<br>Switch released: OFF | Power seat control unit/A1, A6 (LT BLU)<br>Recline switch forward: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Recline Switch Backward | Recline switch backward: ON<br>Switch released: OFF | Power seat control unit/A1, A25 (GRN)<br>Recline switch backward: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Front Up-Down Switch Up | Front up-down switch up: ON<br>Switch released: OFF | Power seat control unit/A1, A5 (ORN)<br>Front up-down switch up: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Front Up-Down Switch Down | Front up-down switch down: ON<br>Switch released: OFF | Power seat control unit/A1, A4 (RED)<br>Front up-down switch down: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Rear Up-Down Switch Up | Rear up-down switch up: ON<br>Switch released: OFF | Power seat control unit/A1, A23 (PNK)<br>Rear up-down switch up: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Rear Up-Down Switch Down | Rear up-down switch down: ON<br>Switch released: OFF | Power seat control unit/A1, A3 (WHT)<br>Rear up-down switch up: 0 V<br>Switch released: 5 V | • Faulty switch (see page 22-485)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Ignition Switch for Power Seat Control | Ignition switch ON (II): ON<br>Ignition switch OFF: OFF | Power seat control unit/A35 (YEL)<br>Ignition switch ON (II): 12 V | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire<br>• Faulty control unit |
| A/T Gear Position Switch (P) | Transmission range switch P position: ON<br>Any other position than P: OFF | Power seat control unit/A31 (GRN)<br>Transmission range switch P: 0 V | • Faulty transmission range switch<br>• An open in the wire<br>• Faulty control unit |
| Seat MEMO Switch | Seat MEMO switch pressed: ON<br>Switch released: OFF | Driver's MPCS unit/A31 (ORN)<br>Seat MEMO switch pressed: 0 V<br>Switch released: 5 V more | • Faulty switch (see page 22-484)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit<br>• Poor ground (G601) |
| Driver 1 Position Switch | Driver position 1 switch pressed: ON<br>Switch released: OFF | Driver's MPCS unit/A29 (GRN)<br>Driver's position 1 switch pressed: 0 V<br>Switch released: 5 V more | • Faulty switch (see page 22-484)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit<br>• Poor ground (G601) |
| Driver 2 Position Switch | Driver position 2 switch pressed: ON<br>Switch released: OFF | Driver's MPCS unit/A30 (RED)<br>Driver's position 2 switch pressed: 0 V<br>Switch released: 5 V more | • Faulty switch (see page 22-484)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit<br>• Poor ground (G601) |

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| Data List Input/ Command | Condition: Data List Indication | Control Unit/Terminal Number/ Test (If applicable) | Possible cause if result is not obtained |
|---|---|---|---|
| Column Tilt Up Switch | Steering tilt switch up: ON<br>Switch released: OFF | Power tilt/telescopic steering control unit/A15 (BRN), A7 (LT GRN)<br>Switch in TILT UP: 0 V<br>Switch released: Battery voltage | • Faulty switch (see page 22-488)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Column Tilt Down Switch | Steering tilt switch down: ON<br>Switch released: OFF | Power tilt/telescopic steering control unit/A15 (BRN), A6 (GRN)<br>Switch in TILT DOWN: 0 V<br>Switch released: Battery voltage | • Faulty switch (see page 22-488)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Column Telescopic Extend Switch | Steering telescopic switch extend: ON<br>Switch released: OFF | Power tilt/telescopic steering control unit/A15 (BRN), A14 (PUR)<br>Switch in TELESCOPIC EXTEND: 0 V<br>Switch released: Battery voltage | • Faulty switch (see page 22-488)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Column Telescopic Retract Switch | Steering telescopic switch retract: ON<br>Switch released: OFF | Power tilt/telescopic steering control unit/A15 (BRN), A6 (GRN)<br>Switch in TELESCOPIC RETRACT: 0 V<br>Switch released: Battery voltage | • Faulty switch (see page 22-488)<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| Ignition Switch (IG1) | Ignition switch ON (II): ON<br>Ignition switch OFF: OFF | Power tilt/telescopic steering control unit/A9 (YEL)<br>Ignition switch ON (II): 12 V | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire<br>• Faulty control unit |
| Slide Sensor | Seat moving forward or backward: ON<br>Seat not moving: OFF | Power seat control unit/A11 (WHT)<br>Pulses as seat moves: 2.5 V average | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Front Up-Down Sensor | Seat front moving up/down: ON<br>Seat not moving: OFF | Power seat control unit/A12 (RED)<br>Pulses as seat moves: 2.5 V average | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Recline Sensor | Seat back moving forward or backward: ON<br>Seat not moving: OFF | Power seat control unit/A10 (GRN)<br>Pulses as seat moves: 2.5 V average | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Rear Up-Down Sensor | Seat rear moving up/down: ON<br>Seat not moving: OFF | Power seat control unit/A13 (YEL)<br>Pulses as seat moves: 2.5 V average | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Column Tilt Sensor Up/Down | Steering tilting up/down: ON<br>Steering not moving: OFF | Power tilt/telescopic steering control unit/A2 (PNK) to A16 (GRN) as steering moves: 12 V<br>A16 (GRN) to A13 (YEL), A5 (LT BLU)<br>Pulses as steering moves: 2.5 V average | • Faulty sensor<br>• An open in the wire(s)<br>• Faulty control unit |
| Column Telescopic Sensor Extend/ Retract | Steering telescopic extend/ retract: ON<br>Steering not moving: OFF | Power tilt/telescopic steering control unit/A2 (PNK) to A16 (GRN) as steering moves: 12 V<br>A16 (GRN) to A12 (BLU), A4 (ORN)<br>Pulses as steering moves: 2.5 V average | • Faulty sensor<br>• An open in the wire(s)<br>• Faulty control unit |

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## System Input Test and Function Test (cont'd)

| Data List Input/ Command | Condition: Data List Indication | Control Unit/Terminal Number/ Test (If applicable) | Possible cause if result is not obtained |
|---|---|---|---|
| Left mirror horizontal sensor | Left mirror moves left/right: NORMAL<br>Left mirror does not move: ABNORMAL | Driver's MPCS unit/A10 (PUR), A19 (ORN)<br>Left mirror moving from full left to full right: A10 (about 0.5 V to 4.5 V), A19 (5 V or more) | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Left mirror vertical sensor | Left mirror moves up/down: ON<br>Left mirror stopped: OFF | Driver's MPCS unit/A9 (LT BLU), A19 (ORN)<br>Left mirror moving from full left to full right: A9 (about 0.5 V to 4.5 V), A19 (5 V or more) | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Right door mirror horizontal sensor | Right mirror moves left/right: ON<br>Right mirror stopped: OFF | Passenger's MPCS unit/A6 (PNK), A13 (YEL)<br>Right mirror moving from full left to full right: A6 (about 0.5 V to 4.5 V), A13 (5 V or more) | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| Right door mirror vertical sensor | Right mirror moves up/down: ON<br>Right mirror stopped: OFF | Passenger's MPCS unit/A5 (PUR), A13 (YEL)<br>Right mirror moving from full left to full up: A5 (about 0.5 V to 4.5 V), A13 (5 V or more) | • Faulty sensor<br>• An open in the wire<br>• Faulty control unit |
| DPMS MEM switch | Driving position memory switch MEMO button pushed: ON<br>Switch released: OFF | Driver's MPCS unit/A31 (ORN)<br>Driving position memory switch MEMO button pushed: A31 (about 1 V or less)<br>MEMO button released: A31 (5 V or more) | • Faulty switch<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| DPMS POS1 switch | Driving position memory switch POS1 button pushed: ON<br>Switch released: OFF | Driver's MPCS unit/A29 (GRN)<br>Driving position memory switch MEMO button pushed: A29 (about 1 V or more)<br>MEMO button released: A29 (5 V or more) | • Faulty switch<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |
| DPMS POS2 switch | Driving position memory switch POS2 button pushed: ON<br>Switch released: OFF | Driver's MPCS unit/A30 (RED)<br>Driving position memory switch MEMO button pushed: A30 (about 1 V or more)<br>MEMO button released: A30 (5 V or more) | • Faulty switch<br>• An open in the wire<br>• A short in the wire<br>• Faulty control unit |

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6. Exit the DATA LIST and select FUNCTION TEST.

7. Do each of the function tests listed in the table shown. The appropriate output should occur.

- If the function operates normally, go to the next function test. If all function tests operate normally, the system is OK.
- If the function does not occur, do the appropriate test at the control unit and terminal indicated in the table.
  - Voltage drop tests should be done with the ignition switch ON and all connectors connected.
  - Continuity tests should be done with the ignition switch OFF and indicated terminals disconnected.
  - Jumper tests should be done according to the instructions indicated.
- If the test indicates that the component operates normally, but the function will not operate by doing the function test or the normal use of the component, the control unit that operates that function must be faulty; replace it.
- If the test indicates that the component does not operate normally, check for an open or short in the harnesses between the component and the control unit. If the harness is OK, replace the component.

| Function Test | Component and Operation | Control Unit/Terminal Number/Test (If applicable) | Possible cause if result is not obtained |
|---|---|---|---|
| Power Seat: Slide Motor-Full Forward | Seat slides forward | Power seat control unit/B8 (ORN), A9 (BLK), B7 (GRY), B17 (BLU)<br>Disconnect the power seat control unit connectors A and B. Connect B8 to B17 and B7 to A9; driver's seat should slide forward. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Power Seat: Slide Motor-Full Backward | Seat slides backward | Power seat control unit/B8 (ORN), A9 (BLK), B7 (GRY), B17 (BLU)<br>Disconnect the power seat control unit connectors A and B. Connect B8 to B7 and B17 to A9; driver's seat should slide forward. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Power Seat: Front UP-DOWN Motor-Full Up | Front of seat moves up | Power seat control unit/B8 (ORN), A9 (BLK), B6 (BRN), B16 (PUR)<br>Disconnect the power seat control unit connectors A and B. Connect B8 to B16 and B6 to A9; front of driver's seat should move up. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Power Seat: Front UP-DOWN Motor-Full Down | Front of seat moves down | Power seat control unit/B8 (ORN), A9 (BLK), B6 (BRN), B16 (PUR)<br>Disconnect the power seat control unit connectors A and B. Connect B8 to B6 and B16 to A9; front of driver's seat should move down. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Power Seat: Rear Up-Down Motor-Full Up | Rear of seat moves up | Power seat control unit/B1 (LT BLU), A9 (BLK), B2 (GRN), B10 (PNK)<br>Disconnect the power seat control unit connectors A and B. Connect B1 to B2 and B10 to A9; rear of driver's seat should move up. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Power Seat: Rear Up-Down Motor-Full Down | Rear of seat moves down | Power seat control unit/B1 (LT BLU), A9 (BLK), B2 (GRN), B10 (PNK)<br>Disconnect the power seat control unit connectors A and B. Connect B1 to B10 and B2 to A9; rear of driver's seat should move down. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |

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## System Input Test and Function Test (cont'd)

| Function Test | Component and Operation | Control Unit/Terminal Number/Test (If applicable) | Possible cause if result is not obtained |
|---|---|---|---|
| Power Seat: Recline Motor-Full Forward | Seat back moves forward | Power seat control unit/B1 (LT BLU), A9 (BLK), B9 (YEL), B11 (LT GRN)<br>Disconnect the power seat control unit connectors A and B. Connect B1 to B11 and B9 to A9; driver's seat back should move forward. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Power Seat: Recline Motor-Full Backward | Seat back moves backward | Power seat control unit/B1 (LT BLU), A9 (BLK), B9 (YEL), B11 (LT GRN)<br>Disconnect the power seat control unit connectors A and B. Connect B1 to B9 and B11 to A9; driver's seat back should move backward. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Column Tilt Up | Power tilt/telescopic steering tilts up | Power tilt/telescopic steering control unit/B1 (BLK), B3 (WHT), B7 (ORN), B8 (LT BLU)<br>Disconnect the tilt/telescopic steering control unit connectors A and B. Connect B3 to B7 and B1 to B8; steering tilts up. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Column Tilt Down | Power tilt/telescopic steering tilts down | Power tilt/telescopic steering control unit/B1 (BLK), B3 (WHT), B7 (ORN), B8 (LT BLU)<br>Disconnect the tilt/telescopic steering control unit connectors A and B. Connect B3 to B8 and B1 to B7; steering tilts down. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Column Telescopic Extend | Power tilt/telescopic steering telescopic extend | Power tilt/telescopic steering control unit/B1 (BLK), B3 (WHT), B6 (PNK), B4 (LT GRN)<br>Disconnect the tilt/telescopic steering control unit connectors A and B. Connect B3 to B4 and B1 to B6; steering telescopic extend. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |
| Column Telescopic Retract | Power tilt/telescopic steering telescopic retract | Power tilt/telescopic steering control unit/B1 (BLK), B3 (WHT), B6 (PNK), B4 (LT GRN)<br>Disconnect the tilt/telescopic steering control unit connectors A and B. Connect B3 to B6 and B1 to B4; steering telescopic retract. | • Faulty motor<br>• An open in the wire<br>• A short in the wire |

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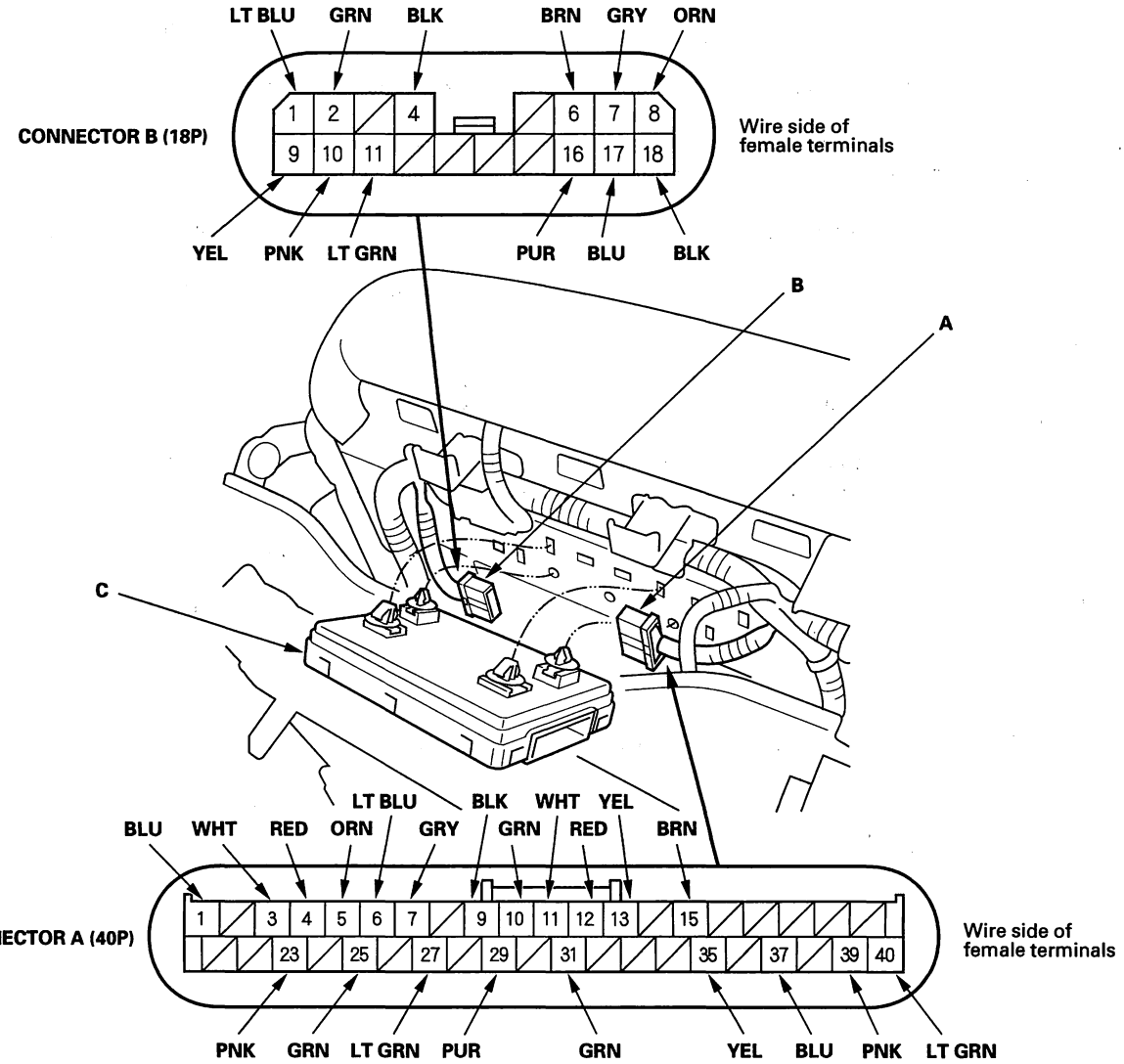
BACK

# Power Seat Control Unit Input Test

NOTE: Before testing, troubleshoot the multiplex integrated control system first using B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Turn the ignition switch OFF.
2. Remove the driver's seat (see page 20-141).

   NOTE: Be careful not to scratch the interior trim.
3. Disconnect the 40P connector (A) and 18P connector (B) from the power seat control unit (C).




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)

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## Power Seat Control Unit Input Test (cont'd)

5. With the connectors still disconnected, make the input test at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A37 | BLU | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• An open in the wire |

6. Reconnect the connectors to the power seat control unit, and make these input tests at the connectors.

   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the control unit must be faulty; replace it.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A9 | BLK | Under all conditions | Check for voltage to ground: There should be less than 0.5 V. | • Poor ground (G602)<br>• An open in the wire |
| B4 | BLK | | | |
| B18 | BLK | | | |
| A35 | YEL | Ignition switch ON (II) | Check for voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| B1 | LT BLU | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 2 (OP2) (40 A) fuse in the main under-hood fuse box<br>• Blown No. 16 (20 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| B8 | ORN | Under all conditions | Check for voltage to ground: There should be battery voltage. | • Blown No. 2 (OP2) (40 A) fuse in the main under-hood fuse box<br>• Blown No. 14 (20 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| A31 | GRN | Shift lever in P position | Check for voltage to ground: There should be less than 1 V. | • Faulty transmission range switch<br>• An open in the wire |
| | | Shift lever out of P position | Check for voltage to ground: There should be about 10 V. | A short to ground in the wire |

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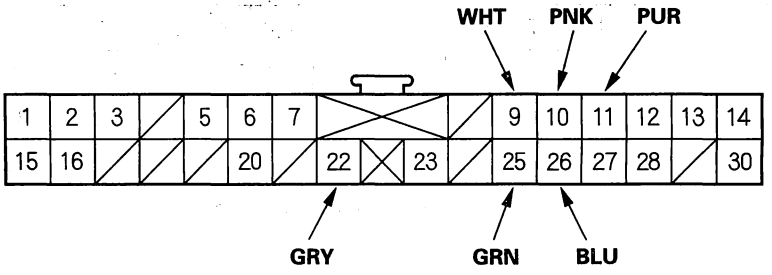
# Power Mirror Circuit Input Test

NOTE: Before testing, troubleshoot the multiplex integrated control system first using B-CAN System Diagnosis Test Mode A (see page 22-112).

**MICU**

1. Turn the ignition switch OFF.
2. Remove the left side kick panel (see page 20-76).
3. Disconnect the under-dash fuse/relay box connector P (30P).

**UNDER-DASH FUSE/RELAY BOX CONNECTOR P (30P)**




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. Reconnect the connector to 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, go to step 6.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| P9 | WHT | Power mirror switch in UP | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty power mirror switch<br>• An open in the wire |
| | | Power mirror switch released | Measure the voltage to ground: There should be 5 V or more. | • Faulty power mirror switch<br>• A short to ground in the wire |
| P10 | PNK | Power mirror switch in DOWN | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty power mirror switch<br>• An open in the wire |
| | | Power mirror switch released | Measure the voltage to ground: There should be 5 V or more. | • Faulty power mirror switch<br>• A short to ground in the wire |
| P25 | GRN | Power mirror switch in LEFT | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty power mirror switch<br>• An open in the wire |
| | | Power mirror switch released | Measure the voltage to ground: There should be 5 V or more. | • Faulty power mirror switch<br>• A short to ground in the wire |
| P26 | BLU | Power mirror switch in RIGHT | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty power mirror switch<br>• An open in the wire |
| | | Power mirror switch released | Measure the voltage to ground: There should be 5 V or more. | • Faulty power mirror switch<br>• A short to ground in the wire |
| P11 | PUR | Power mirror switch in L position | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty power mirror switch<br>• An open in the wire |
| | | Power mirror switch released | Measure the voltage to ground: There should be 5 V or more. | • Faulty power mirror switch<br>• A short to ground in the wire |
| P22 | GRY | Power mirror switch in R position | Measure the voltage to ground: There should be less than 1 V. | • Poor ground (G501)<br>• Faulty power mirror switch<br>• An open in the wire |
| | | Power mirror switch released | Measure the voltage to ground: There should be 5 V or more. | • Faulty power mirror switch<br>• A short to ground in the wire |

(cont'd)



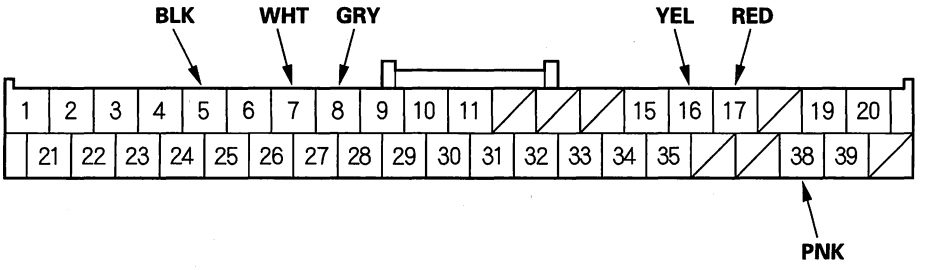
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## Power Mirror Circuit Input Test (cont'd)

**Driver's MPCS Unit**

6. Remove the driver's door panel (see page 20-8).
7. Disconnect driver's MPCS unit connector A (40P).

**DRIVER'S MPCS UNIT CONNECTOR A (40P)**




Wire side of female terminals

8. 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 9.
9. 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 10.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A5* | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G601)<br>• Faulty power mirror switch<br>• An open in the wire |
| A7* | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| A8 | GRY | Under all conditions | Check for continuity between the A8 terminal and passenger's MPCS unit connector A (28P) No. 4 terminal: There should be continuity. | • Faulty under-dash fuse/relay box<br>• An open in the wire |
| A16<br>A38 | YEL<br>PNK | Under all conditions | Connect the A7 and A16 terminals, and A5 and A38 terminals: The left power mirror moves UP. | • Faulty left power mirror actuator<br>• An open in the wire |
| A17<br>A38 | RED<br>PNK | Under all conditions | Connect the A7 and A17 terminals, and A5 and A38 terminals: The left power mirror swings LEFT. | • Faulty left power mirror actuator<br>• An open in the wire |

*: Reconnect the connector to the driver's MPCS unit.

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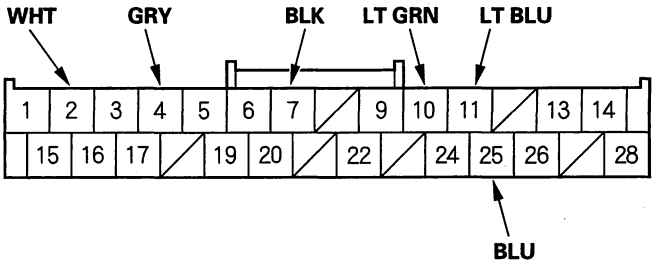
BACK

**Passenger's MPCS Unit**

10. Remove the passenger's door panel (see page 20-8).

11. Disconnect the passenger's MPCS unit connector A (28P).

**PASSENGER'S MPCS UNIT CONNECTOR A (28P)**




Wire side of female terminals

12. 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 13.

13. 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 14.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A7* | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G506)<br>• Faulty power mirror switch<br>• An open in the wire |
| A2* | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| A4 | GRY | Under all conditions | Check for continuity between the A4 terminal and driver's MPCS unit connector A (40P) No. 8 terminal: There should be continuity. | • Faulty under-dash fuse/relay box<br>• An open in the wire |
| A10<br>A25 | LT GRN<br>BLU | Under all conditions | Connect the A2 and A10 terminals, and A7 and A25 terminals: The right power mirror moves UP. | • Faulty right power mirror actuator<br>• An open in the wire |
| A11<br>A25 | LT BLU<br>BLU | Under all conditions | Connect the A2 and A11 terminals, and A7 and A25 terminals: The left power mirror swings RIGHT. | • Faulty right power mirror actuator<br>• An open in the wire |

*: Reconnect the connector to the passenger's MPCS unit.

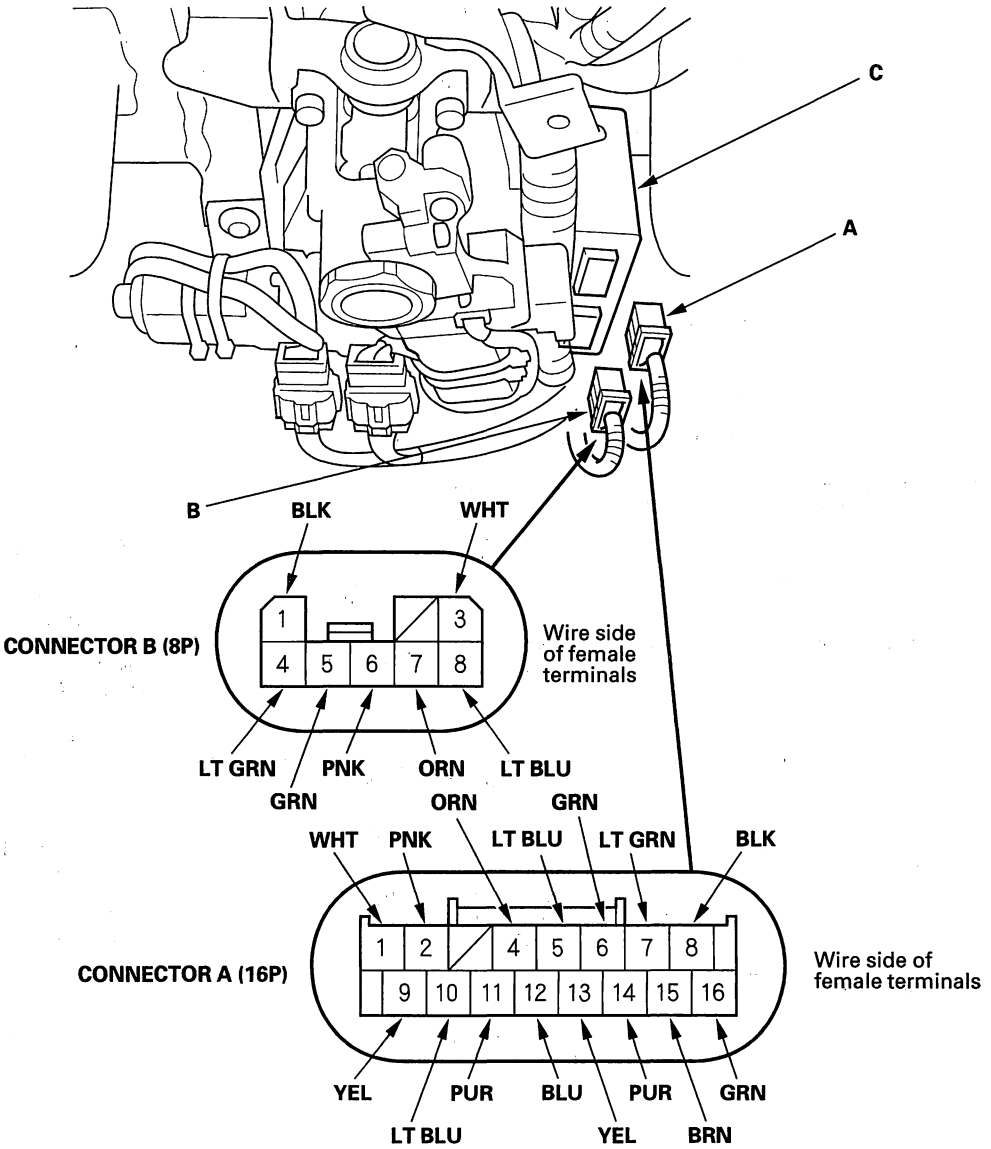
14. If multiple failures are found on the more than one control unit, replace the under-dash fuse/relay box (includes the MICU). If input failures are related to a particular control unit, replace the control unit.

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## Power Tilt/Telescopic Steering Control Unit Input Test

NOTE: Before testing, troubleshoot the multiplex integrated control system first using B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Turn the ignition switch OFF.
2. Remove the steering column cover (see page 20-129).
3. Disconnected the 16P connector (A) and 8P connector (B) from the power tilt/telescopic steering control unit (C).




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.

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5. Reconnect the connectors to the power tilt/telescopic steering control unit, and make these input tests at the connectors.

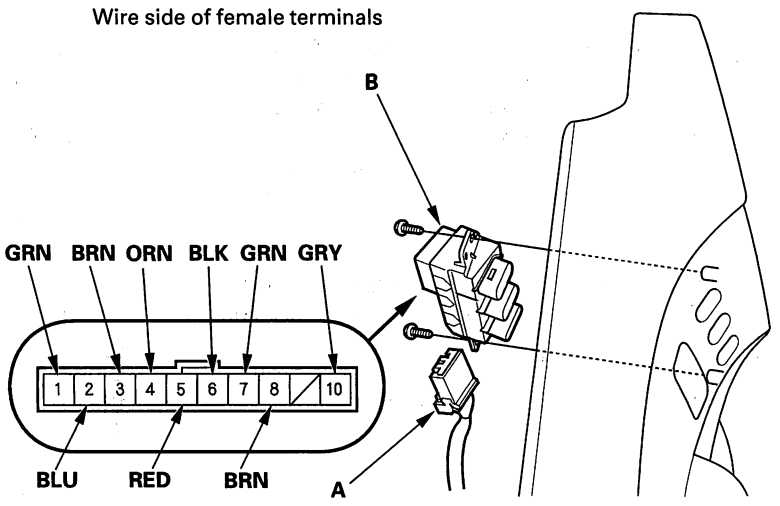
   - If any test indicates a problem, find and correct the cause, then recheck the system.
   - If all the input tests prove OK, the control unit must be faulty; replace it.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A8<br>B1 | BLK | Under all conditions | Check for voltage to ground:<br>There should be less than 0.5 V. | • Poor ground (G503, G506)<br>• An open in the wire |
| A1 | WHT | Under all conditions | Check for voltage to ground:<br>There should be battery voltage. | • No. 4 (40 A) fuse in the main under-hood fuse box<br>• Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| A9 | YEL | Ignition switch ON (II) | Check for voltage to ground:<br>There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| B3 | WHT | Under all conditions | Check for voltage to ground:<br>There should be battery voltage. | • Blown No. 2 (OP2) (40 A) fuse in the main under-hood fuse box<br>• Blown No. 28 (20 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| B5 | GRN | Under all conditions | Check for voltage to ground:<br>There should be battery voltage. | • Blown No. 3 (P/W) (50 A) fuse in the main under-hood fuse box<br>• Blown No. 15 (20 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |

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## Driving Position Memory Switch Test/Replacement

1. Remove the driver's door panel (see page 20-8).
2. Disconnect the 10P connector (A) from the memory switch (B).




3. Remove the two screws, then remove the switch from the door panel.
4. Check for continuity between the terminals in each switch position according to the table.

| Position | | Terminal 8 | | 1 | 2 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|---|---|
| MEMO button | OFF | | | | | | | | |
| | ON | | | | | ○ | | ○ | |
| Position 1 button | OFF | | | | | | | | |
| | ON | | | | | | | ○ | ○ |
| Position 2 button | OFF | | | | | | | | |
| | ON | | | | | | ○ | ○ | |
| Indicator 1 | | ○ | ▷ | ○ | | | | | |
| Indicator 2 | | ○ | ▷ | | ○ | | | | |

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

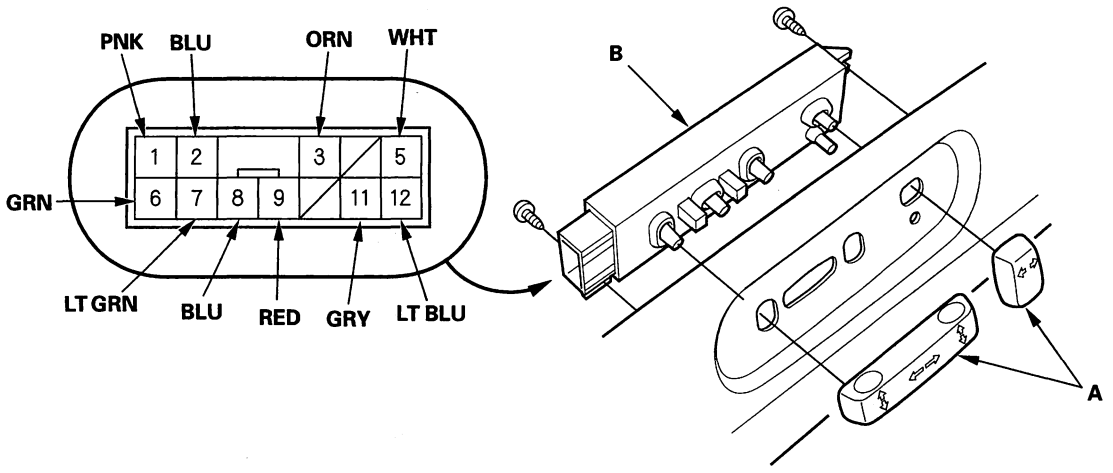
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# Power Seat Adjustment Switch Test/Replacement

1. Remove the power seat adjustment switch knobs (A) and recline cover from the driver's power seat (see page 20-144), then remove the two screws and the power seat adjustment switch.




BLK

2. Disconnect the 12P connector from the power seat adjustment switch (B).

3. Reinstall the adjustment switch knobs to the switch.

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

| Position \ Terminal | | 1 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SLIDE SWITCH | FORWARD | | | | | | | ○ | | ○ | |
| | BACKWARD | | | | | | ○ | ○ | | | |
| RECLINE SWITCH | FORWARD | | ○ | | | | | | | | ○ |
| | BACKWARD | | ○ | | | ○ | | | | | |
| FRONT UP-DOWN SWITCH | UP | | | ○ | | | | ○ | | | |
| | DOWN | | | | | | | ○ | ○ | | |
| REAR UP-DOWN SWITCH | UP | ○ | ○ | | | | | | | | |
| | DOWN | | ○ | | ○ | | | | | | |

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

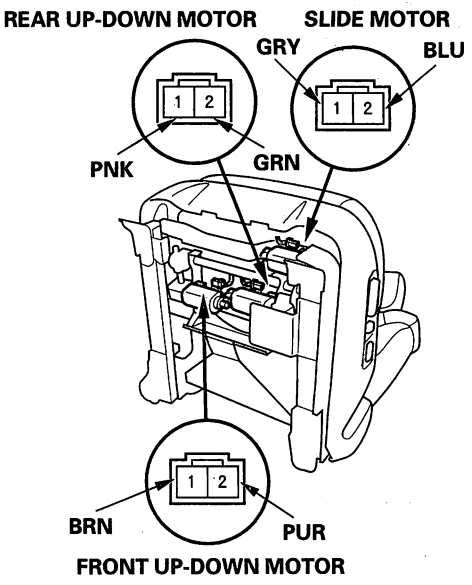
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## Driver's Power Seat Motor Test

### Slide motor, Front up-down motor, Rear up-down motor

1. Remove the driver's seat (see page 20-141).
2. Disconnect the 2P connector from each power seat motor.

   NOTE: All connectors are terminal side of male terminals.




3. Test each motor by connecting power and ground according to the table. When the motor stops running, disconnect battery power immediately.

| Position | | Terminal 1 | Terminal 2 |
|---|---|---|---|
| SLIDE MOTOR | FORWARD | ⊖ | ⊕ |
| | BACKWARD | ⊕ | ⊖ |

| Position | | Terminal 1 | Terminal 2 |
|---|---|---|---|
| FRONT UP-DOWN MOTOR | UP | ⊖ | ⊕ |
| | DOWN | ⊕ | ⊖ |

| Position | | Terminal 1 | Terminal 2 |
|---|---|---|---|
| REAR UP-DOWN MOTOR | UP | ⊖ | ⊕ |
| | DOWN | ⊕ | ⊖ |

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

   - Slide motor (see page 20-144)
   - Front up-down motor (see page 20-144)
   - Rear up-down motor (see page 20-144)

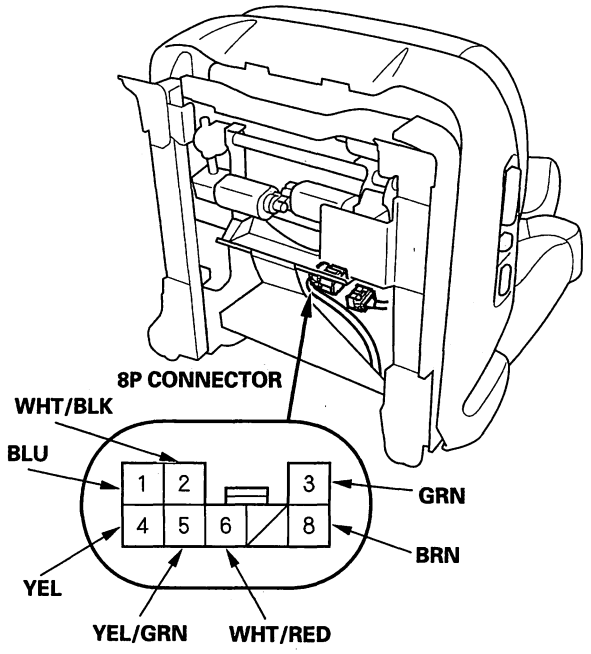
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## Recline motor

1. Remove the driver's seat (see page 20-141).
2. Disconnect the power seat wire harness 8P connector from the recline motor/lumbar support motor subharness.




3. Test motor by connecting power and ground according to the table. When the motor stops running, disconnect battery power immediately.

| Position \ Terminal | | 4 | 5 |
|---|---|---|---|
| RECLINE MOTOR | FORWARD | ⊕ | ⊖ |
| | BACKWARD | ⊖ | ⊕ |

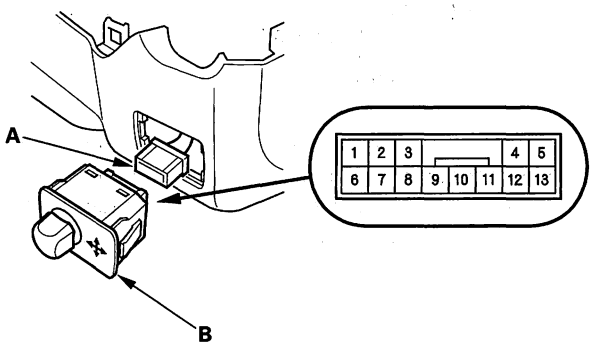
*: With ventilated seats

4. If the motor does not run or fails to run smoothly, check for an open in the wire between the 8P connector and recline motor. If the harness is OK, replace the recline motor (see page 20-148).

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## Power Tilt/Telescopic Steering Switch Test/Replacement

1. Remove the steering column covers (see page 20-129).
2. Disconnect the 13P connector (A) from the power tilt/telescopic steering switch (B).



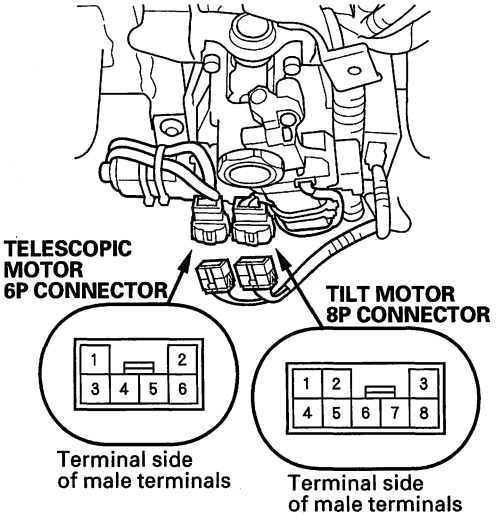

3. Check for continuity between the terminals in each switch position according to the table.

| Position \ Terminal | 1 | 3 | 6 | 7 | 10 |
|---|---|---|---|---|---|
| TILT UP | ○ | | ○ | ○ | |
| TILT DOWN | ○ | ○ | | ○ | |
| TELESCOPIC PUSH | | ○ | ○ | ○ | ○ |
| TELESCOPIC PULL | | ○ | ○ | ○ | ○ |

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

## Power Tilt/Telescopic Steering Motor Test

1. Remove the steering column covers (see page 20-129).
2. Disconnect the 6P connector (A) and 8P connector (B) from the power tilt/telescopic steering motors.




3. Check each motor by connecting power and ground according to the table. When the motor stops running, disconnect battery power immediately.

**TILT MOTOR:**

| Position \ Terminal | 2 | 3 |
|---|---|---|
| TILT UP | ⊖ | ⊕ |
| TILT DOWN | ⊕ | ⊖ |

**TELESCOPIC MOTOR:**

| Position \ Terminal | 1 | 2 |
|---|---|---|
| TELESCOPIC IN | ⊖ | ⊕ |
| TELESCOPIC OUT | ⊕ | ⊖ |

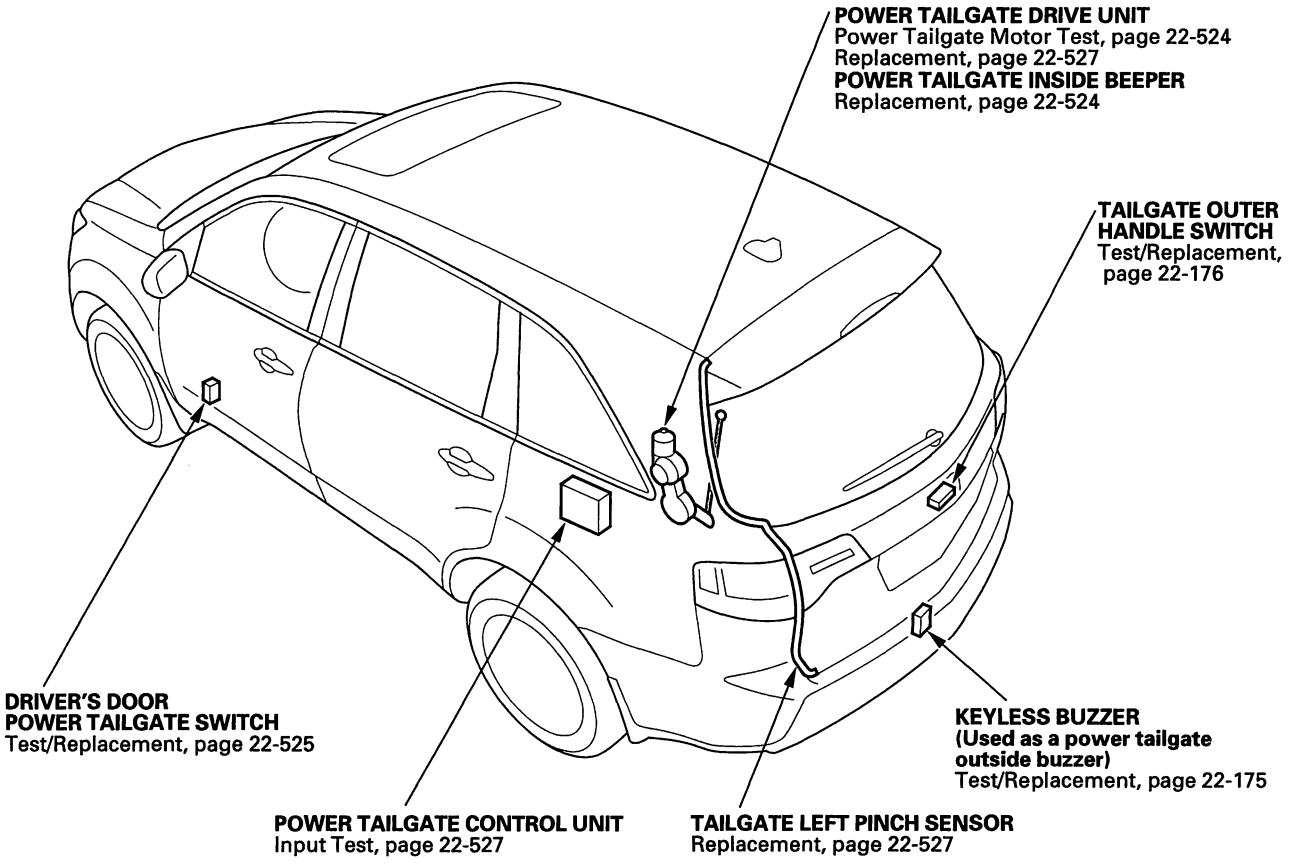
4. If the motor does not run or fails to run smoothly; replace the steering column assembly (see page 17-25).

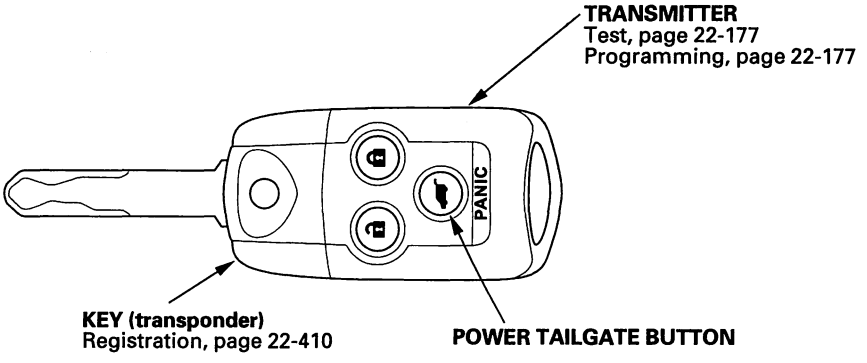
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## Component Location Index

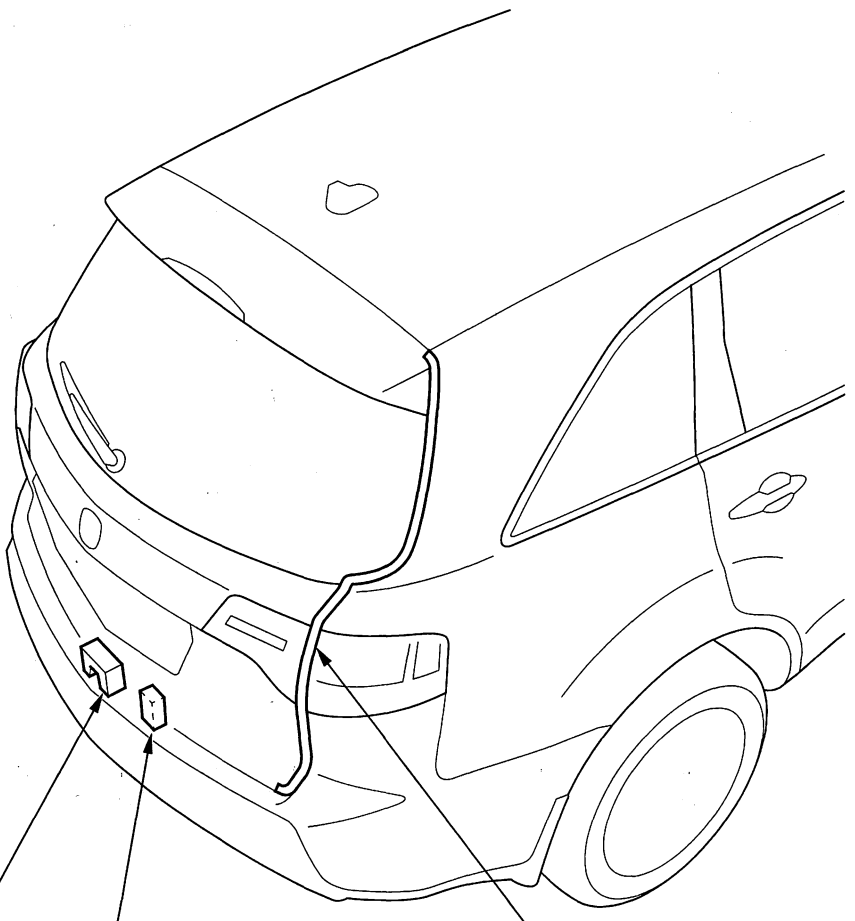



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## Component Location Index (cont'd)



**INSIDE TAILGATE SWITCH**
Test/Replacement, page 22-525

**TAILGATE RIGHT PINCH SENSOR**
Replacement, page 22-527

**TAILGATE LATCH ASSEMBLY (CLOSER UNIT)**
**(Including closer motor and latch/ratchet switch)**
Latch/Ratchet Switch Test, page 22-526
Closer Motor Test, page 22-526

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## System Description

The power tailgate can be opened and closed automatically by operating the dashboard switch, outside handle switch (for open), inside switch (for close) or the keyless transmitter. The power tailgate has two safety functions for safeguarding passengers: obstruction detection , and fall-down detection.

### Basic Operation

OPEN: The power tailgate can be opened by operating the driver's switch, outside handle, or the keyless transmitter under the following conditions:

- Tailgate is fully closed (full-latched position is detected.).
- Driver's door or Passenger's door lock knob switch is in UNLOCKED.
- The remote unlock button is pressed twice, and then the tailgate button is pressed and held for 2 seconds (unless customized setting are set to unlock all doors).
- Shift lever is in Park position.
- Vehicle speed is less than 1.2 mph (2 km/h).
- Closer unit detects the neutral position.
- Battery voltage (VBU) is more than 11 V.
- System is not in fail-safe mode.

CLOSE: The power tailgate can be closed by operating the driver's door tailgate switch, inside tailgate switch, or the keyless transmitter under the following conditions:

- Tailgate is fully open.
- Pinch sensor detects no obstruction.
- Closer unit detects the neutral position.
- Battery voltage (VBU) is more than 11 V.
- System is not in fail-safe mode.

### Obstruction Detection Function

If any obstruction is detected while the tailgate is automatically opening or closing, the tailgate will stop and the reverse operation is activated. An obstruction is detected by the tailgate pinch sensor and the pulser in the drive unit. If the obstruction is detected when the shift lever is in any other position than P, or the vehicle speed exceeds 1.2 mph (2 km/h), the tailgate stops moving immediately.

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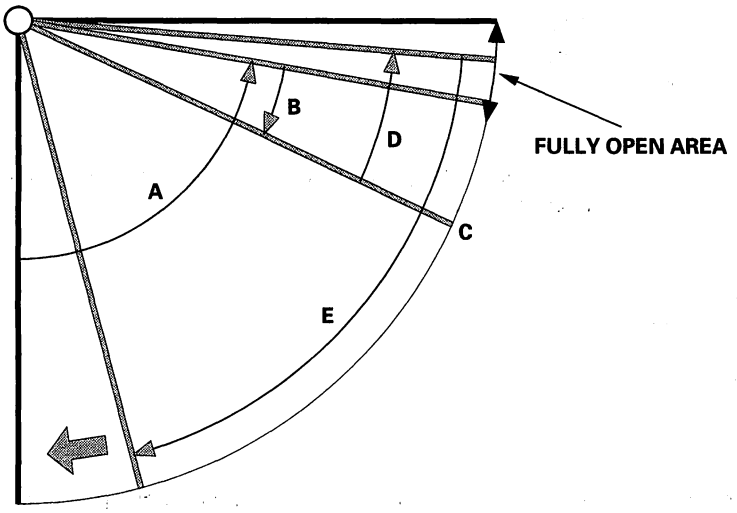
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## System Description (cont'd)

### Fall-down Detection Function

This function prevents the tailgate from suddenly falling down because of an accumulation of snow, or other causes. If the pulser in the drive unit detects abnormal pulses, the tailgate starts to open. If this operation is activated twice, the tailgate will close automatically. If the obstruction detection function detects any obstruction several times during this fall-down detection function, the tailgate stops moving.
NOTE: If the tailgate falls repeatedly, replace the tailgate support strut (see page 20-198).

A: Auto open action completed
B: Tailgate falling is detected
C: Clutch reconnect when falling is detected
D: Auto open action (power tailgate motor reverse action)
E: Close function activated from fully open position




### Power Tailgate Buzzer Beep Pattern

| Condition | Beep Pattern |
|---|---|
| When the tailgate starts to open automatically | Beeps 1 time |
| When the tailgate starts to close automatically | Beeps 1 time |
| When the reverse operation is started after the tailgate has detected any obstruction | Beeps 3 times |
| When the reverse operation is started by switch operation | Beeps 3 times |
| When the vehicle speed exceeds 1.2 mph (2 km/h) while the tailgate is opening automatically | Beeps intermittently until the condition is corrected |
| When the operating time is over | Beeps 3 times |
| When the vehicle speed exceeds 1.2 mph (2 km/h) while the tailgate is closing automatically | Beeps intermittently until the condition is corrected |
| When the tailgate is not fully-latched, and the following condition is met: The shift lever is any position other than P, and Brake pedal position switch and parking brake switch is OFF, and the vehicle speed exceeds 1.2 mph (2 km/h). | Beeps intermittently until the condition is corrected |
| When the tailgate fall-down detection function is activated | Beeps continuously |

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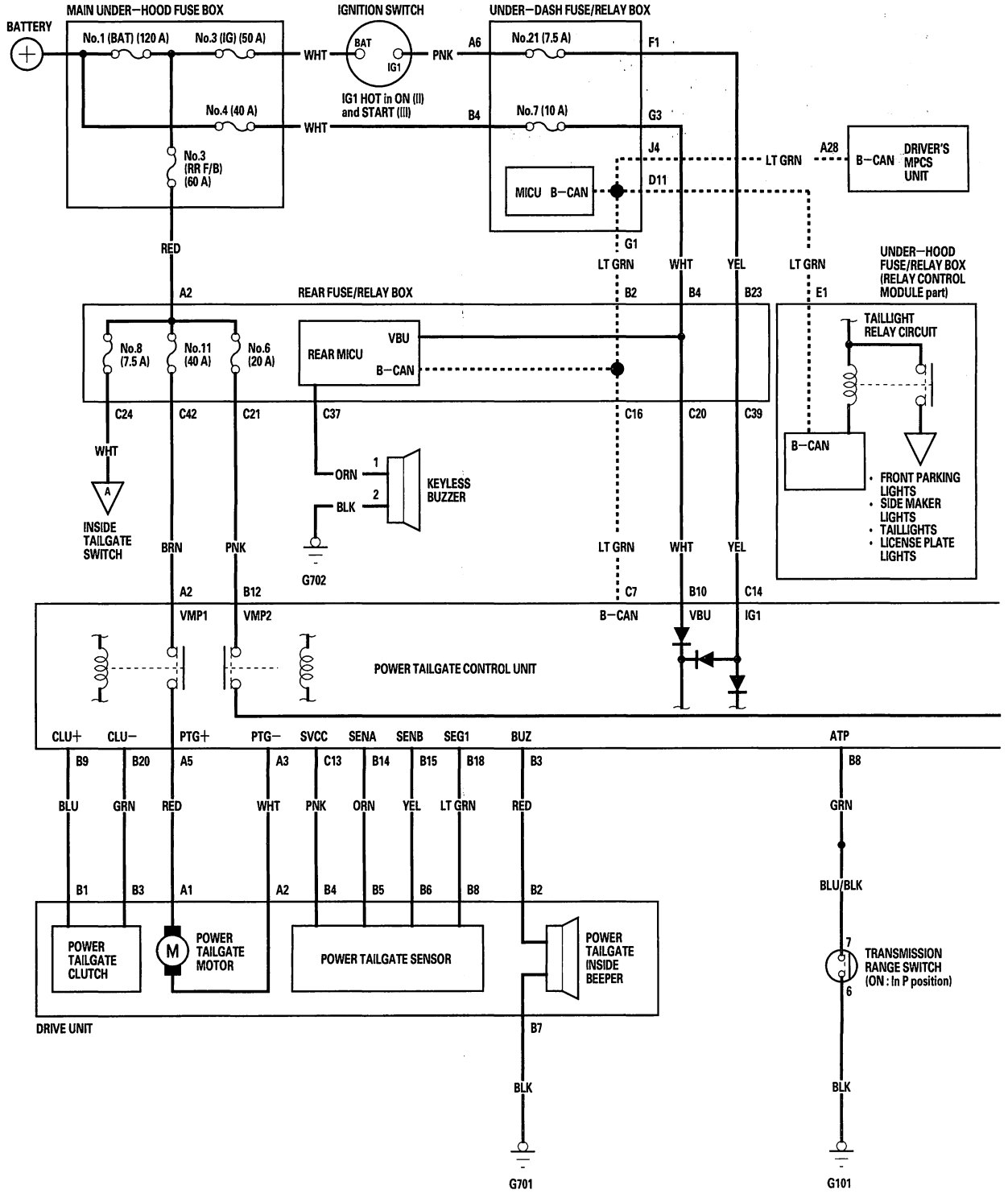
## Resetting the Power Tailgate Control Unit

If the battery terminal is disconnected or No. 7 (10 A) fuse in the under-dash fuse/relay box is removed while the power tailgate is operating, the power tailgate will not be able to open or close automatically until it is reset. To reset the system, fully close the tailgate manually. Once the battery terminals are reconnected or No. 7 (10 A) fuse in the under-dash fuse/relay box is replaced, the power tailgate system will automatically reset. Make sure the power tailgate operates properly.

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# Power Tailgate

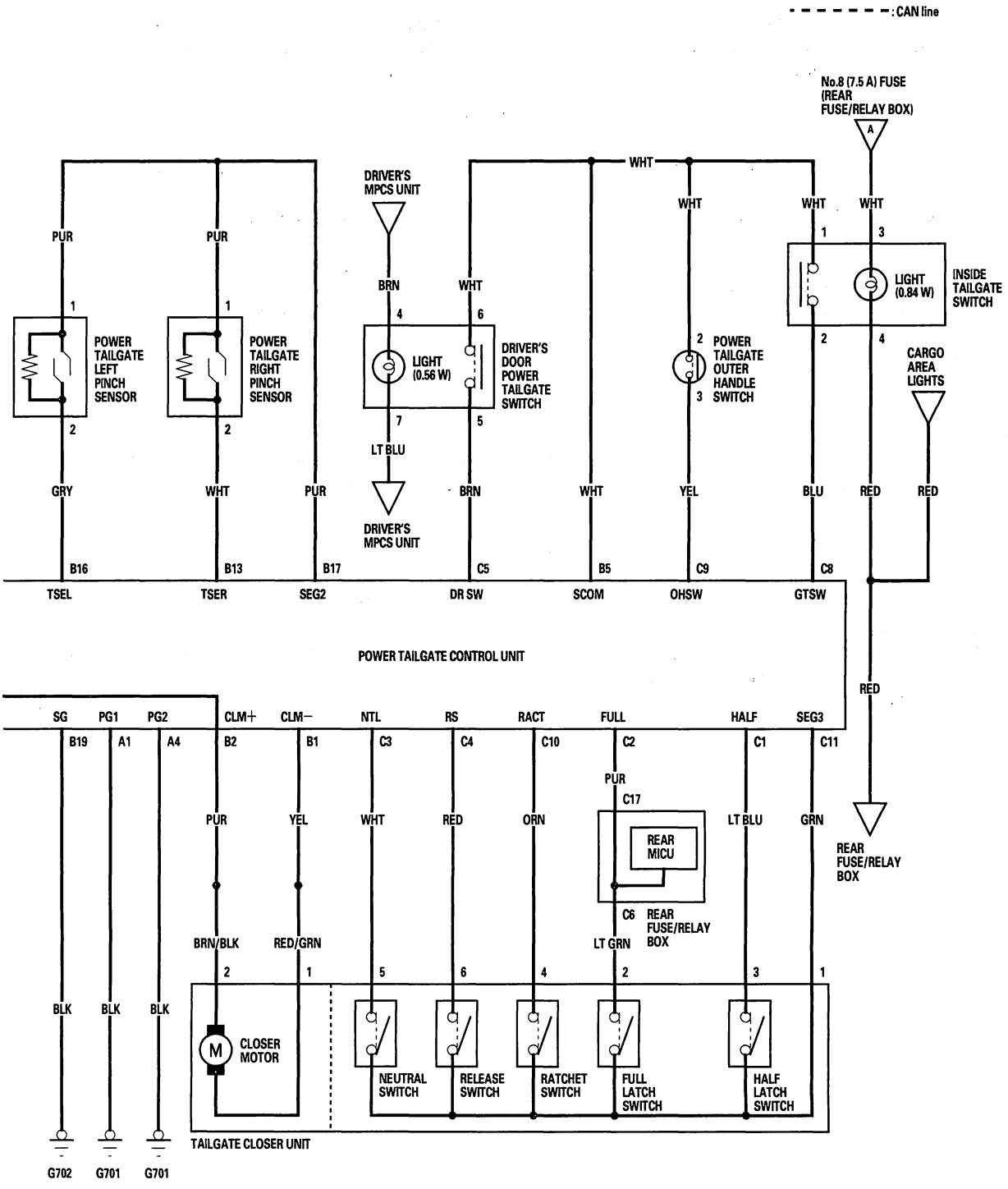
## Circuit Diagram




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## DTC Troubleshooting

### **DTC B1352:** Power Tailgate Control Unit Internal (EEPROM) Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Turn the ignition switch OFF.
2. Connect the HDS to the data link connector.
3. Remove the No. 7 (10 A) fuse from the under-dash fuse/relay box.
4. Wait for 1 minute, then reinstall the No. 7 (10 A) fuse to the under-dash fuse/relay box.
5. Close the tailgate manually (not with the power tailgate switch).
6. Turn the ignition switch ON (II).
7. Check for DTCs with the HDS.

   *Is DTC B1352 indicated?*

   **YES**—Replace the power tailgate control unit. ■

   **NO**—Intermittent failure, the power tailgate control unit is OK at this time. Check for loose or poor connections between the power tailgate control unit and the MICU. ■

### **DTC B1355:** Power Tailgate Control Unit Lost Communication with MICU (MICU Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1355 indicated?*

   **YES**—Go to Step 5.

   **NO**—Intermittent failure, the power tailgate control unit is OK at this time. Check for loose or poor connections between the power tailgate control unit and the MICU. ■

5. Check for DTCs with the HDS.

   *Are DTCs B1055, B1157, B1160, B1255, B1955, B2155, and/or B1806 also indicated?*

   **YES**—Do the MICU input test (see page 22-132). ■

   **NO**—Do the power tailgate control unit input test (see page 22-522). ■

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## **DTC B1356:** Power Tailgate Control Unit Lost Communication with Driver's MPCS Unit (DRLOCKSW Message)

## **DTC B1358:** Power Tailgate Control Unit Lost Communication with Driver's MPCS Unit (ASLOCKSW Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1356 and/or B1358 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the driver's MPCS unit. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1013, B1015, B1065, B1182, and B1905 also indicated?*

   **YES**—Do the driver's MPCS unit input test (see page 22-278). ■

   **NO**—Do the power tailgate control unit input test (see page 22-522). ■

## **DTC B1357:** Power Tailgate Control Unit Lost Communication with Gauge Control Module (VSP/NE Message)

## **DTC B1359:** Power Tailgate Control Unit Lost Communication with Gauge Control Module (A/T Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch OFF, and then back ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

   *Is DTC B1357 and/or B1359 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the gauge control module. ■
5. Check for DTCs with the HDS.

   *Are DTCs B1011, B1060, B1061, B1205, B1206, B1207, B1906, B1956, and/or B2160 also indicated?*

   **YES**—Do the gauge control module input test (see page 22-334). ■

   **NO**—Do the power tailgate control unit input test (see page 22-522). ■

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## DTC Troubleshooting (cont'd)

### DTC B1375: Driver's Door Power Tailgate Switch Circuit Malfunction

NOTE: If the power tailgate motor does not operate, test the motor first.

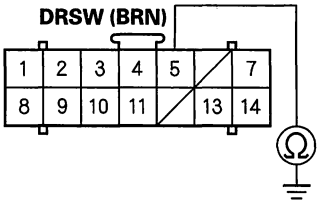
1. Turn the ignition switch OFF, and then back ON (II).
2. Clear the DTCs with the HDS.
3. Operate the dashboard power tailgate switch for more than 1 second.
4. Check for DTCs with the HDS.

   *Is DTC B1375 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the driver's door power tailgate switch. ■
5. Turn the ignition switch OFF.
6. Disconnect the 5P connector from the driver's door power tailgate switch.
7. Disconnect the power tailgate control unit connector C (14P).
8. Check for continuity between the power tailgate control unit connector C (14P) No. 5 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

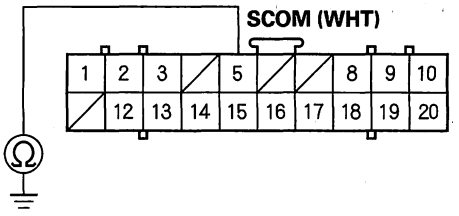
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 9.

9. Disconnect the power tailgate control unit connector B (20P).
10. Check for continuity between the power tailgate control unit connector B (20P) No. 5 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 11.

11. Do the driver's door power tailgate switch test (see page 22-525).

    *Is the switch OK?*

    **YES**—Replace the power tailgate control unit. ■

    **NO**—Replace the driver's door power tailgate switch. ■

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BACK

## DTC B1376: Tailgate Outer Handle Switch Circuit Malfunction

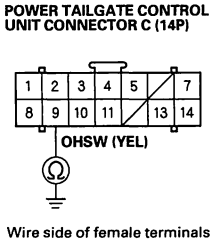
NOTE: If the power tailgate motor does not operate, test the motor first.

1. Turn the ignition switch OFF, and then back ON (II).
2. Clear the DTCs with the HDS, and wait for 2 seconds.
3. Pull the tailgate outer handle for more than 2 seconds.
4. Check for DTCs with the HDS.

   *Is DTC B1376 indicated?*

   **YES**—Go to step 5.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections at the power tailgate control unit and at the tailgate outer handle switch. ■
5. Turn the ignition switch OFF.
6. Open the power tailgate with the keyless transmitter.
7. Disconnect the 3P connector from the tailgate outer handle switch.
8. Disconnect the power tailgate control unit connector C (14P).
9. Check for continuity between the power tailgate control unit connector C (14P) No. 9 terminal and body ground.



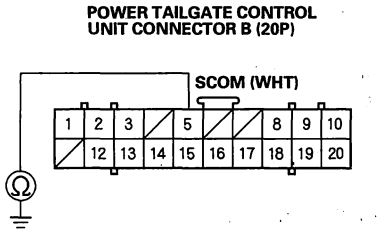

Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to Step 10.

10. Disconnect the power tailgate control unit connector B (20P).
11. Check for continuity between the power tailgate control unit connector B (20P) No. 5 terminal and body ground.




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 12.

12. Test the tailgate outer handle switch (see page 22-176).

    *Is the switch OK?*

    **YES**—Replace the power tailgate control unit. ■

    **NO**—Replace the tailgate outer handle switch. ■

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## DTC Troubleshooting (cont'd)

### DTC B1377: Inside Tailgate Switch Circuit Malfunction

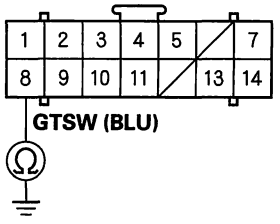
1. Turn the ignition switch OFF, and then back ON (II).
2. Clear the DTCs with the HDS.
3. Open the tailgate with the keyless transmitter.
4. Push the inside tailgate switch for more than 2 seconds.
5. Check for DTCs with the HDS.

   *Is DTC B1377 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the inside tailgate switch. ■
6. Turn the ignition switch OFF.
7. Disconnect the 5P connector from the inside tailgate switch.
8. Disconnect the power tailgate control unit connector C (14P).
9. Check for continuity between the power tailgate control unit connector C (14P) No. 8 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

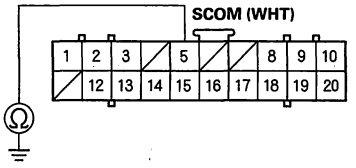
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 10.

10. Disconnect the power tailgate control unit connector B (20P).
11. Check for continuity between the power tailgate control unit connector B (20P) No. 5 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 12.

12. Test the inside tailgate switch (see page 22-525).

    *Is the switch OK?*

    **YES**—Replace the power tailgate control unit. ■

    **NO**—Replace the inside tailgate switch. ■

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BACK

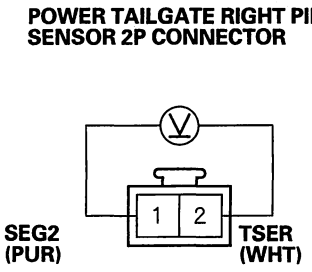
## DTC B1378: Power Tailgate Right Pinch Sensor Circuit Malfunction

1. Open the tailgate manually or with the keyless transmitter.
2. Close the tailgate with the keyless transmitter or driver's door power tailgate switch.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1378 indicated?*

   **YES**—Go to step 6.

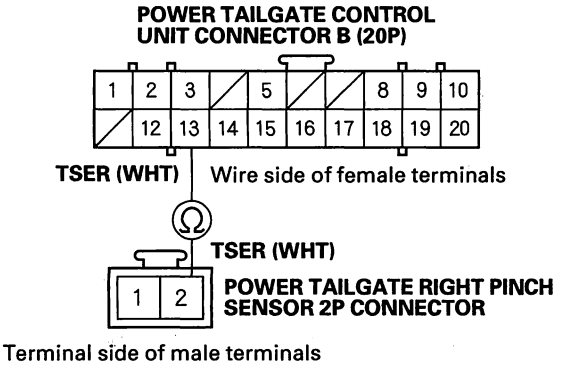
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the power tailgate right pinch sensor. ■
6. Turn the ignition switch OFF.
7. Disconnect the 2P connector from the power tailgate right pinch sensor.
8. Turn the ignition switch ON (II).
9. Measure the voltage between the harness side of the power tailgate right pinch sensor 2P connector No. 2 (+) and No. 1 (−) terminals.




   *Is there battery voltage?*

   **YES**—Replace the power tailgate right pinch sensor. ■

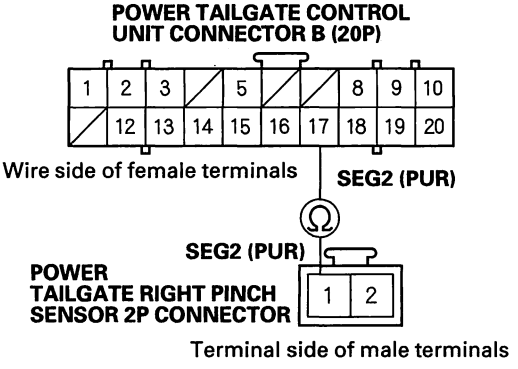
   **NO**—Go to step 10.
10. Turn the ignition switch OFF.
11. Disconnect the power tailgate control unit connector B (20P).
12. Check for continuity between the power tailgate control unit connector B (20P) No. 13 terminal and the power tailgate right pinch sensor 2P connector No. 2 terminal.




   *Is there continuity?*

   **YES**—Go to step 13.

   **NO**—Repair open in the wire. ■
13. Check for continuity between the power tailgate control unit connector B (20P) No. 17 terminal and the power tailgate right pinch sensor 2P connector No. 1 terminal.




   *Is there continuity?*

   **YES**—Replace the power tailgate control unit. ■

   **NO**—Repair open in the wire. ■

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## DTC Troubleshooting (cont'd)

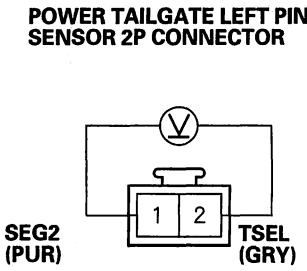
### DTC B1379: Power Tailgate Left Pinch Sensor Circuit Malfunction

1. Open the tailgate manually or with the keyless transmitter.
2. Close the tailgate with the keyless transmitter or driver's door power tailgate switch.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1379 indicated?*

   **YES**—Go to step 6.

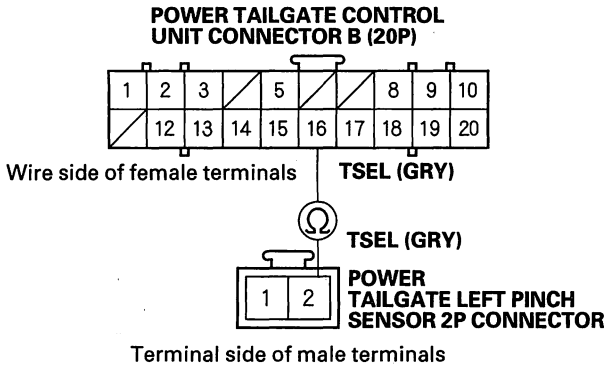
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the power tailgate left pinch sensor. ■
6. Turn the ignition switch OFF.
7. Disconnect the 2P connector from the power tailgate left pinch sensor.
8. Turn the ignition switch ON (II).
9. Measure the voltage between the harness side of the power tailgate left pinch sensor 2P connector No. 2 (+) and No. 1 (−) terminals.




   *Is there battery voltage?*

   **YES**—Replace the power tailgate left pinch sensor. ■

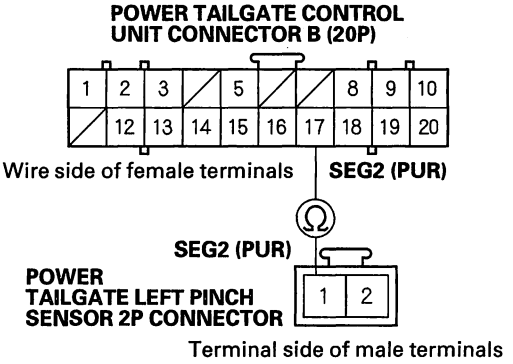
   **NO**—Go to step 10.
10. Turn the ignition switch OFF.
11. Disconnect the power tailgate control unit connector B (20P).
12. Check for continuity between the power tailgate control unit connector B (20P) No. 16 terminal and the power tailgate left pinch sensor 2P connector No. 2 terminal.




   *Is there continuity?*

   **YES**—Go to step 13.

   **NO**—Repair open in the wire. ■
13. Check for continuity between the power tailgate control unit connector B (20P) No. 17 terminal and the power tailgate left pinch sensor 2P connector No. 1 terminal.




   *Is there continuity?*

   **YES**—Replace the power tailgate control unit. ■

   **NO**—Repair open in the wire. ■

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BACK

## **DTC B1380:** Power Tailgate Closer Unit Neutral Switch Circuit Malfunction

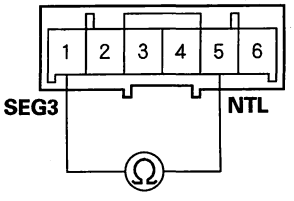
1. Open the tailgate with the tailgate outer handle.
2. Close the tailgate manually.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1380 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the power tailgate closer unit. ■
6. Open the tailgate with the power tailgate outer handle.
7. Turn the ignition switch OFF.
8. Disconnect the 6P connector from the power tailgate closer unit.
9. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 5 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

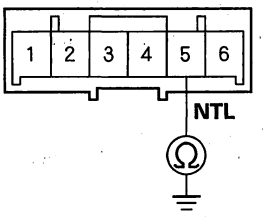
*Is there continuity?*

**YES**—Faulty neutral switch, replace the power tailgate closer unit. ■

**NO**—Go to step 10.

10. Check for continuity between the power tailgate closer unit 6P connector No. 5 terminal and body ground.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

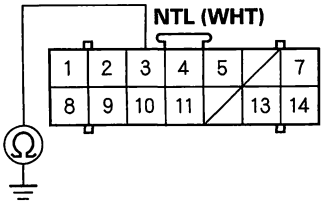
*Is there continuity?*

**YES**—Replace the power tailgate closer unit. ■

**NO**—Go to step 11.

11. Disconnect the power tailgate control unit connector C (14P).
12. Check for continuity between the power tailgate control unit connector C (14P) No. 3 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 13.

(cont'd)

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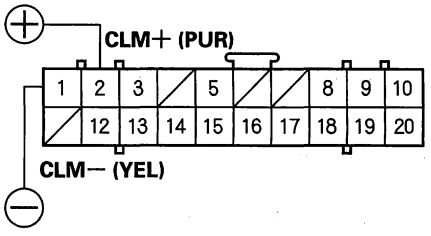
## DTC Troubleshooting (cont'd)

13. Turn the tailgate lock latch to the fully-closed position using a screwdriver.

14. Disconnect the 20P connector from the power tailgate control unit connector B (20P).

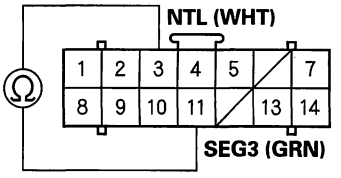
15. Connect battery power to the power tailgate control unit connector B (20P) No. 2 terminal and ground the No. 1 terminal momentarily. (The motor should run in the release direction.)

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




16. Check for continuity between the power tailgate control unit connector C (14P) No. 3 and No. 11 terminals.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

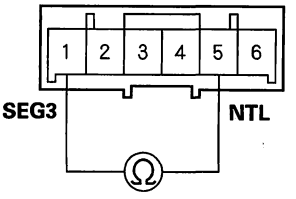
**YES**—Replace the power tailgate control unit. ■

**NO**—Go to step 17.

17. Disconnect the 6P connector from the tailgate closer unit.

18. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 5 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair open in the wire between the power tailgate closer unit and power tailgate control unit. ■

**NO**—Replace the power tailgate closer unit. ■

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BACK

## DTC B1381: Power Tailgate Closer Unit Release Switch Circuit Malfunction

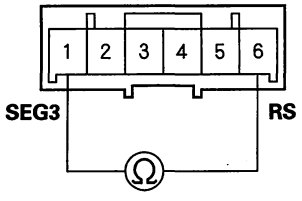
1. Open the tailgate with the tailgate outer handle switch.
2. Close the tailgate manually.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1381 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the tailgate closer unit. ■
6. Open the tailgate with the tailgate outer handle.
7. Turn the ignition switch OFF.
8. Disconnect the 6P connector from the power tailgate closer unit.
9. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 6 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

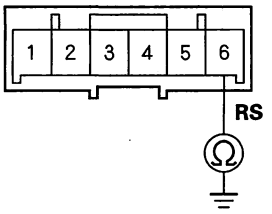
*Is there continuity?*

**YES**—Faulty release switch, replace the power tailgate closer unit. ■

**NO**—Go to step 10.

10. Check for continuity between the power tailgate closer unit 6P connector No. 6 terminal and body ground.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

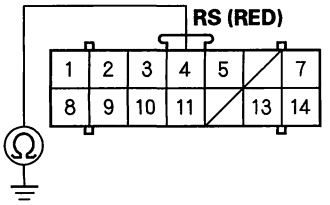
*Is there continuity?*

**YES**—Replace the power tailgate closer unit. ■

**NO**—Go to Step 11.

11. Disconnect the power tailgate control unit connector C (14P).
12. Check for continuity between the power tailgate control unit connector C (14P) No. 4 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 13.

(cont'd)

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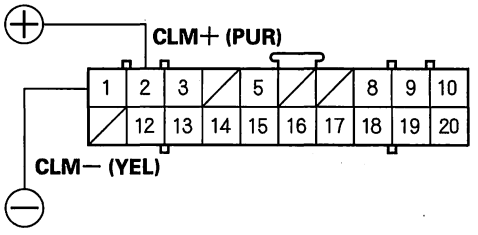
## DTC Troubleshooting (cont'd)

13. Turn the tailgate lock latch to the fully-closed position using a screwdriver.

14. Disconnect the power tailgate control unit connector B (20P).

15. Connect battery power to the power tailgate control unit connector B (20P) No. 2 terminal and ground the No. 1 terminal momentarily. (The motor should run in the release direction.)

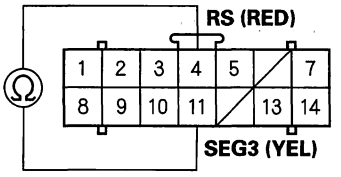
**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

16. Check for continuity between the power tailgate control unit connector C (14P) No. 4 and No. 11 terminals.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

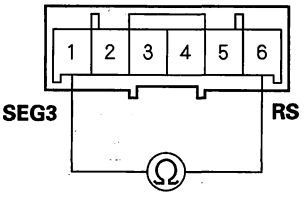
**YES**—Replace the power tailgate control unit. ■

**NO**—Go to step 17.

17. Disconnect the 6P connector from the tailgate closer unit.

18. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 6 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair open in the wire between the power tailgate closer unit and power tailgate control unit. ■

**NO**—Replace the power tailgate closer unit. ■

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BACK

## DTC B1382: Power Tailgate Closer Unit Full Latch Switch Circuit Malfunction

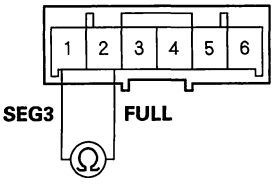
1. Open the tailgate with the tailgate outer handle.
2. Close the tailgate manually.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for the DTCs with the HDS.

   *Is DTC B1382 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the power tailgate closer unit. ■
6. Open the tailgate with the tailgate outer handle.
7. Turn the ignition switch OFF.
8. Turn the tailgate lock latch to the fully-closed position using a screwdriver.
9. Disconnect the 6P connector from the power tailgate closer unit.
10. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 2 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

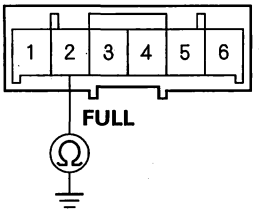
*Is there continuity?*

**YES**—Faulty full latch switch, replace the power tailgate closer unit. ■

**NO**—Go to step 11.

11. Check for continuity between the power tailgate closer unit 6P connector No. 2 terminal and body ground.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

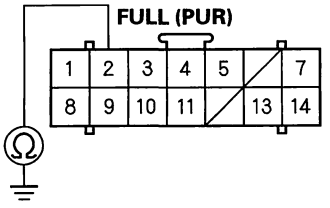
*Is there continuity?*

**YES**—Replace the tailgate closer unit. ■

**NO**—Go to Step 12.

12. Disconnect the power tailgate control unit connector C (14P).
13. Check for continuity between the power tailgate control unit connector C (14P) No. 2 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire between the power tailgate control unit and the rear fuse/relay box or between the rear fuse/relay box and the power tailgate closer unit. If the wire harness are OK, replace the MICU-rear junction box. ■

**NO**—Go to step 14.

(cont'd)

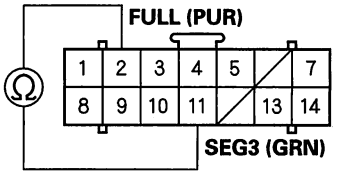
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## DTC Troubleshooting (cont'd)

14. Turn the tailgate emergency lever to release the tailgate lock latch from the fully-locked position to release position.

15. Check for continuity between the power tailgate control unit connector C (14P) No. 2 and No. 11 terminals.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

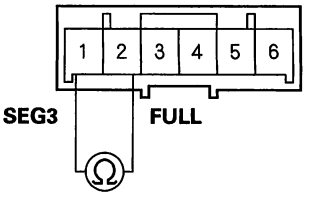
**YES**—Replace the power tailgate control unit. ■

**NO**—Go to step 16.

16. Disconnect the 6P connector from the power tailgate closer unit.

17. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 2 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair open in the wire between the power tailgate closer unit and power tailgate control unit. ■

**NO**—Replace the power tailgate closer unit. ■

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BACK

## DTC B1383: Power Tailgate Closer Unit Ratchet Switch Circuit Malfunction

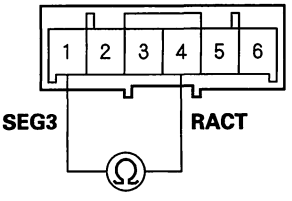
1. Open the tailgate with the tailgate outer handle.
2. Close the tailgate manually.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1383 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the power tailgate closer unit. ■
6. Open the tailgate with the tailgate outer handle.
7. Turn the ignition switch OFF.
8. Disconnect the 6P connector from the power tailgate closer unit.
9. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 4 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

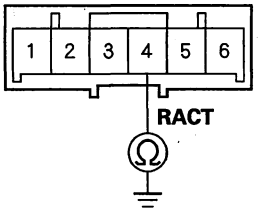
*Is there continuity?*

**YES**—Faulty ratchet switch, replace the power tailgate closer unit. ■

**NO**—Go to step 10.

10. Check for continuity between the power tailgate closer unit 6P connector No. 4 terminal and body ground.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

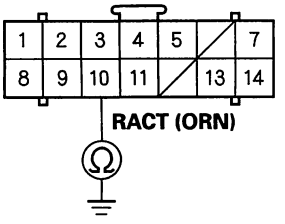
*Is there continuity?*

**YES**—Replace the tailgate closer unit. ■

**NO**—Go to Step 11.

11. Disconnect the power tailgate control unit connector C (14P).
12. Check for continuity between the power tailgate control unit connector C (14P) No. 10 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair a short to ground in the wire. ■

**NO**—Go to step 13.

(cont'd)

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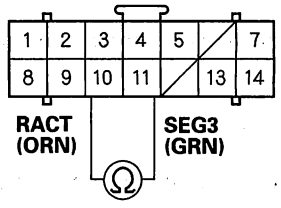
## DTC Troubleshooting (cont'd)

13. Turn the tailgate lock latch to the fully-locked position using a screwdriver.

14. Turn the tailgate emergency lever to release the tailgate lock latch from the fully-locked position to release position.

15. Check for continuity between the power tailgate control unit connector C (14P) No. 10 and No. 11 terminals.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

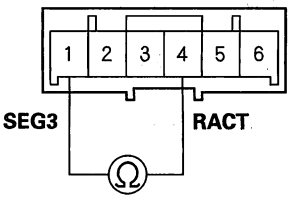
**YES**—Replace the power tailgate control unit. ■

**NO**—Go to step 16.

16. Disconnect the 6P connector from the power tailgate closer unit.

17. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 4 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair open in the wire between the power tailgate closer unit and power tailgate control unit. ■

**NO**—Replace the power tailgate closer unit. ■

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BACK

## DTC B1384: Power Tailgate Closer Unit Half Latch Switch Circuit Malfunction

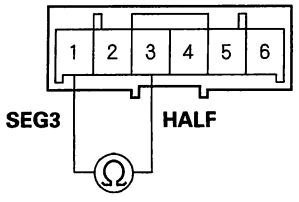
1. Open the tailgate with the tailgate outer handle.
2. Close the tailgate manually.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1384 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the tailgate closer unit. ■
6. Open the tailgate with the tailgate outer handle.
7. Turn the ignition switch OFF.
8. Turn the tailgate lock latch to the fully-closed position using a screwdriver.
9. Disconnect the 6P connector from the power tailgate closer unit.
10. Check for continuity between the power tailgate closer unit 6P connector No.1 and No.3 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

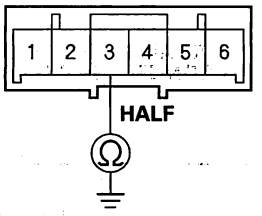
*Is there continuity?*

**YES**—Faulty half latch switch, replace the power tailgate closer unit. ■

**NO**—Go to step 11.

11. Check for continuity between the power tailgate closer unit 6P connector No. 3 terminal and body ground.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

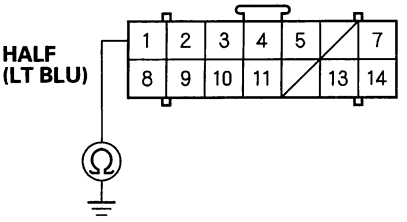
*Is there continuity?*

**YES**—Replace the power tailgate closer unit. ■

**NO**—Go to Step 12.

12. Disconnect the power tailgate control unit connector C (14P).
13. Check for continuity between the power tailgate control unit connector C (14P) No. 1 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short to ground in the wire. ■

**NO**—Go to step 14.

(cont'd)

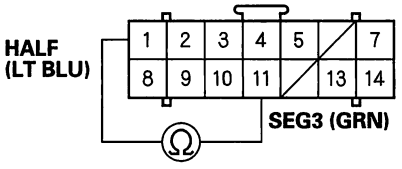
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## DTC Troubleshooting (cont'd)

14. Turn the emergency lever of the tailgate and release the tailgate lock latch from the fully-locked position.

15. Check for continuity between the power tailgate control unit connector C (14P) No. 1 and No. 11 terminals.

**POWER TAILGATE CONTROL UNIT CONNECTOR C (14P)**




Wire side of female terminals

*Is there continuity?*

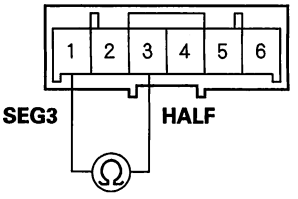
**YES**—Replace the power tailgate control unit. ■

**NO**—Go to step 16.

16. Disconnect the 6P connector from the power tailgate closer unit.

17. Check for continuity between the power tailgate closer unit 6P connector No. 1 and No. 3 terminals.

**POWER TAILGATE CLOSER UNIT 6P CONNECTOR**




Terminal side of male terminals

*Is there continuity?*

**YES**—Repair open in the wire between the power tailgate closer unit and power tailgate control unit. ■

**NO**—Replace the power tailgate closer unit. ■

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BACK

## DTC B1386: Power Tailgate Sensor Pulse A Circuit Malfunction

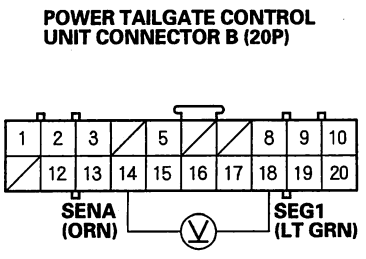
NOTE: If the motor does not operate, do the power tailgate motor test (see page 22-524).

1. Open the tailgate with the tailgate outer handle.
2. Close the tailgate automatically with the keyless transmitter or inside tailgate switch.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1386 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the drive unit.■
6. Turn the ignition switch OFF.
7. Connect the voltmeter to the power tailgate control unit connector B (20P) No. 14 and No. 18 terminals.
8. Measure the voltage between the power tailgate control unit connector B (20P) No. 14 and No. 18 terminals while the tailgate is opening and closing with the keyless transmitter or inside tailgate switch.



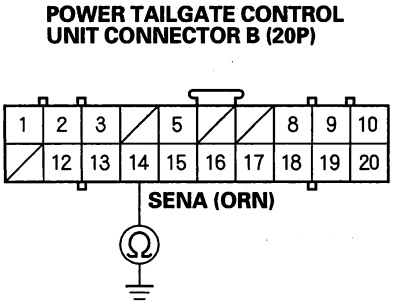

Wire side of female terminals

*Does it alternate between about 0 V and 5 V?*
*NOTE: Digital voltmeter will read about 2.5 V.*

**YES**—Replace the power tailgate control unit.■

**NO**—Go to step 9.

9. Disconnect the power tailgate control unit connector B (20P).
10. Disconnect the 8P connector from the drive unit.
11. Check for continuity between the power tailgate control unit connector B (20P) No. 14 terminal and body ground.



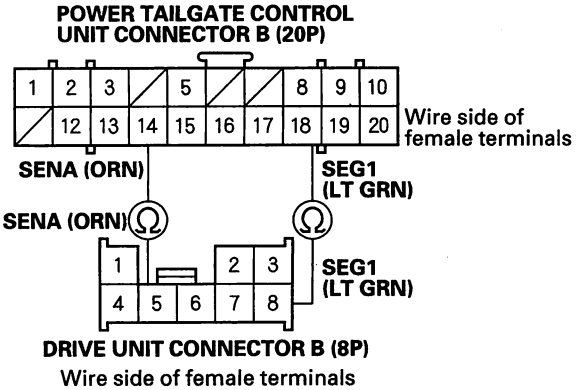

Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 12.

12. Check for continuity between the power tailgate control unit connector B (20P) No. 14 and No. 18 terminals and drive unit connector B (8P) No. 5 and No. 8 terminals respectively.




*Is there continuity?*

**YES**—Faulty power tailgate sensor A, replace the drive unit.■

**NO**—Repair open in the wire.■

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## DTC Troubleshooting (cont'd)

### DTC B1387: Power Tailgate Sensor Pulse B Circuit Malfunction

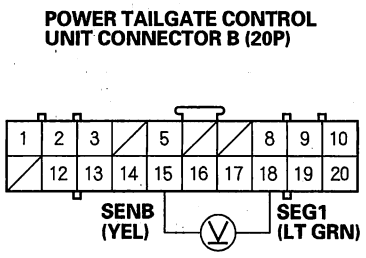
NOTE: If the motor does not operate, do the power tailgate motor test (see page 22-524).

1. Open the tailgate with the tailgate outer handle.
2. Close the tailgate automatically with the keyless transmitter or inside tailgate switch.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1387 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the drive unit.■
6. Turn the ignition switch OFF.
7. Connect the voltmeter to the power tailgate control unit B connector (20P) No. 15 and No. 18 terminals.
8. Measure the voltage between the power tailgate control unit connector B (20P) No. 15 and No. 18 terminals while the tailgate is opening and closing with the keyless transmitter or inside tailgate switch.



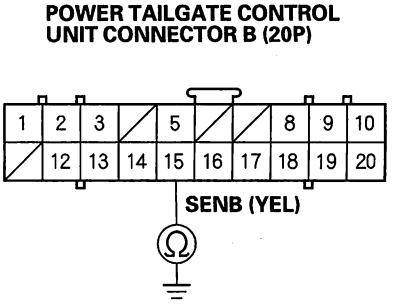

Wire side of female terminals

*Does it alternate between about 0 V and 5 V?*
*NOTE: Digital voltmeter will read about 2.5 V.*

**YES**—Replace the power tailgate control unit.■

**NO**—Go to step 9.

9. Disconnect the power tailgate control unit connector B (20P).
10. Disconnect the 8P connector from the drive unit.
11. Check for continuity between the power tailgate control unit connector B (20P) No. 15 terminal and body ground.



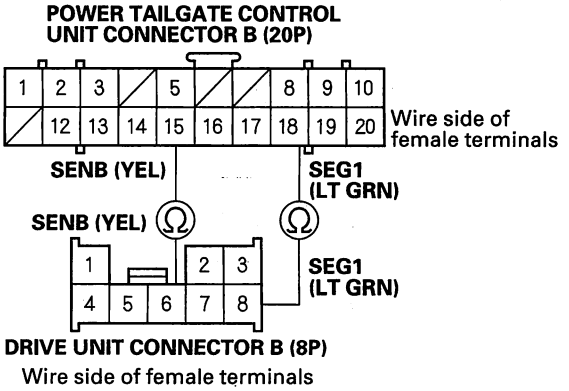

Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 12.

12. Check for continuity between the power tailgate control unit connector B (20P) No. 15 and No. 18 terminals and drive unit connector B (8P) No. 6 and No. 8 terminals.




Wire side of female terminals

*Is there continuity?*

**YES**—Faulty power tailgate sensor B, replace the drive unit.■

**NO**—Repair open in the wire.■

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BACK

## **DTC B1388:** Power Tailgate Motor Circuit Malfunction

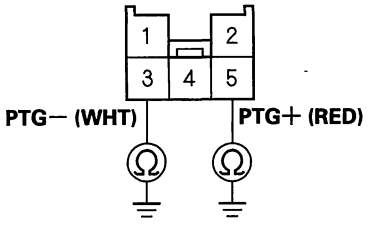
1. Open the tailgate.
2. Close the tailgate automatically with the keyless transmitter or inside tailgate switch.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1388 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the drive unit. ■
6. Turn the ignition switch OFF.
7. Disconnect the 2P connector from the drive unit.
8. Check for continuity between the power tailgate control unit connector A (5P) No. 3 and No. 5 terminals and body ground respectively.

**POWER TAILGATE CONTROL UNIT CONNECTOR A (5P)**




Wire side of female terminals

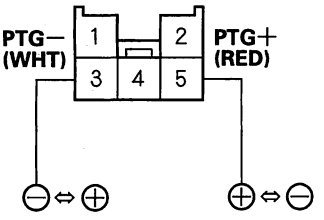
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Go to step 9.

9. Connect battery power to the power tailgate control unit connector A (5P) No. 3 (or No. 5) terminal and ground the No. 5 or (No. 3) terminal.

**POWER TAILGATE CONTROL UNIT CONNECTOR A (5P)**




Wire side of female terminals

10. Check the power tailgate motor operation.

    *Does the motor run normally?*

    **YES**—Go to step 11.

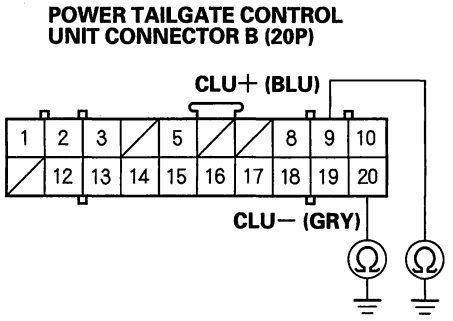
    **NO**—Faulty power tailgate motor, replace the drive unit. ■
11. Disconnect the 20P connector from the power tailgate control unit connector B (20P).

(cont'd)

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## DTC Troubleshooting (cont'd)

12. Check for continuity between the power tailgate control unit connector B (20P) No. 9 and No. 20 terminals and body ground respectively.



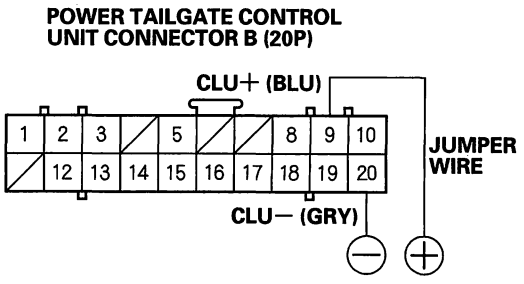

Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire.■

**NO**—Go to step 13.

13. Connect battery power to the power tailgate control unit connector B (20P) No. 9 terminal and ground the No. 20 terminal. Check for clutch operation.



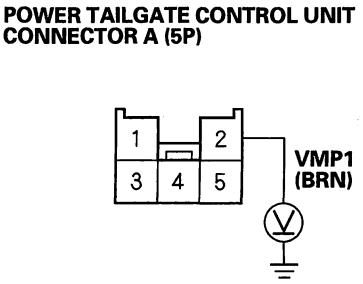

Wire side of female terminals

*Can you hear the clutch operate?*

**YES**—Go to step 14.

**NO**—Faulty power tailgate clutch, replace the drive unit.■

14. Measure the voltage between the power tailgate control unit connector A (5P) No. 2 terminal and body ground.




Wire side of female terminals

*Is there battery voltage?*

**YES**—Go to step 15.

**NO**—Check the No. 11 (40 A) fuse in the rear fuse/relay box. If the fuse is OK, check for an open in the wire between the rear fuse/relay box and the power tailgate control unit.■

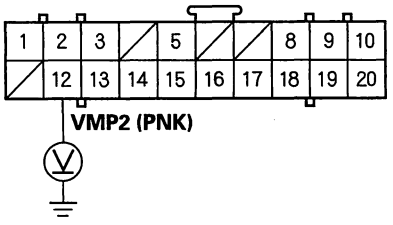
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15. Measure the voltage between the power tailgate control unit connector B (20P) No. 12 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

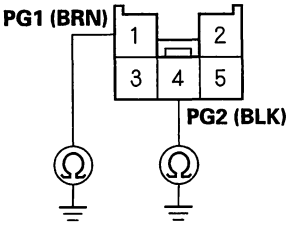
*Is there battery voltage?*

**YES**—Go to step 16.

**NO**—Check the No. 6 (20 A) fuse in the rear fuse/relay box. If the fuse is OK, check for an open in the wire between the rear fuse/relay box and the power tailgate control unit. ■

16. Check for continuity between the power tailgate control unit connector A (5P) No. 1 and No. 4 terminals and body ground respectively.

**POWER TAILGATE CONTROL UNIT CONNECTOR A (5P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Replace the power tailgate control unit. ■

**NO**—Repair open in the wire or poor ground (G701, G702). ■

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## DTC Troubleshooting (cont'd)

### **DTC B1389:** Power Tailgate Motor Clutch Circuit Malfunction

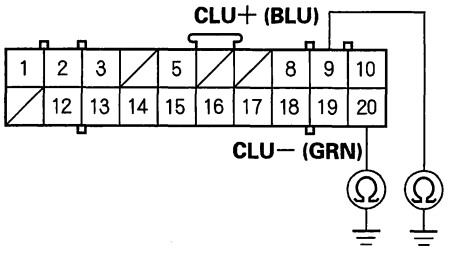
1. Open the tailgate.
2. Close the tailgate automatically with the keyless transmitter or inside tailgate switch.
3. Turn the ignition switch OFF, and then back ON (II).
4. Clear the DTCs with the HDS.
5. Check for DTCs with the HDS.

   *Is DTC B1389 indicated?*

   **YES**—Go to step 6.

   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the drive unit. ■
6. Turn the ignition switch OFF.
7. Open the tailgate.
8. Disconnect the power tailgate control unit connector B (20P).
9. Check for continuity between the power tailgate control unit connector B (20P) No. 9 and No. 20 terminals and body ground respectively.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

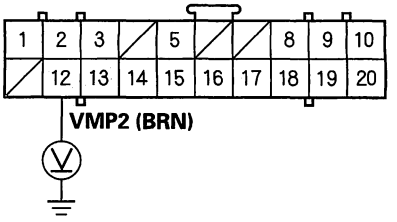
*Is there continuity?*

**YES**—Repair short in the wire. If the wire is OK, replace the drive unit. ■

**NO**—Go to step 10.

10. Measure the voltage between the power tailgate control unit connector B (20P) No. 12 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

*Is there battery voltage?*

**YES**—Replace the power tailgate control unit. ■

**NO**—Check the No. 11 (20 A) fuse in the rear fuse/relay box. If the fuse is OK, check for an open in the wire between the rear fuse/relay box and the power tailgate control unit. ■

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## DTC B1390: Power Tailgate Closer Function Error

1. With the tailgate closed, pull the tailgate outer handle and wait for 10 seconds.
2. Turn the ignition switch OFF, and then back ON (II).
3. Clear the DTCs with the HDS.
4. Listen for the sound of the latch releasing.

   *Is there sound?*

   **YES**—Go to step 5.

   **NO**—Go to Step 7.
5. Check for DTCs with the HDS.

   *Is DTC B1390 indicated?*

   **YES**—Go to step 6.

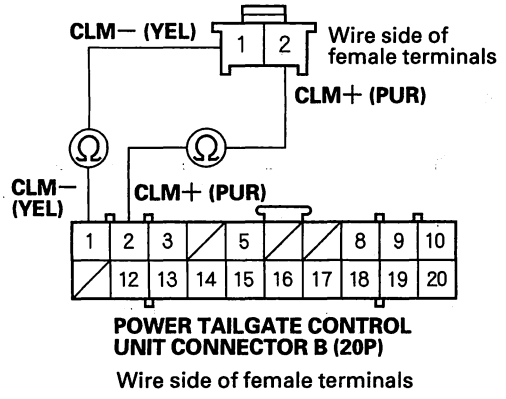
   **NO**—Intermittent failure, the system is OK at this time. Check for loose or poor connections between the power tailgate control unit and the closer motor. ■
6. Check for DTCs with the HDS.

   *Are DTCs B1380, B1381, B1382, B1383, and/or B1384 also indicated?*

   **YES**—Troubleshoot the indicated DTCs. ■

   **NO**—Replace the power tailgate control unit and recheck the system. ■
7. Turn the ignition switch OFF.
8. Open the tailgate.
9. Disconnect the 2P connector from the power tailgate closer motor.
10. Disconnect the power tailgate control unit connector B (20P).
11. Check for continuity between the power tailgate control unit connector B (20P) No. 1 and No. 2 terminals and the power tailgate closer motor 2P connector No. 1 and No. 2 terminals respectively.

**POWER TAILGATE CLOSER MOTOR 2P CONNECTOR**




*Is there continuity?*

**YES**—Go to step 12.

**NO**—Repair open in the wire. ■

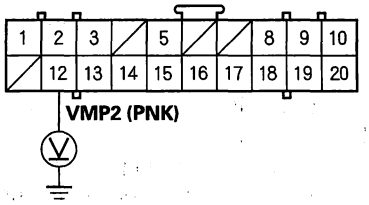
(cont'd)

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## DTC Troubleshooting (cont'd)

12. Measure the voltage between the power tailgate control unit connector B (20P) No. 12 terminal and body ground.

POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)




Wire side of female terminals

*Is there battery voltage?*

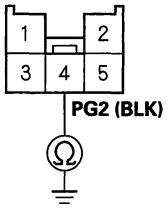
**YES**—Go to step 14.

**NO**—Check for No. 6 (20 A) fuse in the rear fuse/relay box. If the fuse is OK, check for an open in the wire between the rear fuse/relay box and power tailgate control unit. ■

13. Disconnect the power tailgate control unit connector A (5P).

14. Check for continuity between the power tailgate control unit connector A (5P) No. 4 terminal and body ground.

POWER TAILGATE CONTROL UNIT CONNECTOR A (5P)




Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 15.

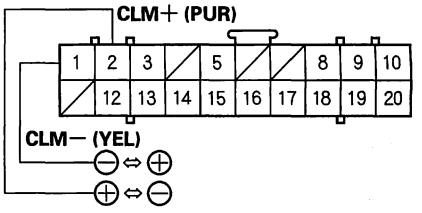
**NO**—Repair open in the wire or poor ground (G701). ■

15. Turn the tailgate lock latch to the fully-closed position using a screwdriver.

16. Reconnect the power tailgate closer motor 2P connector.

17. Connect battery power to the power tailgate control unit connector B (20P) No. 2 (or No. 1) terminal and ground the No. 1 (or No. 2) terminal momentarily.

POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)




Wire side of female terminals

*Does the motor run smoothly?*

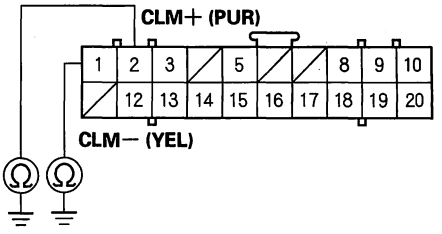
**YES**—Replace the power tailgate control unit. ■

**NO**—Go to step 18.

18. Reconnect the 6P connector to the power tailgate closer unit.

19. Check for continuity between the power tailgate control unit connector B (20P) No. 1 and No. 2 terminals and body ground respectively.

POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)




Wire side of female terminals

*Is there continuity?*

**YES**—Go to step 20.

**NO**—Go to step 22.

20. Disconnect the 6P connector from the power tailgate closer unit.

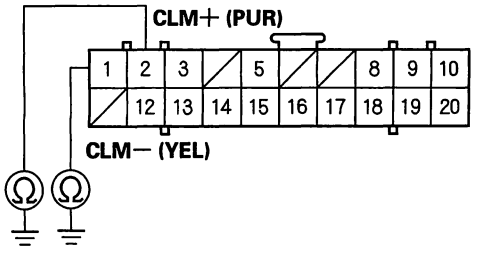
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21. Check for continuity between the power tailgate control unit connector B (20P) No. 1 and No. 2 terminals and body ground respectively.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

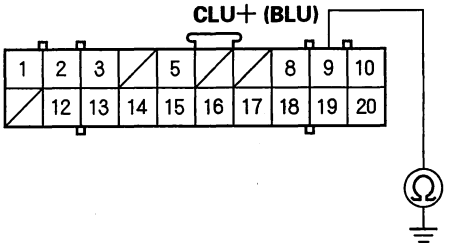
*Is there continuity?*

**YES**—Repair short in the wire. ■

**NO**—Replace the power tailgate closer unit. ■

22. Check for continuity between the power tailgate control unit connector B (20P) No. 9 terminal and body ground.

**POWER TAILGATE CONTROL UNIT CONNECTOR B (20P)**




Wire side of female terminals

*Is there continuity?*

**YES**—Repair short in the wire. ■

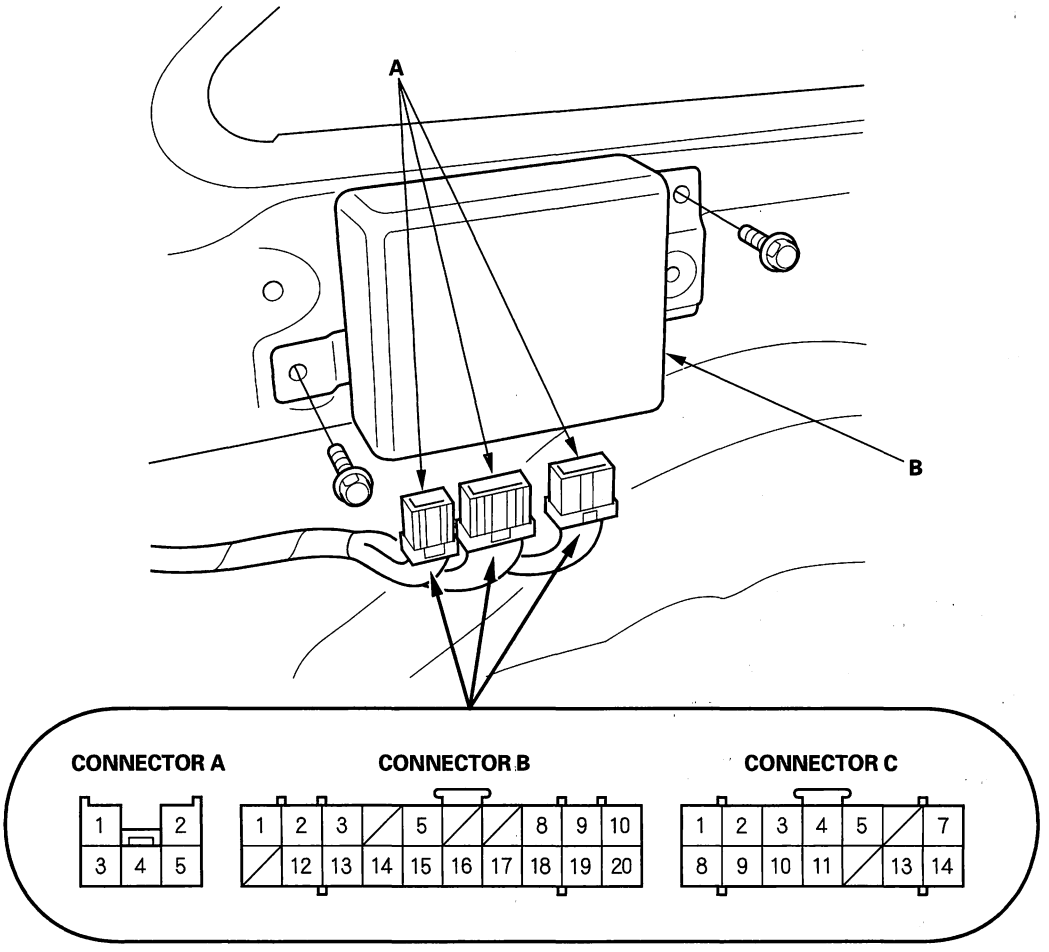
**NO**—Check for No. 6 (20 A) fuse in the rear fuse/relay box. If the fuse is OK, check for an open in the wire between the rear fuse/relay box and power tailgate control unit. ■

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## Control Unit Input Test

NOTE: Before testing, troubleshoot the multiplex integrated control system using B-CAN System Diagnosis Test Mode A (see page 22-112).

1. Turn the ignition switch OFF.
2. Remove the left rear pillar trim (see page 20-92).
3. Disconnect the 20P, 14P, and 5P connectors (A) from the power tailgate control unit (B).




Wire side of female terminals

4. Inspect all 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.

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5. With the connectors still disconnected, make these input tests at the connectors.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If the input tests prove OK, go to step 5.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| B3 | RED | Under all conditions | Connect B10 terminal to B3 terminal with a jumper wire: The beeper should sound. | • Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Faulty beeper<br>• Poor ground (G701)<br>• An open in the wire |

6. Reconnect all connectors to the power tailgate control unit, and make these input tests at the appropriate connector.

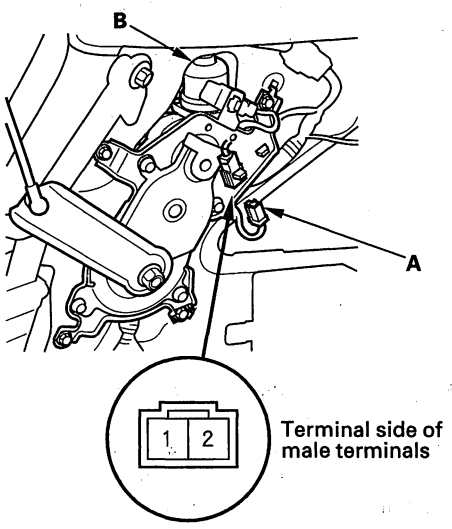
- If the test indicates a problem, find and correct the cause, then recheck the system.
- If the input test proves OK, replace the power tailgate control unit.

| Cavity | Wire | Test condition | Test: Desired result | Possible cause if result is not obtained |
|---|---|---|---|---|
| A2 | BRN | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 11 (40 A) fuse in the raer fuse/relay box<br>• An open in the wire |
| B12 | PNK | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 6 (20 A) fuse in the rear fuse/relay box<br>• Blown No. 3 (60 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| B10 | WHT | Under all conditions | Measure the voltage to ground: There should be battery voltage. | • Blown No. 7 (10 A) fuse in the under-dash fuse/relay box<br>• Blown No. 15 (40 A) fuse in the under-hood fuse/relay box<br>• An open in the wire |
| C14 | YEL | Ignition switch ON (II) | Measure the voltage to ground: There should be battery voltage. | • Blown No. 21 (7.5 A) fuse in the under-dash fuse/relay box<br>• An open in the wire |
| A1 | BRN | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G701)<br>• An open in the wire |
| A4<br>B19 | BLK | Under all conditions | Measure the voltage to ground: There should be less than 0.5 V. | • Poor ground (G701, G702)<br>• An open in the wire |
| B8 | GRN | Shift lever in P position | Measure the voltage to ground: There should be less than 1 V. | • Faulty transmission range switch<br>• Poor ground (G101, G102)<br>• An open in the wire |

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## Power Tailgate Motor Test

1. Open the tailgate and remove the left rear pillar trim (see page 20-85).
2. Disconnect the 2P connector (A) from the power tailgate motor (B).



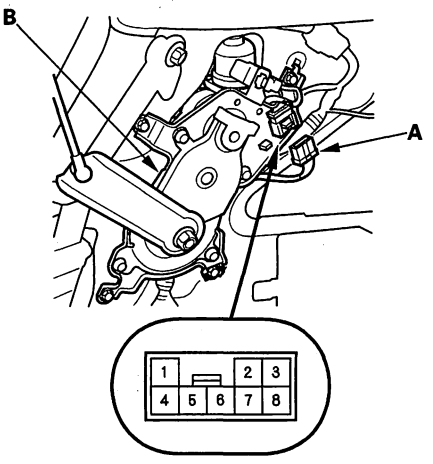

3. Close the tailgate manually.
4. Check the motor operation by connecting battery power to the No. 1 terminal and ground to the No. 2 terminal. The motor should run (tailgate open).

   NOTE: Be careful not to pinch your hands.

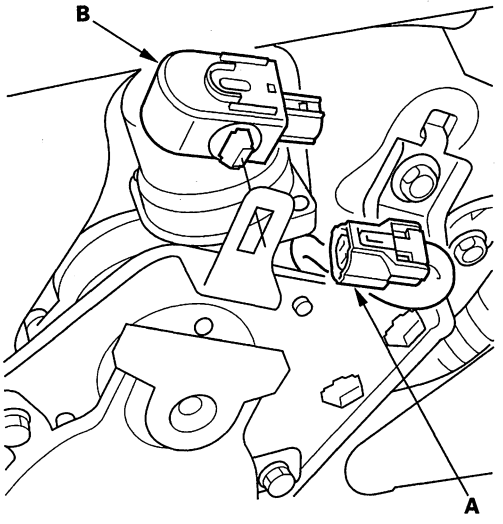
5. After opening the tailgate, connect battery power to the No. 2 terminal and ground the No. 1 terminal. The motor should run (tailgate closed).
6. If the motor does not run or fails to run smoothly, replace the drive unit assembly (see page 22-527).

## Power Tailgate Inside Beeper Test/ Replacement

1. Open the tailgate and remove the left rear pillar trim (see page 20-85).
2. Disconnect the 8P connector (A) form the power tailgate drive unit (B).




3. Test the beeper by connecting battery power to the No. 2 terminal and ground to the No. 7 terminal. The beeper should sound.
4. if the beeper does not sound, disconnect the 2P connector (A) and check for an open in the wire between the 2P connector and the 8P connector. If the wire harness is OK, replace the beeper (B).



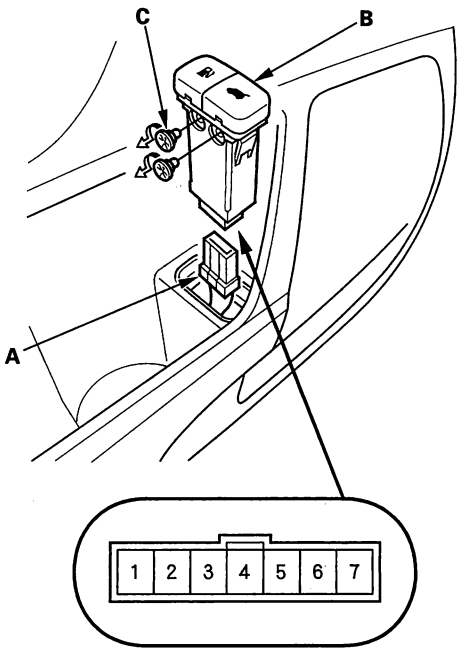

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## Driver's Door Power Tailgate Switch Test/Replacement

1. Remove the driver's door panel (see page 20-8).
2. Disconnect the 7P connector (A) from the fuel fill door opener/driver's door power tailgate switch (B), then push the switch out from behind the door panel.



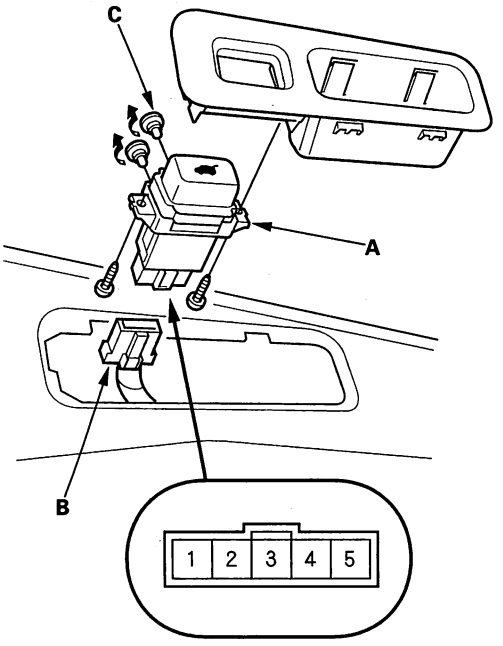

3. Check for continuity between the terminals in each switch position according to the table.

| Position \ Terminal | 5 | 6 | 4 | | 7 |
|---|---|---|---|---|---|
| ON | ○ | ○ | ○ | ⌀ | ○ |
| OFF | | | | | |

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

## Inside Tailgate Switch Test/Replacement

1. Carefully pry out the inside tailgate switch (A), and disconnect the 5P connector (B) from switch.




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

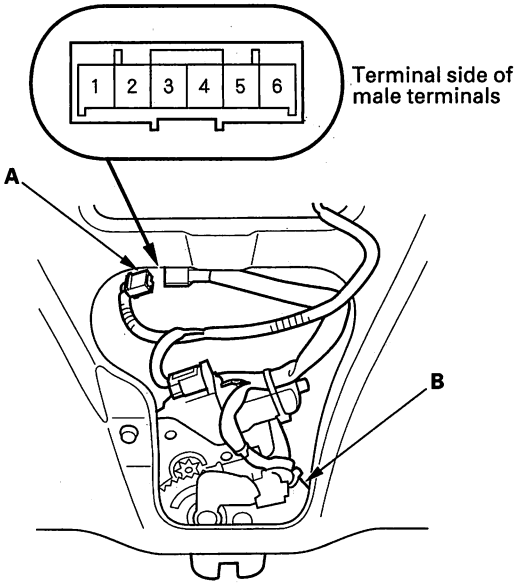
| Position \ Terminal | 1 | 2 | 3 | | 4 |
|---|---|---|---|---|---|
| ON | ○ | ○ | ○ | ⌀ | ○ |
| OFF | | | | | |

3. If the continuity is not as specified, replace the bulbs (C) or the switch.

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## Power Tailgate Latch/Ratchet Switch Test

1. Remove the tailgate trim panel (see page 20-96).
2. Disconnect the 6P connector (A) from the tailgate closer unit (B).



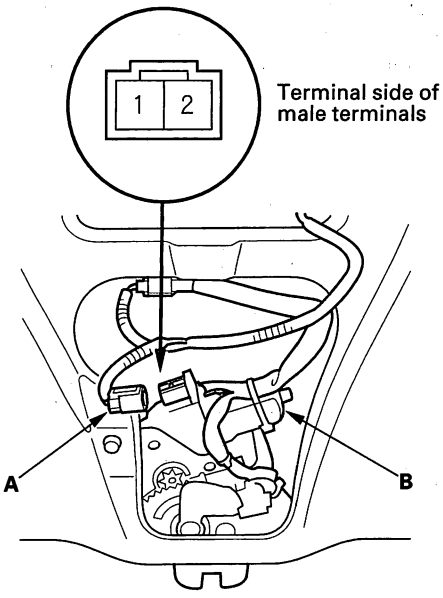

3. Check for continuity between the terminals in each latch position according to the table.

| Position \ Terminal | 1 | 4 | 2 | 3 |
|---|---|---|---|---|
| Full latched | ○—○ | | | |
| Between the fully-latched position to released position | ○—○ | ○—○ | | |
| Released | ○ | ○ | ○—○ | |

4. If the continuity is not as specified, replace the tailgate latch assembly (see page 20-228).

## Power Tailgate Closer Motor Test

1. Remove the tailgate trim panel (see page 20-96).
2. Disconnect the 2P connector (A) from the closer motor (B).




3. Check motor operation by connecting battery power to the tailgate closer unit 2P connector No. 2 terminal and ground to the No. 1 terminal. To prevent damage to the motor, apply battery voltage only momentarily. The motor should run.
4. If the motor does not run or fails to run smoothly, replace the tailgate latch assembly (see page 20-228).

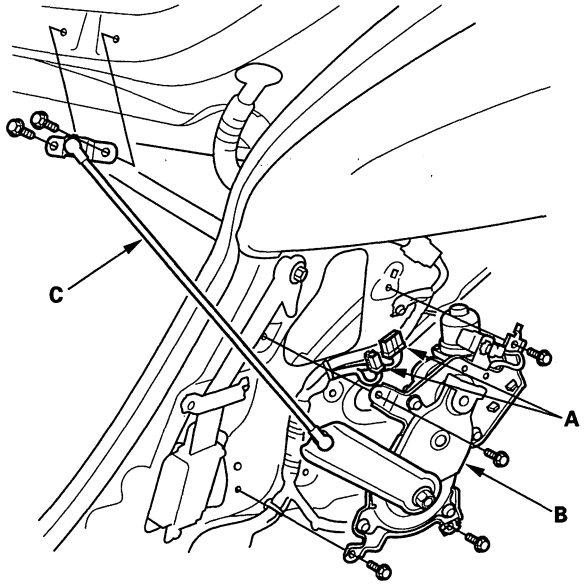
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## Drive Unit Replacement

1. Remove the rear pillar trim (see page 20-85).
2. Disconnect the 2P and 8P connectors (A) from the drive unit (B).

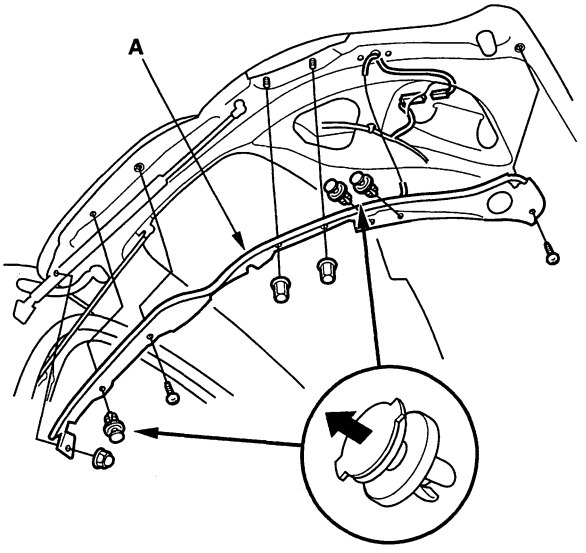



3. Carefully remove the bolts and support strut (C) from the tailgate.
4. Remove the mounting bolts and drive unit.
5. Install in the reverse order of removal.

## Pinch Sensor Replacement

1. Open the tailgate.
2. Remove the clips, screws and nuts from the pinch sensor (A).

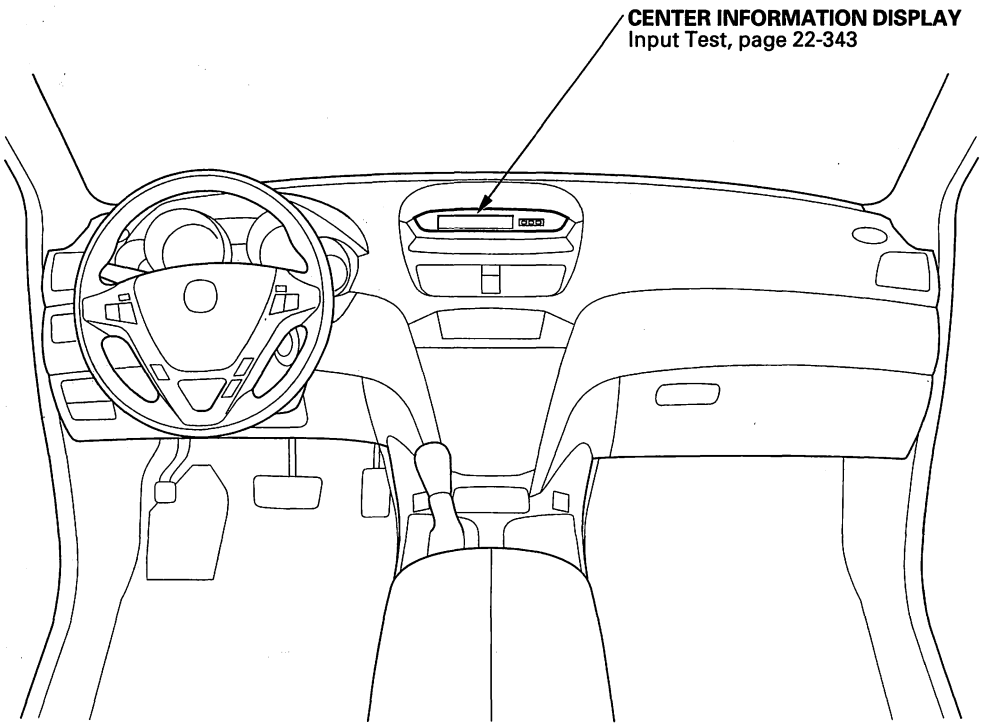
   NOTE: The illustration shows left side pinch sensor, right side is symmetrical.




3. Disconnect the 2P connector (B) from the pinch sensor.
4. Install in the reverse order of removal.

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## Component Location Index

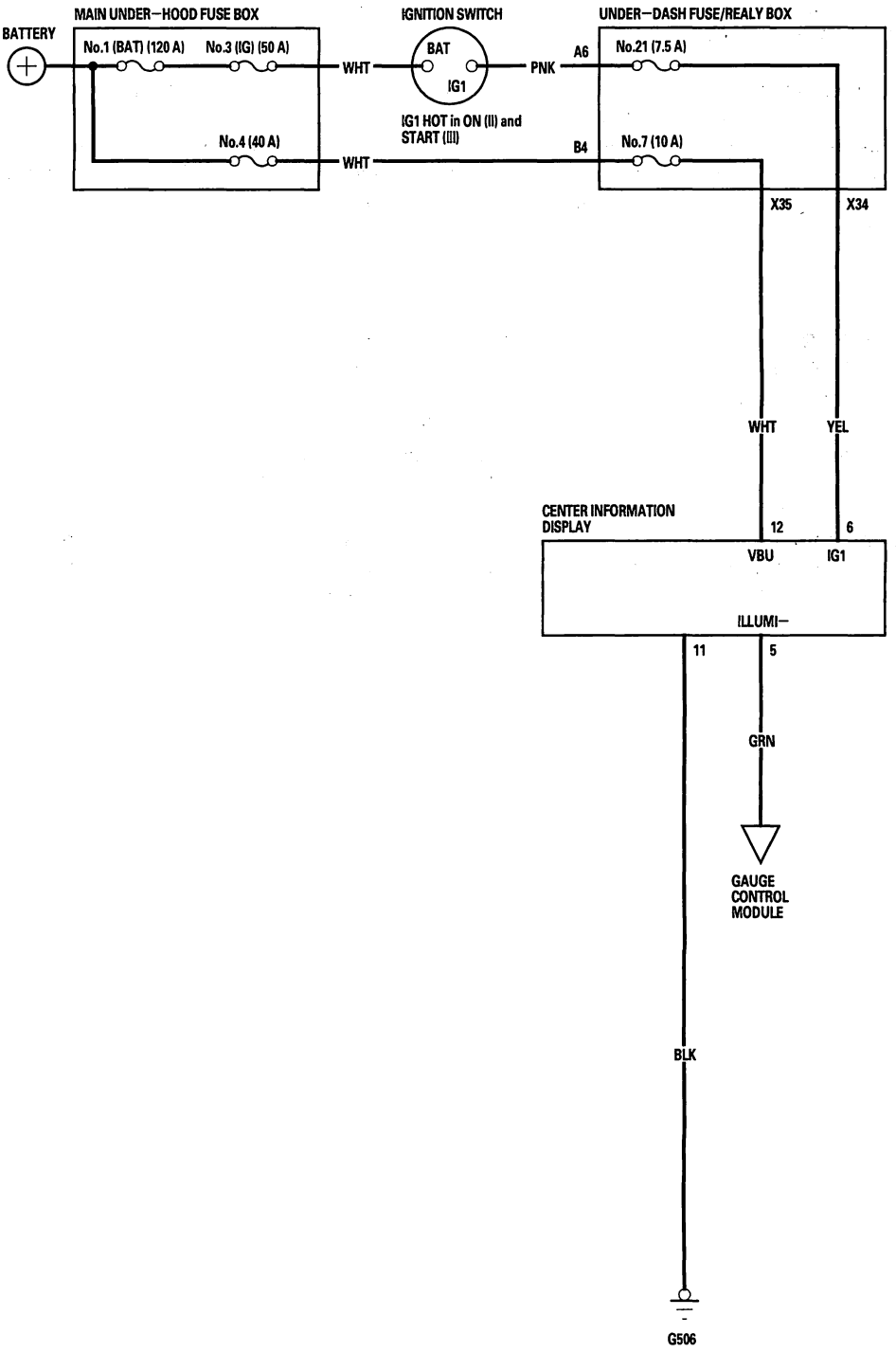



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## Circuit Diagram




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## SUPPLEMENTAL RESTRAINT SYSTEM (SRS) (If Audio, Entertainment, Navigation, and Telematics maintenance is required)

The Acura MDX 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, side curtain airbags in the sides of the roof, 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 requires special precautions and tools, and should be done only by an authorized Acura dealer.

- To avoid rendering the SRS inoperative, which could lead to personal injury or death in the event of a severe frontal or side collision, all SRS service work should be done by an authorized Acura 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/or side airbags.
- Do not bump or impact the SRS unit, front impact sensors, side impact sensors, or roll rate sensor when the ignition switch is ON (II), or for at least 3 minutes after the ignition switch is turned OFF; otherwise, the system may fail in a collision, or the airbags may deploy.
- 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, in the roof side, and around the floor. Do not use electrical test equipment on these circuits.

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