

Body Electrical

Body Electrical

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Immobilizer System

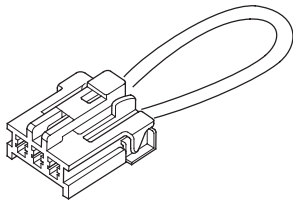
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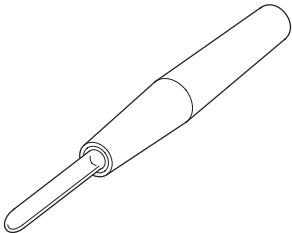
Body Electrical

Special Tools

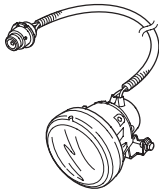
Ref. No.	Tool Number	Description	Qty
①	07WAZ-001010A	MPCS (MCIC) Service Connector	1
②	07TAZ-001020A	Back Probe Adaptor	2
③	07AAJ-S3MA100	HID Bulb Test Light	1
④	07AAC-000A1A0	Relay Puller	1



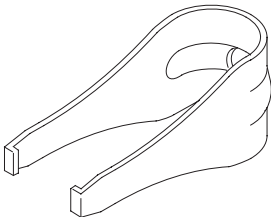
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③



④

General Troubleshooting Information

Tips and Precautions

Before Troubleshooting

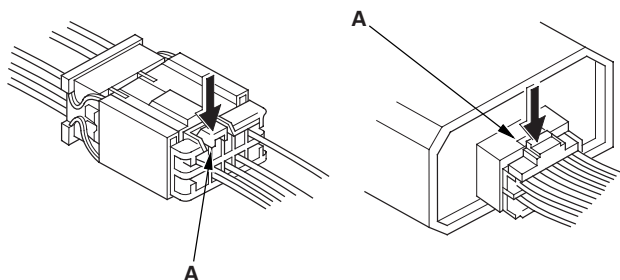
1. Check applicable fuses in the appropriate fuse/relay box.
2. Check the battery for damage, state of charge, and clean and tight connections.

NOTICE

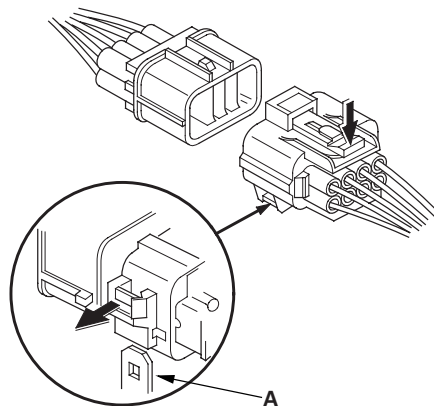
- Do not quick-charge a battery unless the battery ground cable has been disconnected, otherwise you will damage the alternator diodes.
- Do not attempt to crank the engine with the battery ground cable loosely connected or you will severely damage the wiring.

Handling Connectors

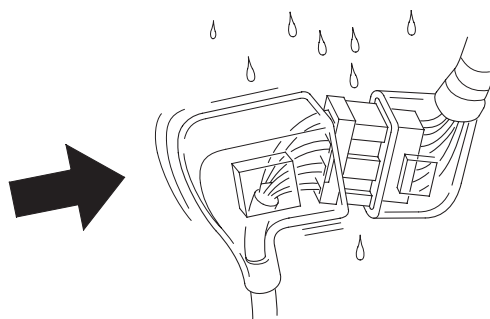
- Make sure the connectors are clean and have no loose wire terminals.
- Make sure multiple cavity connectors are packed with dielectric grease (except watertight connectors).
- All connectors have push-down release type locks (A).



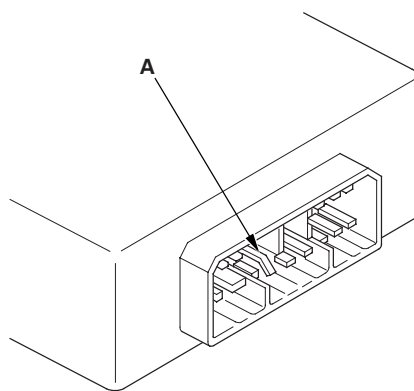
- Some connectors have a clip on their side used to attach them to a mount bracket on the body or on another component. This clip has a pull type lock.
- Some mounted connectors cannot be disconnected unless you first release the lock and remove the connector from its mount bracket (A).



- 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.

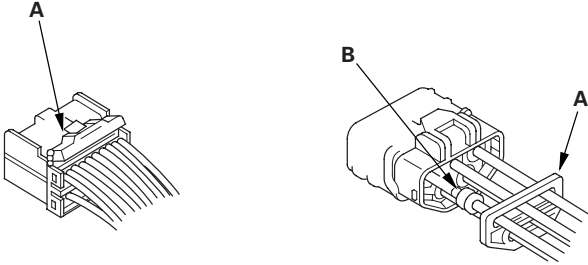


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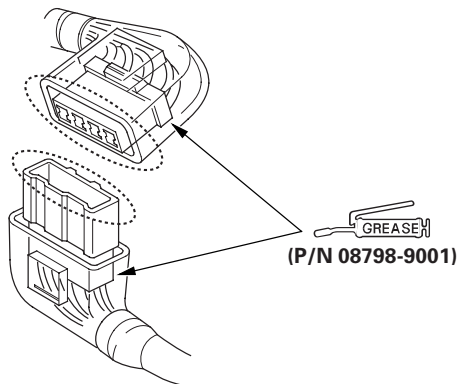
Body Electrical

General Troubleshooting Information (cont'd)

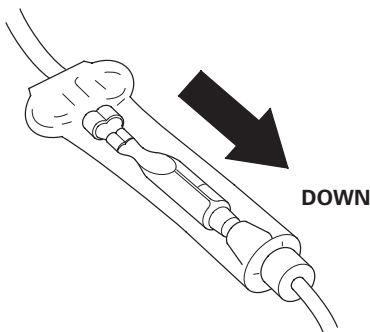
- Check for loose retainers (A) and rubber seals (B).



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

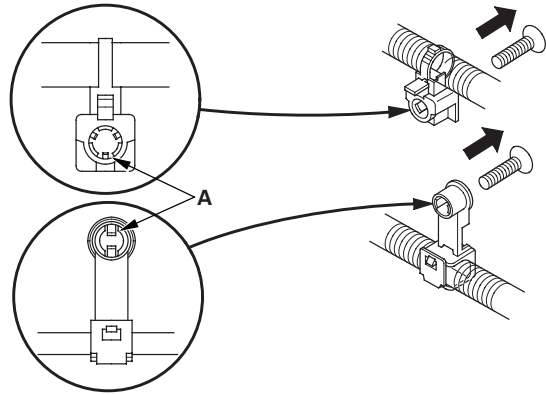


- Insert the connector all the way and make sure it is securely locked.
- Position wires so that the open end of the cover faces down.

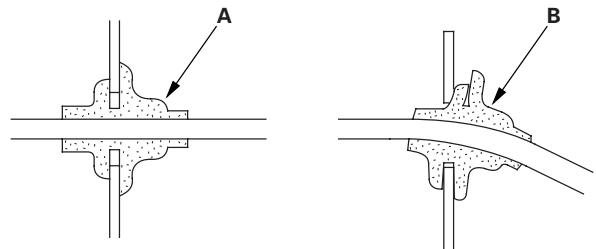


Handling Wires and Harnesses

- 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).

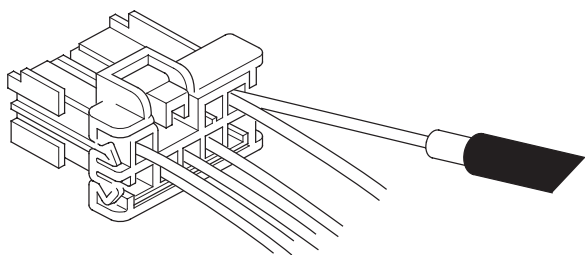


- After installing harness clips, make sure the harness doesn't interfere with any moving parts.
- Keep wire harnesses away from exhaust components and other hot parts, from sharp edges of brackets and holes, and from exposed screws and bolts.
- Seat grommets in their grooves properly (A). Do not leave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

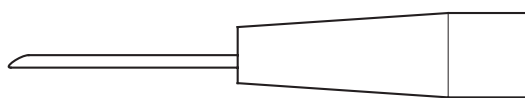


Testing and Repairs

- 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.

(cont'd)

Body Electrical

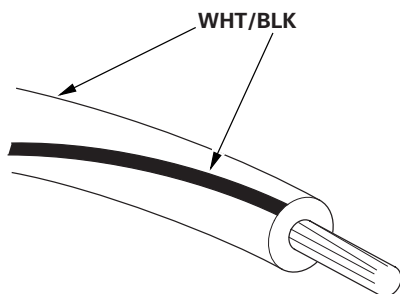
General Troubleshooting Information (cont'd)

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

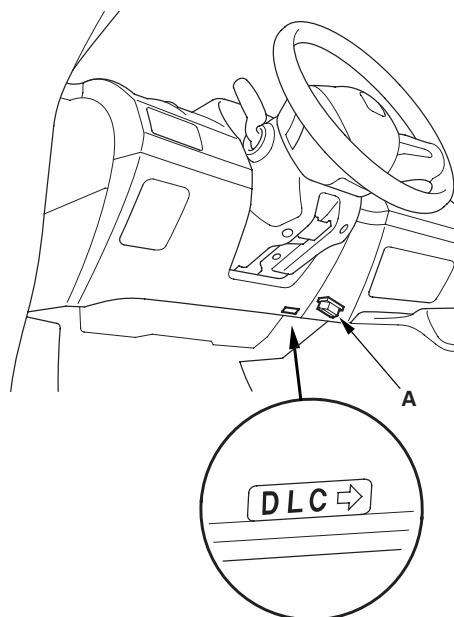
The wire insulation has one color or one color with another color stripe. The second color is the stripe.



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.



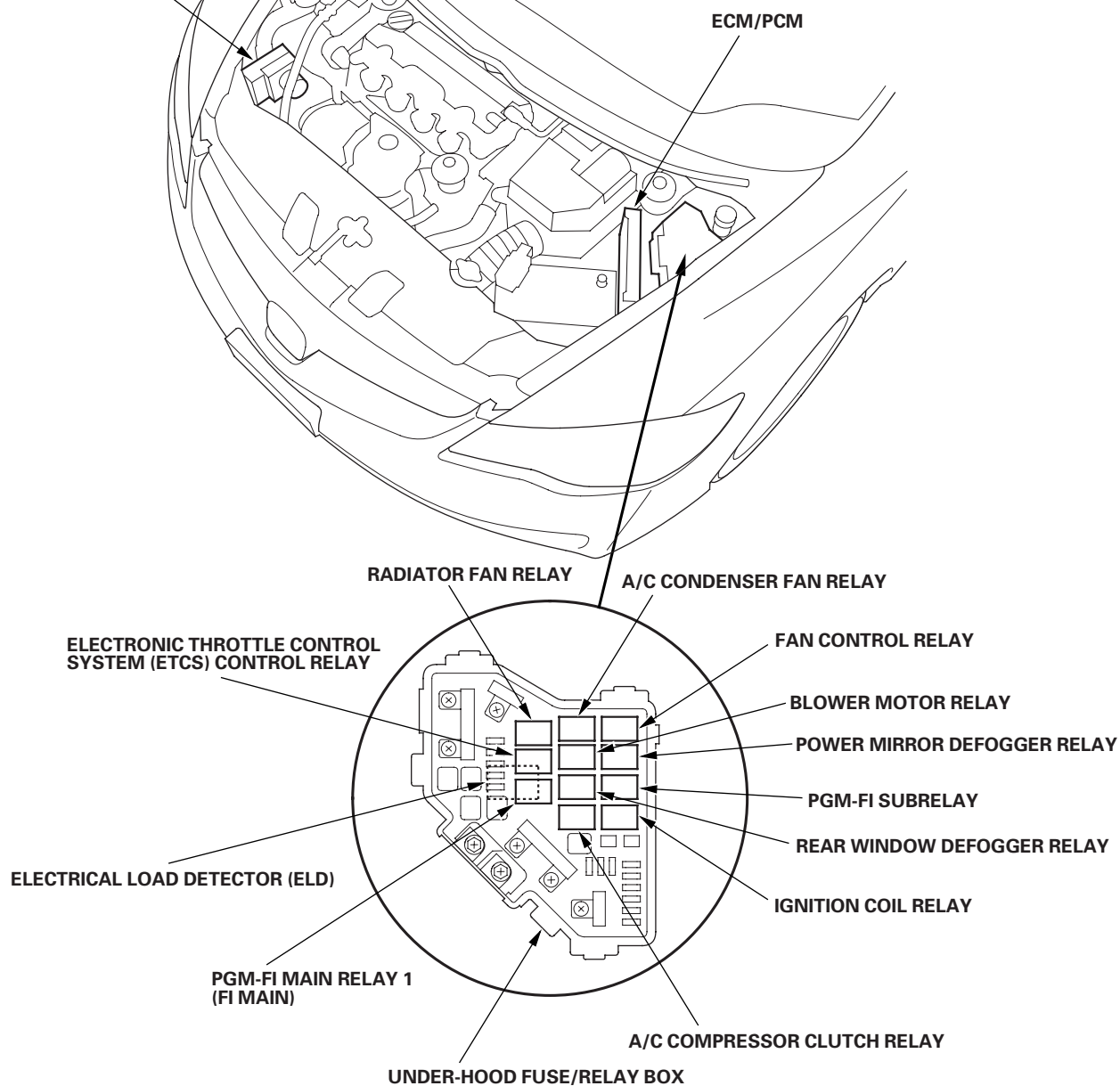
2. Turn the ignition switch to ON (II).
3. Make sure the HDS communicates with the vehicle, if it doesn't, do the DLC circuit troubleshooting (see page 11-204).
4. Enter the BODY ELECTRICAL, then select the TEST MODE menu.
5. Check for DTCs with the HDS.
6. If any DTCs are indicated, note them, and go to the indicated DTC troubleshooting.

Relay and Control Unit Locations



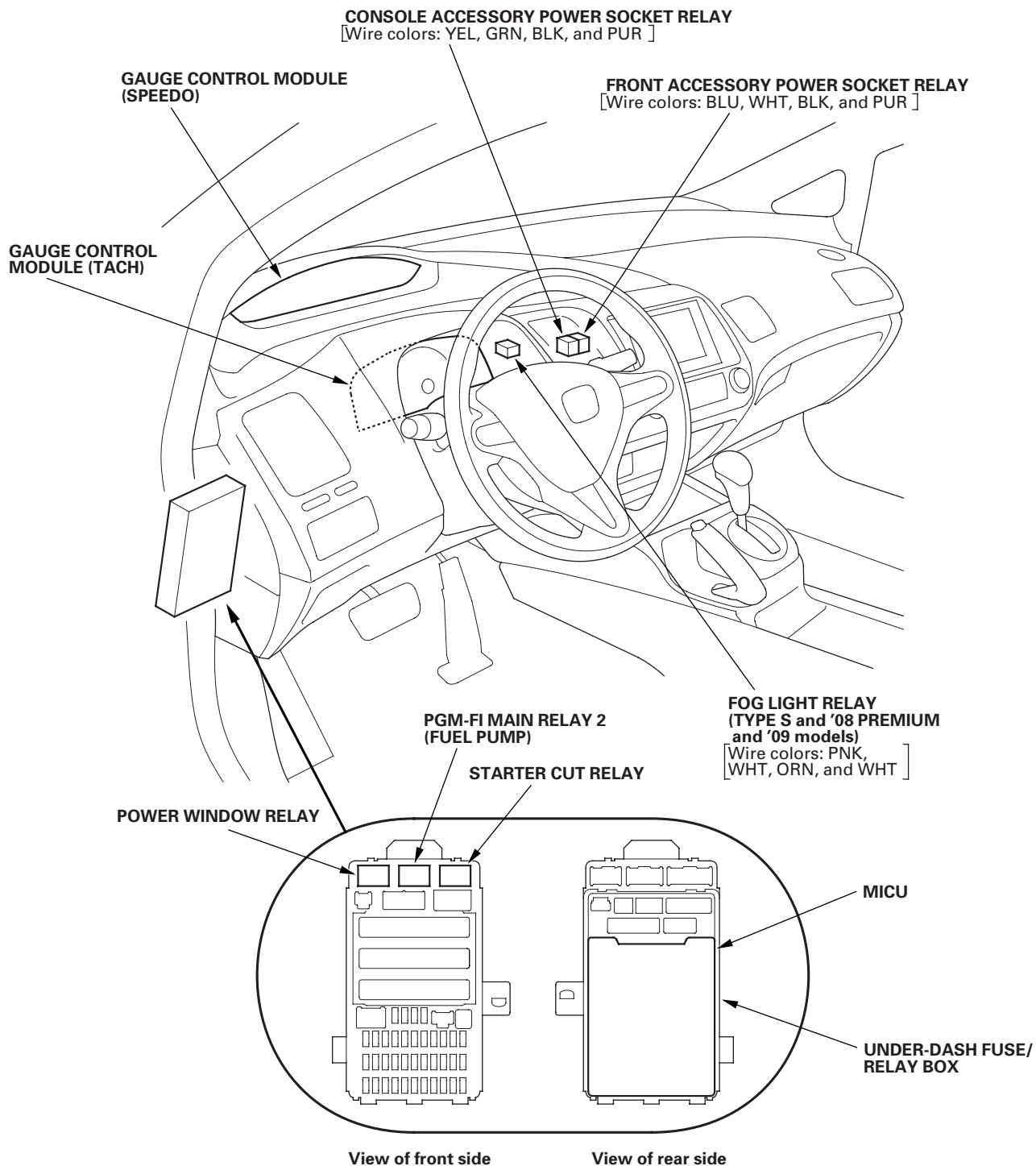
Engine Compartment

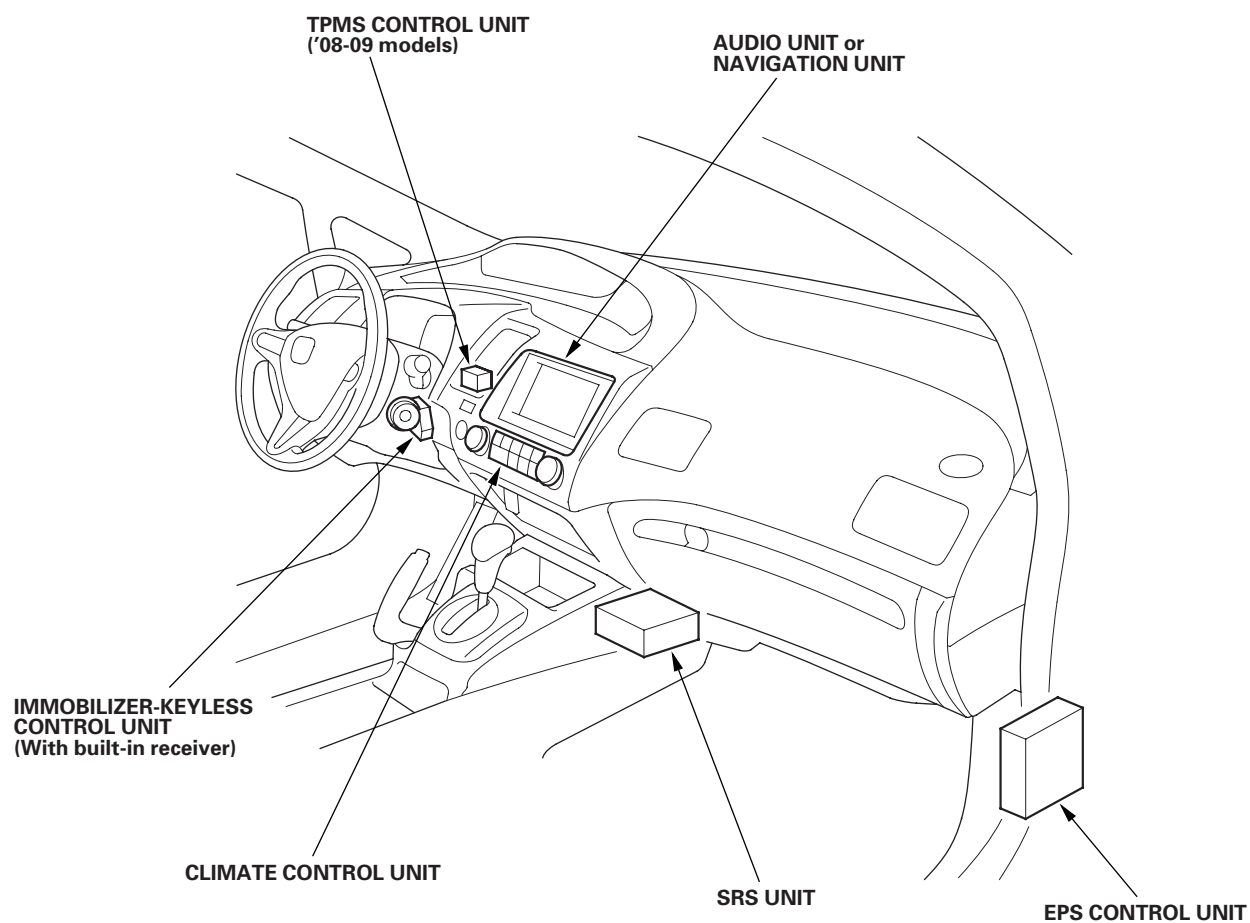
ABS MODULATOR-CONTROL UNIT
(‘06-07 Touring and Premium models) or
VSA MODULATOR-CONTROL UNIT
(‘07 TYPE S and ‘08-09 models)



Relay and Control Unit Locations

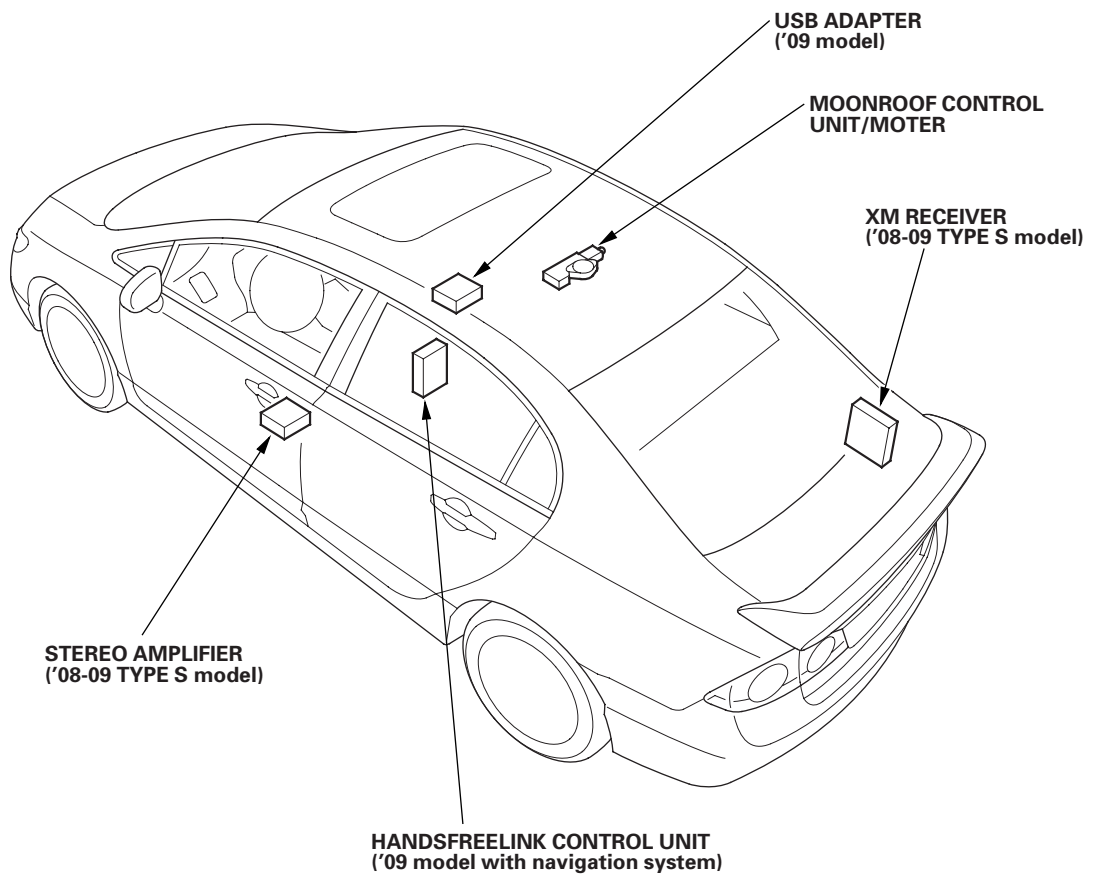
Dashboard





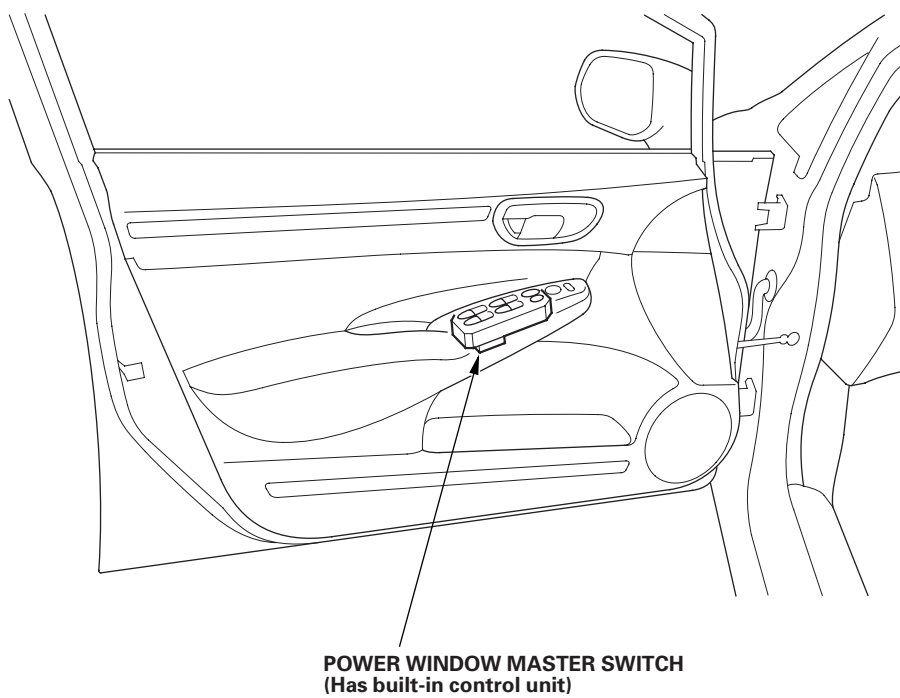
Relay and Control Unit Locations

Roof and Floor



Door

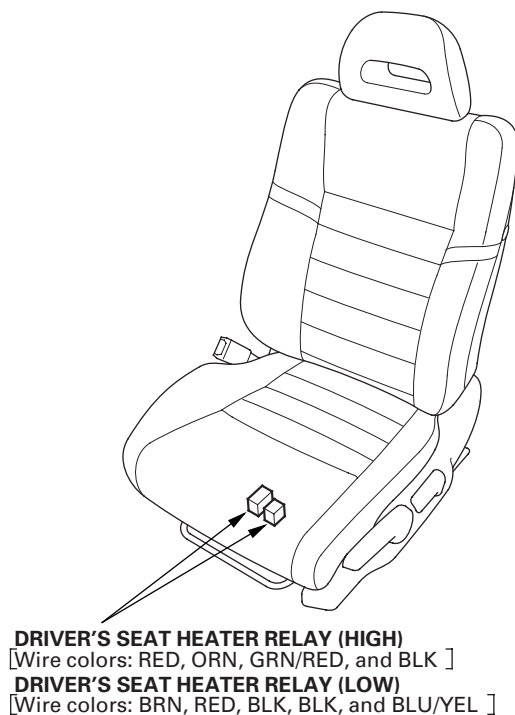
Driver's Door



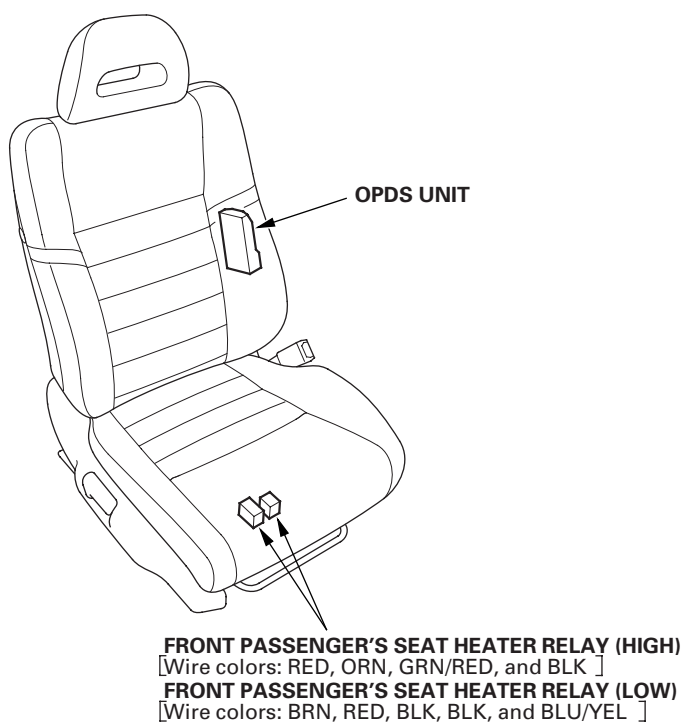
Relay and Control Unit Locations

Seat

Driver's Seat



Front Passenger's Seat





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.

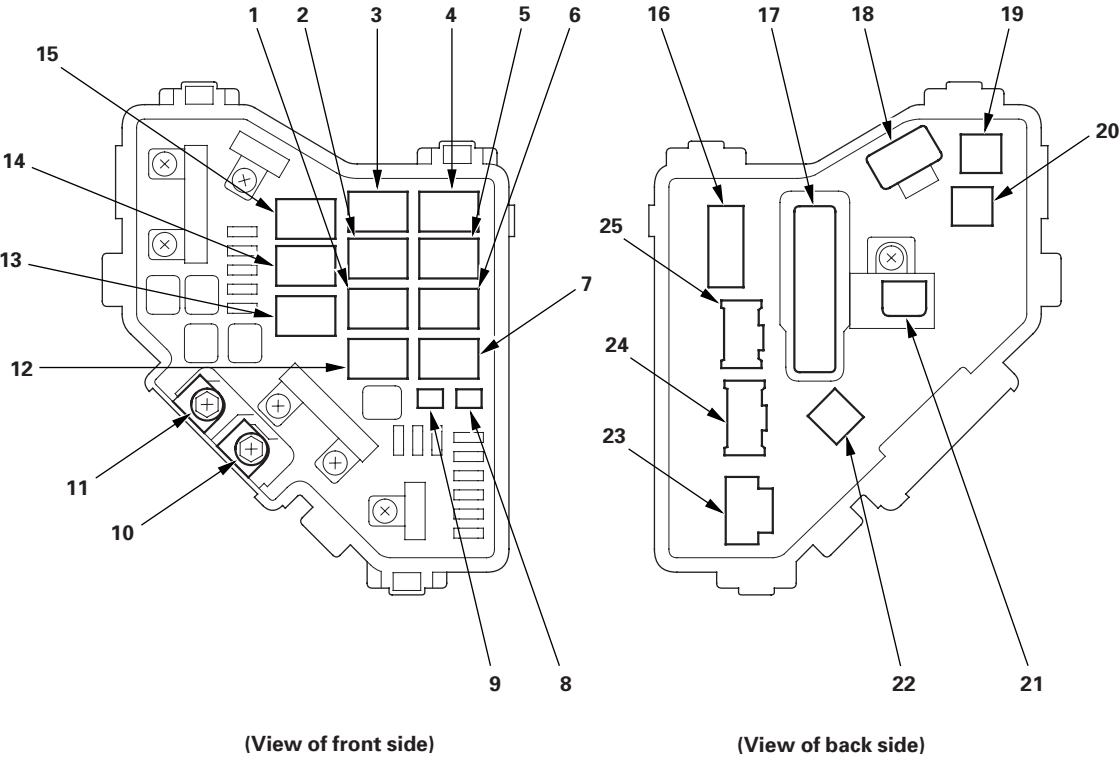
Harness	Location			Notes
	Engine Compartment	Dashboard	Others (Floor, Door, Trunk, and Roof)	
A/C wire harness		C205, C504		(see page 22-56)
Battery ground cable	(-), G1			(see page 22-14)
Console subharness		C551, C601, C603		(see page 22-57)
Dashboard wire harness (View of driver's side)		C201, C202, C203, C501, C502, C751, C752, C801 G501, G503		(see page 22-28)
Dashboard wire harness (View of middle section)		C503, C506, C551 G504, G506		(see page 22-30)
Dashboard wire harness (View of passenger's side)		C504, C761, C762 G502, G505		(see page 22-32)
Driver's door subharness			C754	(see page 22-46)
Driver's door wire harness		C751, C752	C753, C754	(see page 22-46)
Driver's seat position sensor harness (With seat heater)			C602	(see page 22-52)
Driver's seat position sensor harness (Without seat heater)			C602	(see page 22-53)
Driver's seat wire harness			C602, C604	(see page 22-52)
Engine compartment wire harness (Left branch)	C101, C102, C103 G301	C201 through C205, C209 G401		(see page 22-22)
Engine compartment wire harness (Right branch)	C206, C207 G201, G202	G402, G403		(see page 22-26)
Engine ground cable A	T1, G2			(see page 22-14)
Engine ground cable B	T2, G3			(see page 22-14)
Engine wire harness (A/T)	C101, C103, C105, C106, C107 G101			(see page 22-16)
Engine wire harness (M/T)	C101, C105, C106 G101			(see page 22-18)
Floor wire harness (Left branch)		C204, C209, C501, C502, C506, C601, C603	C602, C604, C701, C702, C771 G601, G603	(see page 22-34)
Floor wire harness (Right branch)			C781, C782, C783 G602	(see page 22-38)
Front passenger's door subharness			C763	(see page 22-48)
Front passenger's door wire harness		C761, C762	C763	(see page 22-48)
Front passenger's seat wire harness (With seat heater)			C782, C783	(see page 22-54)
Left rear door wire harness			C771	(see page 22-50)
ODS unit harness (With seat heater)			C782	(see page 22-54)
ODS unit harness (Without seat heater)			C782	(see page 22-55)
Rear window defogger ground wire			G801	(see page 22-42)
Rear wire harness (Left branch)			C701, C702, C703 G701	(see page 22-40)
Rear wire harness (Right branch)				(see page 22-42)
Right rear door wire harness			C781	(see page 22-51)
Roof wire harness (With moonroof)		C801		(see page 22-44)
Roof wire harness (Without moonroof)		C801		(see page 22-45)
Shift solenoid wire harness (A/T)	C107			(see page 22-16)
Starter subharness	(+) C102, C106 T3, T4 T101, T102			(see page 22-20)
Trunk lid spoiler subharness (TYPE S model)			C703	(see page 22-40)
USB harness			C671	(see page 22-34)
USB subharness			C671	(see page 22-57)

Fuse/Relay Boxes

Connector to Fuse/Relay Box Index

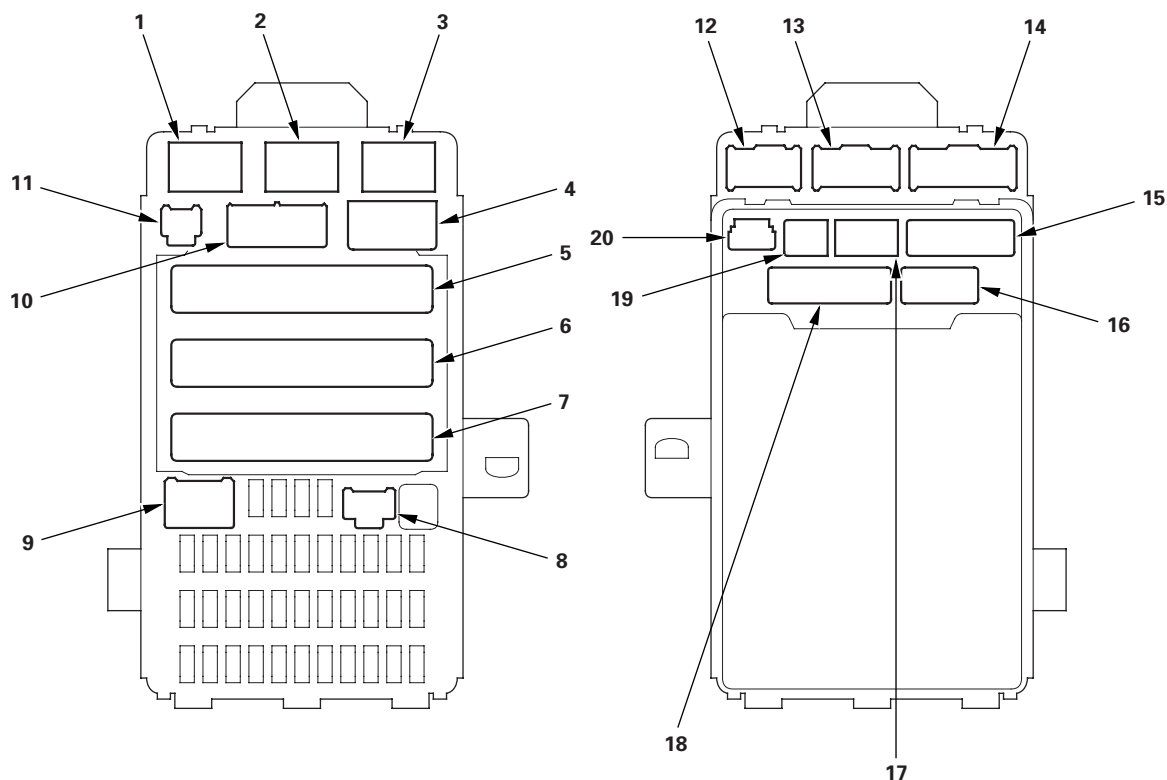
Under-hood Fuse/Relay Box

Socket	Ref	Terminal	Connects to	Notes
A (ELD)	21	3	Engine compartment wire harness (see page 22-22)	
A/C compressor clutch relay	12	4		
A/C condenser fan relay	3	4	Engine compartment wire harness (see page 22-22)	
B	22	1		
Blower motor relay	2	4	Engine compartment wire harness (see page 22-22)	
C	23	2		
D	25	8	Engine compartment wire harness (see page 22-22)	
Diode (for A/C condenser fan)	9			
Diode (for radiator fan)	8		Engine compartment wire harness (see page 22-22)	
E	24	10		
Electronic throttle control system (ETCS) control relay	14	4	Engine compartment wire harness (see page 22-22)	
F	17	20		
Fan control relay	4	5	Engine compartment wire harness (see page 22-22)	
G	19	1		
H	20	1	Engine compartment wire harness (see page 22-22)	
Ignition coil relay	7	4		
J	16	4	Engine compartment wire harness (see page 22-22)	
K	18	2		
PGM-FI main relay 1 (FI MAIN)	13	4	Engine compartment wire harness (see page 22-22)	
PGM-FI subrelay	6	4		
Power mirror defogger relay	5	5	Engine compartment wire harness (see page 22-22)	
Radiator fan relay	15	4		
Rear window defogger relay	1	4	Engine compartment wire harness (see page 22-22)	
T3	10			
T101	11		Starter subharness (see page 22-20)	



Under-dash Fuse/Relay Box

Socket	Ref	Terminal	Connects to	Notes
A (Optional connector)	9	6	Not used	
C	10	4	Dashboard wire harness (see page 22-28)	
D	4	2	Dashboard wire harness (see page 22-28)	
E	5	42	Floor wire harness (see page 22-34)	
F	6	34	Engine compartment wire harness (see page 22-22)	
G	7	21	Engine compartment wire harness (see page 22-22)	
H (MICU service check connector)	8	3		
J	20	4	Dashboard wire harness (see page 22-28)	
K	12	8	Dashboard wire harness (see page 22-28)	
M	13	10	Dashboard wire harness (see page 22-28)	
Memory erase signal (MES) connector socket	11			
N	14	14	Dashboard wire harness (see page 22-28)	
P	19	10	Dashboard wire harness (see page 22-28)	
PGM-FI main relay 2 (FUEL PUMP)	2	4		
Power window relay	1	4		
Q	17	16	Dashboard wire harness (see page 22-28)	
R	15	20	Dashboard wire harness (see page 22-28)	
Starter cut relay	3	4		
S	16	20	Dashboard wire harness (see page 22-28)	
T	18	34	Dashboard wire harness (see page 22-28)	



(View of front side)

(View of back side)

Power Distribution

Fuse to Components Index

Under-hood Fuse/Relay Box

Fuse Number	Amps	Component(s) or Circuit(s) Protected
1	100 A (BAT)	Battery, Power distribution
	70 A (EPS)	EPS control unit
2	50 A (IG)	Ignition switch
	80 A ^{*1} 60 A ^{*2} (OPTION)	No. 5, No. 6, No. 7, No. 27, No. 28, No. 29, and No. 31 fuses (in the under-dash fuse/relay box)
3	30 A (ABS MTR)	ABS modulator-control unit ^{*3} , VSA modulator-control unit ^{*4}
	30 A ^{*3} 40 A ^{*4} (ABS FSR)	ABS modulator-control unit ^{*3} , VSA modulator-control unit ^{*4}
4	50 A (H/L)	No. 18, No. 19, No. 20, and No. 21 fuses (in the under-dash fuse/relay box)
	40 A (P/W)	No. 24, No. 25, No. 26, No. 30, No. 32, and No. 33 fuses (in the under-dash fuse/relay box), Power window relay (in the under-dash fuse/relay box)
5	—	Not used
6	20 A	A/C condenser fan motor (via A/C condenser fan relay)
7	20 A	Radiator fan motor (via radiator fan relay)
8	30 A	Noise condenser (via rear window defogger relay), Rear window defogger (via rear window defogger relay)
9	40 A	Blower motor (via blower motor relay)
10	10 A	MICU (turn signal/hazard warning lights circuit)
11	15 A	A/F sensor (Sensor 1) (via PGM-FI subrelay), EVAP canister vent shut valve (via PGM-FI subrelay), PGM-FI subrelay, No. 15 fuse (in the under-hood fuse/relay box) (via PGM-FI subrelay)
12	15 A	Brake lights, ECM/PCM, Horn, MICU
13	—	Not used
14	—	Not used
15	7.5 A	A/C condenser fan relay
16	—	Not used
17	15 A ^{*6}	Stereo amplifier
18	15 A	Ignition coil relay, Ignition coils (via Ignition coil relay)
19	15 A	CKP sensor (via PGM-FI main relay 1), CMP sensor B (via PGM-FI main relay 1), ECM/PCM, ETCS control relay, Injectors (via PGM-FI main relay 1), PGM-FI main relay 1 (FI MAIN), PGM-FI main relay 2 (FUEL PUMP)
20	7.5 A	A/C compressor clutch (via A/C compressor clutch relay)
21	15 A	ECM/PCM (via ETCS control relay)
22	7.5 A	Ceiling light, Courtesy lights, Front individual map lights, Ignition key light, Trunk light, Vanity mirror lights ^{*5}
23	10 A	Audio unit ^{*7} , Data link connector (DLC), Gauge control module (speedo), Gauge control module (tach), HandsFreeLink control unit ^{*9} , Immobilizer-keyless control unit, MICU, Moonroof switch, Navigation unit ^{*8}

* 1: '06-07 models

* 2: '08-09 models

* 3: '06-07 Touring and Premium models

* 4: '07 TYPE S and '08-09 models

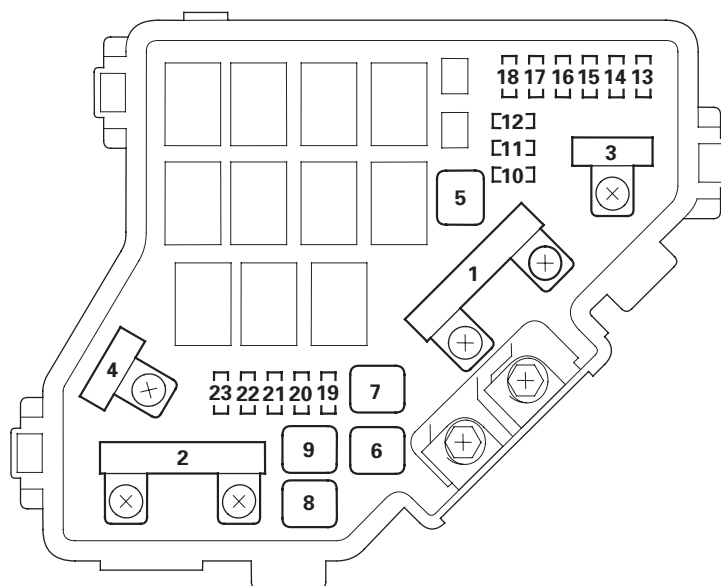
* 5: '08-09 models

* 6: TYPE S model

* 7: Without navigation system

* 8: With navigation system

* 9: '09 model with navigation system



(cont'd)

Power Distribution

Fuse to Components Index (cont'd)

Under-dash Fuse/Relay Box

Fuse Number	Amps	Component(s) or Circuit(s) Protected
1	7.5 A	Power mirror switch light
2	15 A	ECM/PCM, Fuel pump (via PGM-FI main relay 2), Immobilizer-keyless control unit
3	10 A	Alternator, CMP sensor A, ECM/PCM (via brake pedal position switch), ELD, EVAP canister purge valve, MAF sensor/IAT sensor, Reverse lockout solenoid ^{*4} , Secondary HO2S (sensor 2)
4	7.5 A	ABS modulator-control unit ^{*1} , EPS control unit, VSA modulator-control unit ^{*2} , Yaw rate-lateral acceleration sensor ^{*2}
5	15 A	Seat heaters (via seat heater relays)
6	20 A ^{*7}	Fog light relay, Fog lights (via fog light relay)
7	—	Not used
8	—	Not used
9	7.5 A	ODS unit, Passenger's airbag cutoff indicator, SRS unit
10	7.5 A	Back-up light (M/T), Gauge control module (speedo), Gauge control module (tach), MICU, Shift lock solenoid (A/T), TPMS control unit ^{*3}
11	10 A	SRS unit
12	10 A	Right headlight (high beam)
13	10 A	Left headlight (high beam)
14	7.5 A	Audio unit light ^{*8} , Climate control unit light, Dash lights brightness controller and odometer select/reset switch light, Driver's footwell light ^{*4} , Driver's seat heater switch light, Glove box light, Hazard warning switch light, Moonroof switch light, Navigation unit ^{*9} , Park pin switch light (A/T), Passenger's airbag cutoff indicator light, Passenger's footwell light ^{*4} , Passenger's seat heater switch light, Steering wheel switches light (via cable reel), VSA OFF switch light
15	7.5 A	Parking lights, Taillights, License plate lights, Side marker lights
16	10 A ^{*6}	Right headlight (low beam)
	15 A ^{*5}	Right HID unit
17	10 A ^{*6}	Left headlight (low beam)
	15 A ^{*5}	Left HID unit
18	20 A	MICU (+B H/L HI)
19	15 A	MICU (+B SMALL LT)
20	—	Not used

* 1: '06-07 Touring and Premium models

* 2: '07 TYPE S and '08-09 models

* 3: '08-09 models

* 4: TYPE S model

* 5: With HID

* 6: Without HID

* 7: TYPE S and '08 Premium and '09 models

* 8: Without navigation system

* 9: With navigation system

Fuse Number	Amps	Component(s) or Circuit(s) Protected
21	20 A ^{*3}	MICU (+B H/L LO)
	30 A ^{*4}	MICU (+B H/L LO)
22	—	Not used
23	—	Not used
24	20 A	Moonroof control unit/motor
25	20 A	MICU (+B DR LOCK)
26	20 A	Driver's power window motor (via power window master switch)
27	—	Not used
28	15 A	Console accessory power socket (via console accessory power socket relay)
29	15 A	Front accessory power socket (via front accessory power socket relay)
30	20 A	Front passenger's power window motor
31	—	Not used
32	20 A	Moonroof control unit/motor, Moonroof switch ^{*1} , Right rear power window motor
33	20 A	Left rear power window motor
34	—	Not used
35	7.5 A	Audio unit ^{*6} , Console accessory power socket relay, Front accessory power socket relay, HandsFreeLink control unit ^{*5} , Ignition key switch, Navigation unit ^{*7} , Stereo amplifier ^{*2}
36	10 A	Climate control unit, Driver's seat heater switch, Fan control relay and radiator fan relay (via A/C diode), Passenger's seat heater switch, Power mirrors (via power mirror switch), Under-hood fuse/relay box (A/C compressor clutch relay, Blower motor relay, Power mirror defogger relay, Rear window defogger relay)
37	7.5 A	MICU (daytime running lights power supply)
38	30 A	MICU (IG 1 WIPER)

* 1: '06-07 models

* 2: TYPE S model

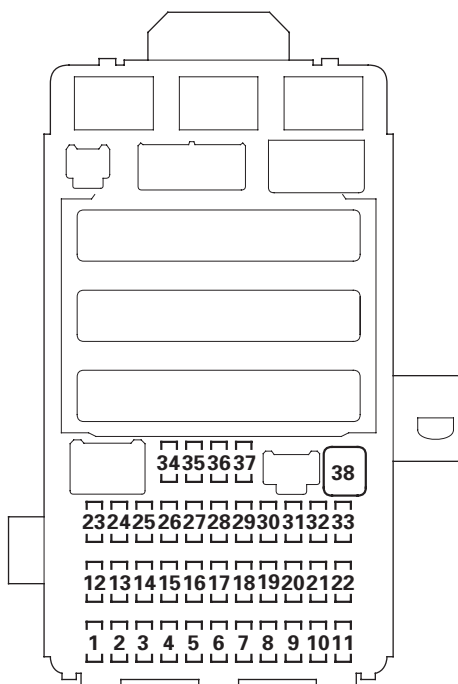
* 3: Without HID

* 4: With HID

* 5: '09 model with navigation system

* 6: Without navigation system

* 7: With navigation system



Ground Distribution

Ground to Components Index

Ground	Component or Circuit Grounded
G1	Battery
G2	Engine
G3	Transmission housing
G101	A/T clutch pressure control solenoid valves A, B, C (A/T), CKP sensor, CMP sensor A, CMP sensor B, Data link connector (DLC), ECM/PCM (LG1), ECM/PCM (LG2), ECM/PCM (PG1), ECM/PCM (PG2), ECM/PCM (PGMETCS), EGR valve (K20Z2 engine), Ignition coils, Immobilizer-keyless control unit, Rocker arm oil control solenoid, Rocker arm oil pressure switch, Transmission range switch (A/T), VTC oil control solenoid valve Shielding between the ECM/PCM and Knock sensor (KS) has wire. Shielding between the ECM/PCM and Secondary HO2S (Sensor 2) has wire.
G201	Right fog light ^{*4} , Right front parking light, Right front side marker light, Right front turn signal light, Right headlight (high/low beams), Right HID unit ^{*5} , Windshield washer motor, Windshield wiper motor
G202	ABS modulator-control unit ^{*1} , VSA modulator-control unit ^{*2}
G301	A/C condenser fan motor, Blower motor relay, ELD, Left fog light ^{*4} , Left front parking light, Left front side marker light, Left front turn signal light, Left headlight (high/low beams), Left HID unit ^{*5} , Radiator fan motor (via fan control relay)
G401	Brake fluid level switch, Clutch interlock switch (M/T), Clutch pedal position switch (M/T), Hood switch, MICU (PG), Power transistor, Washer fluid level switch (G401 connects to G601 via under-dash fuse/relay box)
G402	EPS control unit
G403	Torque sensor
G501	Dash lights brightness controller and odometer select/reset switch, Driver's door key cylinder switch, Driver's door lock knob switch, HandsFreeLink control unit ^{*8} , MICU (SG), VSA OFF switch ^{*2}
G502	Data link connector (DLC), Front accessory power socket, Glove box light, Right power mirror defogger, Right side turn signal light
G503	Accessory power socket relays (front and console), Driver's door lock switch, Gauge control module (tach), Left power mirror defogger, Left side turn signal light, Moonroof control unit/motor, Power mirror switch light, Power mirror switch, Power window master switch (main switch), Power window master switch, Vanity mirror lights (driver's and front passenger's) ^{*3}
G504	Cable reel (steering wheel switches ground), Climate control unit, Front passenger's door lock knob switch, Front passenger's door lock switch, Gauge control module (speedo), Gauge control module (tach), Ignition key switch, Navigation unit ^{*7} , TPMS control unit ^{*3}
G505	Audio unit ^{*6} , Navigation unit ^{*7}
G506	Memory erase signal (MES) connector, SRS unit (2 wires)
G601	A/T gear position console panel light/Park-pin switch (A/T), Console accessory power socket ^{*9} , Fuel pump, MICU (PG), Seat heater relays (driver's and front passenger's), Seat heater switches (driver's and front passenger's), Seat heaters (driver's and front passenger's), Stereo amplifier ^{*10} (G601 connects to G401 via under-dash fuse/relay box) Shielding between the left side impact sensor (FIRST) and rear safing sensor has wire. Shielding between the SRS unit and left side impact sensor (FIRST) has wire.
G602	Driver's seat belt buckle switch, Front passenger's seat belt buckle switch, Left rear door lock knob switch, MICU (SG), MICU service check connector, ODS unit, Right rear door lock knob switch, Yaw rate-lateral acceleration sensor ^{*2} Shielding between the right side impact sensor (FIRST) and right side impact sensor (SECOND) have wires. Shielding between the SRS unit and right side impact sensor (FIRST) has wire.
G603	Noise condenser Shielding between the rear safing sensor and left side impact sensor (SECOND) has wire.
G701	High mount brake light, Left back-up light, Left inner taillight, Left rear side marker light, Left rear turn signal light, Left taillight/brake light, License plate lights, Right back-up light, Right inner taillight, Right rear side marker light, Right rear turn signal light, Right taillight/brake light, Trunk lid release actuator/Trunk lid latch switch
G801	Rear window defogger (—)

* 1: '06-07 Touring and Premium models

* 2: '07 TYPE S and '08-09 models

* 3: '08-09 models

* 4: TYPE S and '08 premium and '09 models

* 5: With HID

* 6: Without navigation system

* 7: With navigation system

* 8: '09 model with navigation system

* 9: '06-08 models, and '09 model without navigation system

* 10: TYPE S model

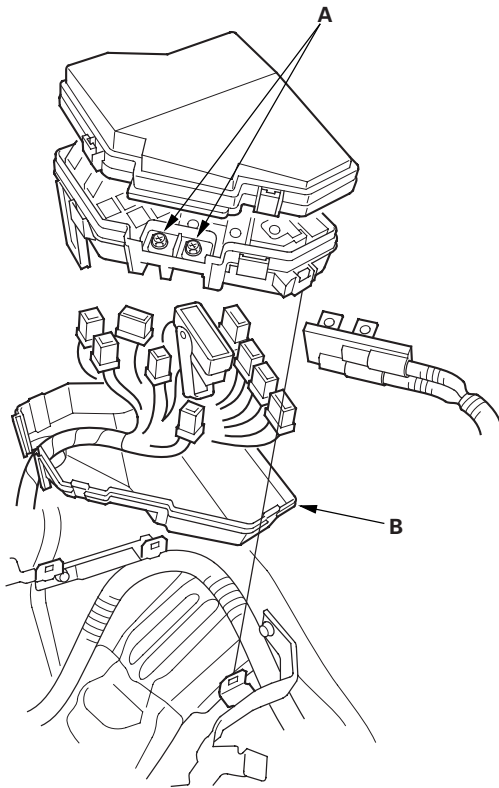
Removal and Installation

Special Tools Required

Relay puller 07AAC-000A1A0

Removal

1. Do the battery terminal disconnection procedure (see page 22-68).
2. Remove the screws (A) for the alternator and battery cable terminals from the under-hood fuse/relay box.



3. Remove the bottom cover (B) from the under-hood fuse/relay box.
4. Disconnect the connectors from the under-hood fuse/relay box.
5. Carefully remove the relays using the relay puller.

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 under-hood fuse/relay box, then install the under-hood fuse/relay box in the reverse order of removal.
2. Install the removed parts in the reverse order of removal.
3. Do the battery terminal reconnection procedure (see page 22-68).
4. Confirm that all systems work properly.

Under-dash Fuse/Relay Box

Removal and Installation

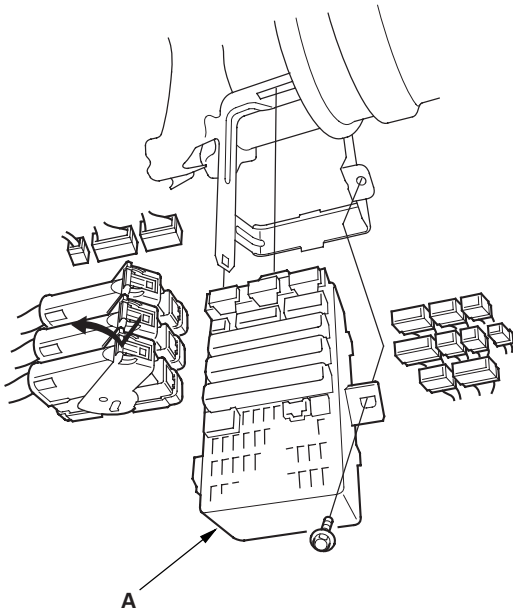
Special Tools Required

Relay puller 07AAC-000A1A0

SRS components are located in this area. Review the SRS component locations (see page 24-11), and precautions and procedures (see page 24-13) before doing repairs or serving.

Removal

1. Do the battery terminal disconnection procedure (see page 22-68).
2. Remove the driver's dashboard lower cover (see page 20-102).
3. Disconnect the connectors from the fuse side of the under-dash fuse/relay box (A).



4. Remove the mounting bolt, and pull the fuse/relay box away from the body.
5. Disconnect the connectors from the back side of the under-dash fuse/relay box, then remove the under-dash fuse/relay box.
6. Carefully remove the relays using the relay puller.

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 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. Do the battery terminal reconnection procedure (see page 22-68).
4. Register the immobilizer system with the HDS (see page 22-329).

NOTE: The imoes unit is built into the MICU which is part of the under-dash fuse/relay box. Because of this construction, the imoes must be registered, or the vehicle will not start.

5. Confirm that all systems work properly.



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.

Required Test Equipment

Honda Electrical System Analyzer (ED-18 Battery tester): T/N INBED18LLH

Ordering Information

To order an Electrical System Analyzer, go to the Honda Tool and Equipment catalog on the iN, or call 888-424-6857.

Software Version

Make sure you have the latest software in the ED-18. To check the version on the do this:

- Press the POWER button.
- Select Reports, then press ENTER.
- Select i Version, then press ENTER.

If you do not have the correct version, Tools Hotline at 800-346-6327.

Using the ED-18 Battery Tester

NOTE: For set up, customization, and other available features, refer to the ED-18 user's manual.

1. Connect the leads to the positive and negative terminal of the battery.
2. Use the arrow keys to select the battery test, then press enter, then follow the prompts.

NOTE: Make sure to enter the correct cold cranking ampere rating of the battery. If the number is not entered correctly, the result will not be accurate.

3. Here are the five possible battery conditions:

- Good Battery: The battery has at least 60 percent of its charge and requires no action.
- Good-Recharge: The battery condition appears to be good, but charging is recommended and then retest. See your battery charger's instructions to fully charge the battery, then recheck. Do not charge the battery using the vehicle's alternator.
- Charge and Retest: The battery condition is not known because its charge is too low. Recharge the battery, then retest. See your battery's instructions to fully charge the battery, then recheck. Do not charge the battery using the vehicle's alternator.
- Replace Battery: The battery condition is poor. Replace it.
- Bad Cell: There is a problem with the battery. Replace it.

Battery

Battery Terminal Disconnection and Reconnection

Disconnection

Some systems store data in memory that is lost when the battery is disconnected. Do the following steps before disconnecting the battery.

1. Make sure you have the anti-theft code(s) for the audio and/or the navigation system (if equipped).
2. If you are replacing the audio unit, write down the audio presets (AM and FM), and the XM audio presets (if equipped), because the audio unit does not retain the presets after the battery is disconnected.
3. Make sure the ignition switch is in LOCK (0).
4. Disconnect and isolate the negative cable from the battery.

NOTE: Always disconnect the negative cable from the battery first.

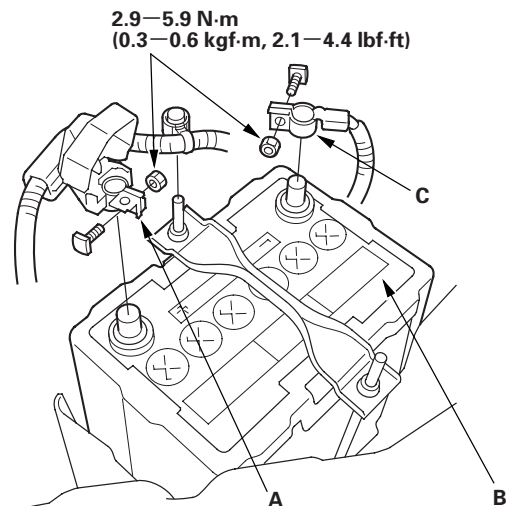
5. Disconnect the positive cable from the battery.

Reconnection

Some systems store data in memory that is lost when the battery is disconnected. Do the following steps to restore the systems back to normal operation.

1. Clean the battery terminals.
2. Test the battery (see page 22-67).
3. Reconnect the positive cable (A) to the battery (B) first, then reconnect the negative cable (C) to the battery.

NOTE: Always connect the positive cable to the battery first.



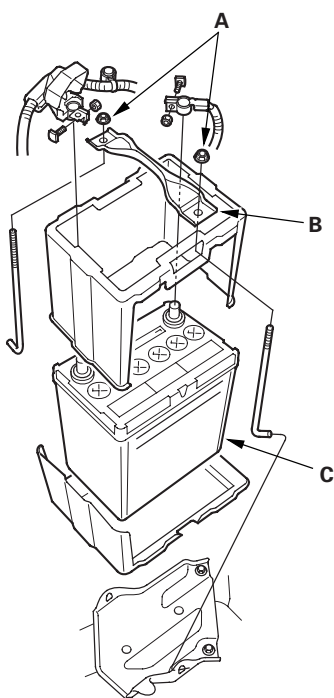
4. Apply multipurpose grease to the terminals to prevent corrosion.
5. Enter the anti-theft code(s) for the audio system and/or the navigation system (if equipped).
6. Enter the audio presets (if applicable), and enter the XM audio presets (if equipped).
7. Set the clock (for vehicles without navigation).

Battery Removal and Installation

NOTE: The battery terminal disconnection/reconnection procedure (see page 22-68) must be done before and after doing this procedure. Some systems store data in memory that is lost when the battery is disconnected.

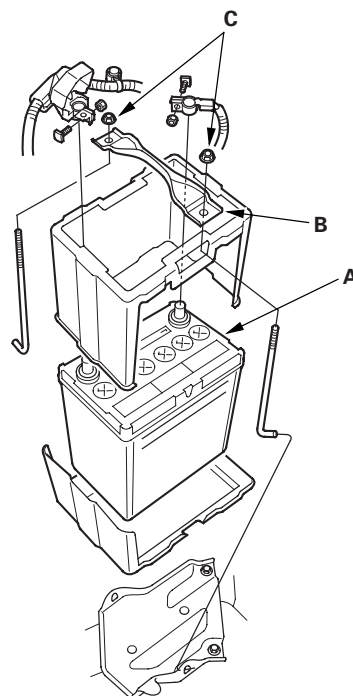
Removal

1. Do the battery terminal disconnection procedure (see page 22-68).
2. Remove the two nuts (A) securing the battery setting plate (B) and the battery (C).



Installation

1. Install the battery (A), then install the battery setting plate (B).



2. Tighten the two nuts (C) equally until the battery is stable.

NOTE: Do not deform the battery setting plate by over-tightening the nuts.

3. Do the battery terminal reconnection procedure (see page 22-68).

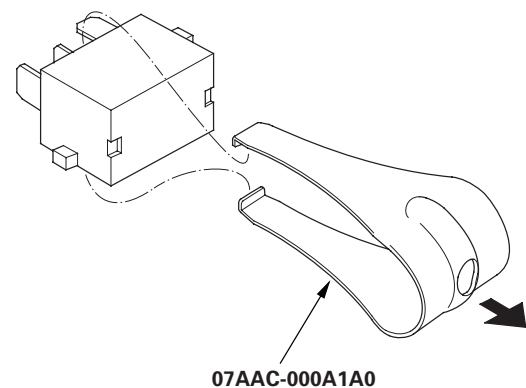
NOTE: Make sure the positive terminal and the negative terminal are not reverse-connected.

Relays

Power Relay Test

Special Tools Required
Relay puller 07AAC-000A1A0

Use this chart to identify the type of relay, then do the test listed for it. Carefully remove the relays using the relay puller. Do not use pliers. Pliers will damage the relay.



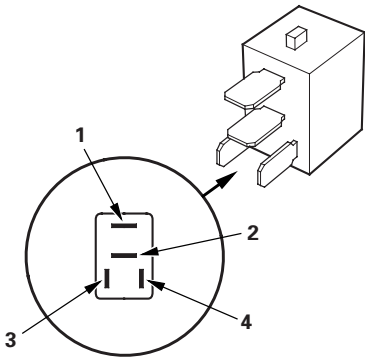
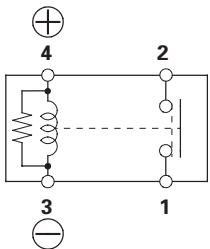
Relay	Test
A/C compressor clutch relay	Normally-open type
A/C condenser fan relay	
Blower motor relay	
Console accessory power socket relay	
Electronic throttle control system (ETCS) control relay	
Fog light relay*	
Front accessory power socket relay	
Ignition coil relay	
PGM-FI main relay 1 (FI MAIN)	
PGM-FI main relay 2 (FUEL PUMP)	
PGM-FI subrelay	
Power window relay	
Radiator fan relay	
Rear window defogger relay	
Seat heater relay (HIGH)	
Starter cut relay	
Fan control relay	Five-terminal type
Power mirror defogger relay	
Seat heater relay (LOW)	

* : TYPE S and '08 PREMIUM and '09 models

Normally-open type

Check for continuity between the terminals.

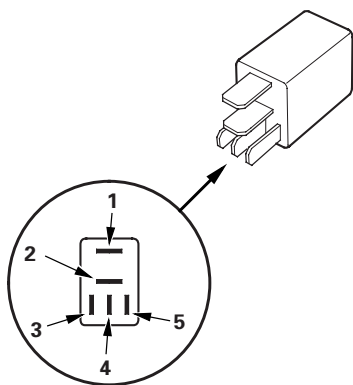
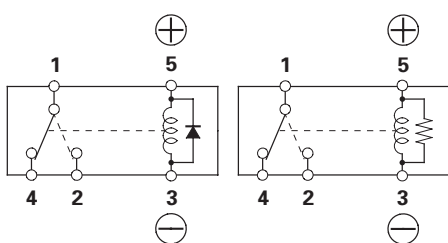
- There should be continuity between terminals No. 1 and No. 2 when the battery positive terminal is connected to terminal No. 4, and the battery negative terminal is connected to terminal No. 3.
- There should be no continuity between terminals No. 1 and No. 2 when power is disconnected.



Five-terminal type

Check for continuity between the terminals.

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

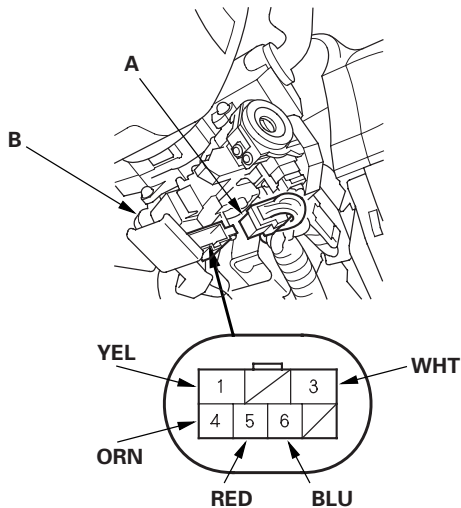


Ignition Switch

Test

SRS components are located in the area. Review the SRS component locations (see page 24-11), and precautions and procedures (see page 24-13) before doing repairs or serving.

1. Do the battery terminal disconnection procedure (see page 22-68).
2. Remove the driver’s dashboard lower cover (see page 20-102), and the steering column covers (see page 17-9).
3. Disconnect the 7P connector (A) from the ignition switch (B).



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

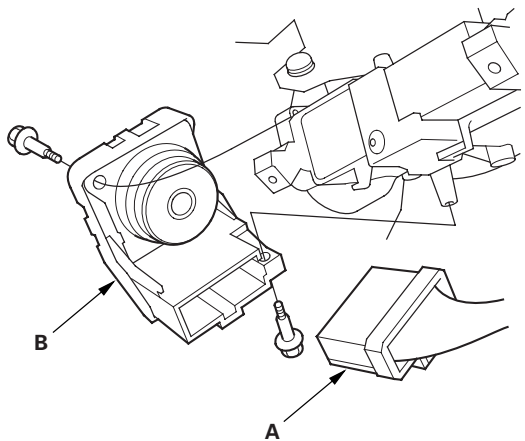
Terminal Position	RED (ACC)	WHT (BAT)	BLU (IG1)	ORN (IG2)	YEL (ST)
0 (LOCK)					
I (ACC)	○	○			
II (ON)	○	○	○	○	
III (START)		○	○		○

5. If the continuity checks do not agree with the table, replace the ignition switch (see page 22-72).
6. Do the battery terminal reconnection procedure (see page 22-68).

Replacement

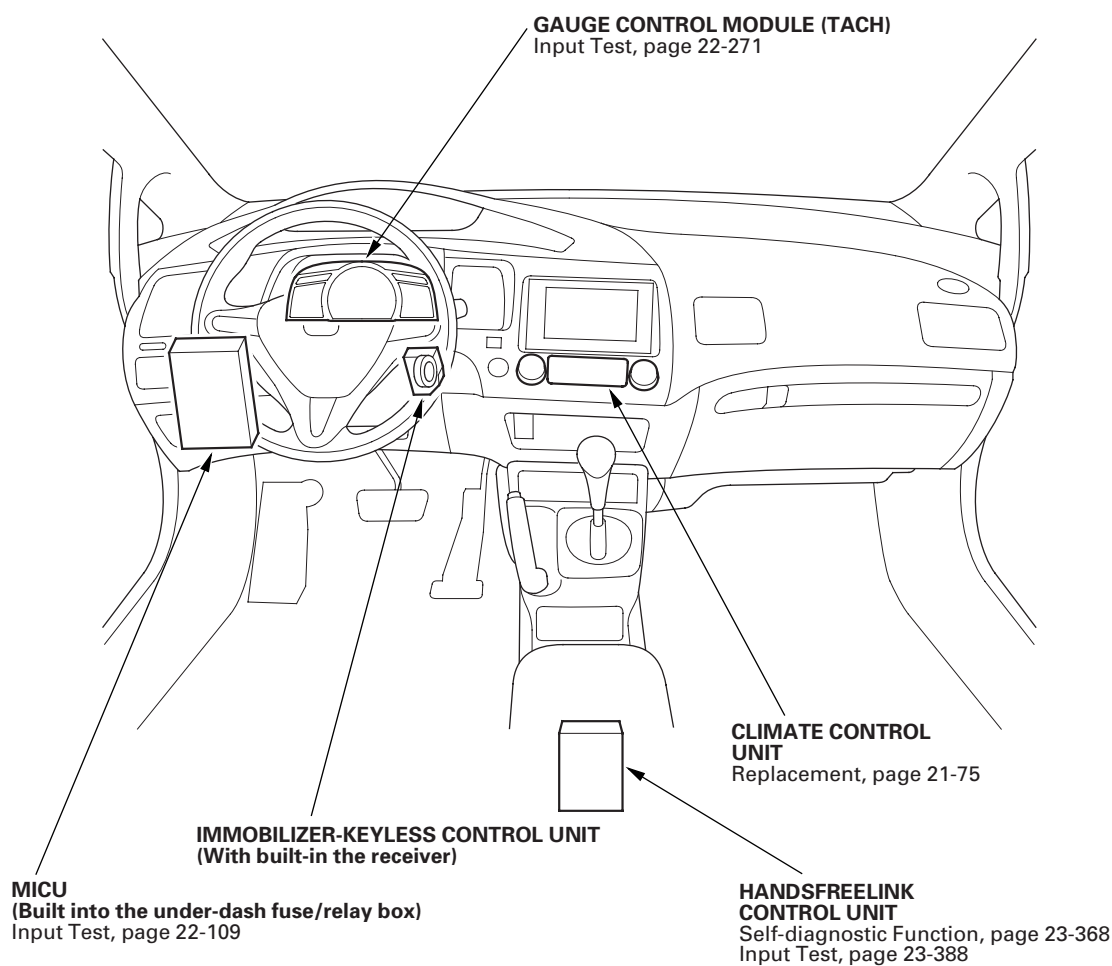
SRS components are located in the area. Review the SRS component locations (see page 24-11), and precautions and procedures (see page 24-13) before doing repairs or serving.

1. Do the battery terminal disconnection procedure (see page 22-68).
2. Remove the driver’s dashboard lower cover (see page 20-102), and the steering column covers (see page 17-9).
3. Disconnect the 7P connector (A) from the ignition switch (B).



4. Remove the two screws and the ignition switch.
5. Install the parts in the reverse order of removal.
6. Do the battery terminal reconnection procedure (see page 22-68).

Component Location Index



Multiplex Integrated Control System

General Troubleshooting Information

Troubleshooting CAN Circuit Related Problems

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

Using the HDS (Preferred method)

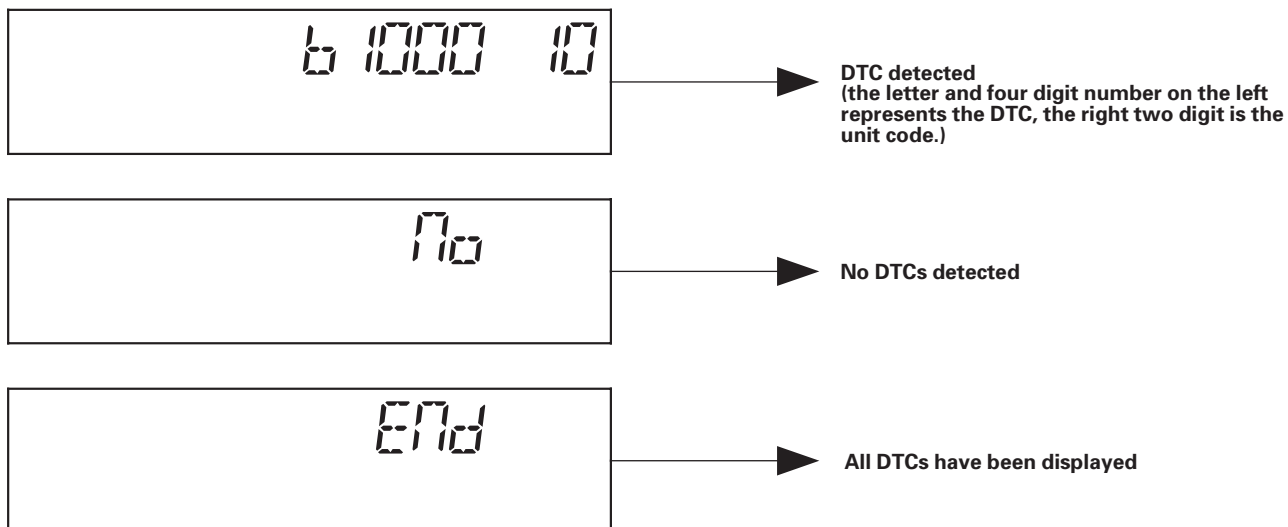
1. Go to B-CAN System Diagnosis Test Mode A to check for “Connected units” and DTCs (see page 22-93).
2. If no DTCs are retrieved, go to B-CAN System Diagnosis Test Mode C (see page 22-95) or D (see page 22-96).

Without HDS (Use only if the HDS is unavailable)

1. Check for communication circuit problems using B-CAN System Diagnostic Test (see page 22-97).
2. Check for DTCs.
3. Sort, and then troubleshoot the DTCs in the order.
 - 1 Battery voltage DTCs
 - 2 Internal error DTCs
 - 3 Loss of communication DTCs
 - NOTE: If the DTC B1000 is stored, troubleshoot DTC B1000 first.
 - 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 22-97).

How to display DTCs on the gauge control module (tach)

While in Test Mode 1, the DTCs which have been detected and stored individually by various B-CAN (Body-controller Area Network) units, will be shown one by one on the odometer display when the communication between the MICU and the gauge control module is normal. To scroll through the DTCs, press the select/reset button.



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

MICU	10
Gauge control module	50
Climate control unit	51
HandsFreeLink control unit	94
Immobilizer-keyless control unit	96

How to clear the DTC

While in Test Mode 1, press and hold down the SELECT/RESET button for more than 10 seconds.

(cont'd)

Multiplex Integrated Control System

General Troubleshooting Information (cont'd)

Loss of Communication DTC cross-reference chart

When an ECU on the CAN circuit is unable to communicate with other ECUs on the CAN circuit, one or more of the control units will set a loss of communications DTC. 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	Gauge Control Module	Climate Control Unit	HandsFreeLink Control Unit	Immobilizer-Keyless Control Unit
BUS OFF	B1000	B1150	B1200	B1750	B1900
ECU (CPU) Error	B1001				
ECU (EEPROM) Error	B1002	B1152	B1202		
ECU (Internal) Error				B1792	

Transmitting Control Unit	Message	Receiving Unit/Loss of Communication DTC			
		MICU	Gauge Control Module	Climate Control Unit	Immobilizer-Keyless Control Unit
MICU	RM		B1188		
	HLSW		B1155		
	WIPSW		B1156		
	MICU		B1157		
	DOORSW		B1159		
	DRLOCKSW		B1160		B1905
Gauge Control Module	VSP/NE	B1011		B1205	
	A/T	B1008			B1906
	CDS (SRS)	B1032			
	ECT			B1206	
ECM/PCM	ENG		B1168		
	A/T		B1169		
ABS or VSA modulator-control unit	ABS or VSA		B1170		
TPMS Control unit	TPMS		B1173		
EPS Control unit	EPS		B1183		
SRS	SRS		B1187		



DTC Troubleshooting Index

NOTE: Check the ECM/PCM for DTCs and troubleshoot ECM/PCM (see page 11-3) or F-CAN loss of communication errors first, then 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 B1008 and B1011 are retrieved, troubleshoot B1008 first).
- Signal error DTCs

MICU

DTC	Description	DTC type	Page
B1000	Communication bus line error (BUS-OFF)	Loss of communication	(see page 22-102)
B1001	MICU internal error (CPU error) ('06-08 models)	Internal error	(see page 22-103)
B1002	MICU internal error (EEPROM error)	Internal error	(see page 22-103)
B1008	MICU lost communication with gauge control module (A/T message)	Loss of communication	(see page 22-104)
B1011	MICU lost communication with gauge control module (VSP/NE message)	Loss of communication	(see page 22-104)
B1026	Front passenger's door lock switch LOCK/UNLOCK signal error	Signal error	(see page 22-120)
B1032	MICU lost communication with the SRS unit (CDS message) CDS (Collision detection signal) input circuit malfunction ('06-07 models)	Signal error	(see page 22-105)
B1036	IG1 line input error	Signal error	(see page 22-105)
B1077	Windshield wiper (As) signal error	Signal error	(see page 22-224)
B1078	Daytime running lights signal error	Signal error	(see page 22-157)
B1127	Driver's door key cylinder switch signal error	Signal error	(see page 22-121)
B1128	Driver's door lock switch signal error	Signal error	(see page 22-123)
B1129	Driver's door lock knob switch signal error	Signal error	(see page 22-124)
B1275	Combination light switch OFF position circuit malfunction ('07-09 models)	Signal error	(see page 22-159)
B1276	Combination light switch parking (SMALL) position circuit malfunction ('07-09 models)	Signal error	(see page 22-159)
B1278	Headlight switch ON position circuit malfunction ('07-09 models)	Signal error	(see page 22-159)
B1279	Headlight switch DIMMER position circuit malfunction ('07-09 models)	Signal error	(see page 22-161)
B1280	Turn signal switch circuit malfunction ('07-09 models)	Signal error	(see page 22-186)
B1281	Windshield wiper switch MIST position circuit malfunction ('07-09 models)	Signal error	(see page 22-226)
B1282	Windshield wiper switch INT position circuit malfunction ('07-09 models)	Signal error	(see page 22-226)
B1283	Windshield wiper switch LOW position circuit malfunction ('07-09 models)	Signal error	(see page 22-226)
B1284	Windshield wiper switch HIGH position circuit malfunction ('07-09 models)	Signal error	(see page 22-226)

(cont'd)

Multiplex Integrated Control System

DTC Troubleshooting Index (cont'd)

Gauge Control Module

DTC	Description	DTC type	Page
B1150	Communication bus line error (BUS-OFF)	Loss of communication	(see page 22-106)
B1152	Gauge control module internal error (EEPROM error)	Internal error	(see page 22-262)
B1155	Gauge control module lost communication with the MICU (Headlight switch message)	Loss of communication	(see page 22-263)
B1156	Gauge control module lost communication with the MICU (Wiper switch message)	Loss of communication	(see page 22-263)
B1157	Gauge control module lost communication with the MICU (MICU message)	Loss of communication	(see page 22-264)
B1159	Gauge control module lost communication with the MICU (DOORSW message)	Loss of communication	(see page 22-263)
B1160	Gauge control module lost communication with the MICU (DRLOCKSW message)	Loss of communication	(see page 22-264)
B1168	Gauge control module lost communication with the ECM/PCM (Engine messages)	Loss of communication	(see page 22-265)
B1169	Gauge control module lost communication with the PCM (A/T message)	Loss of communication	(see page 22-265)
B1170	Gauge control module lost communication with ABS/VSA modulator-control unit (ABS/VSA message)	Loss of communication	(see page 22-265)
B1173	Gauge control module lost communication with the TPMS control unit (TMPS message) ('08-09 models)	Loss of communication	(see page 22-266)
B1175	Fuel level sensor (Fuel gauge sending unit) circuit open	Signal error	(see page 22-267)
B1176	Fuel level sensor (Fuel gauge sending unit) circuit short	Signal error	(see page 22-268)
B1177	Battery voltage abnormal ('06 model)	Battery voltage	(see page 22-269)
B1178	F-CAN communication line error	Loss of communication	(see page 22-265)
B1183	Gauge control module lost communication with EPS control unit (EPS message)	Loss of communication	(see page 22-270)
B1187	Gauge control module lost communication with the SRS unit (SRS message)	Loss of communication	(see page 22-265)
B1188	Gauge control module lost communication with the MICU (RM message)	Loss of communication	(see page 22-263)



Climate Control Unit

DTC	Description	DTC type	Page
B1200	Communication bus line error (BUS-OFF)	Loss of communication	(see page 22-107)
B1202	Climate control unit internal error (EEPROM error)	Internal error	(see page 21-28)
B1205	Climate control unit lost communication with the gauge control module (VSP/NE message)	Loss of communication	(see page 21-28)
B1206	Climate control unit lost communication with the gauge control module (ECT message)	Loss of communication	(see page 21-28)
B1207	Climate control unit lost communication with the gauge control module (ILLUMI message)	Loss of communication	(see page 21-28)
B1220	Recirculation control motor circuit short	Signal error	(see page 21-29)
B1225	In-car temperature sensor circuit open	Signal error	(see page 21-31)
B1226	In-car temperature sensor circuit short	Signal error	(see page 21-32)
B1227	Outside air temperature sensor circuit open	Signal error	(see page 21-33)
B1228	Outside air temperature sensor circuit short	Signal error	(see page 21-34)
B1229	Sunlight sensor circuit open	Signal error	(see page 21-35)
B1230	Sunlight sensor circuit short	Signal error	(see page 21-36)
B1231	Evaporator temperature sensor circuit open	Signal error	(see page 21-37)
B1232	Evaporator temperature sensor circuit short	Signal error	(see page 21-39)
B1233	Air mix control motor circuit open	Signal error	(see page 21-40)
B1234	Air mix control motor circuit short	Signal error	(see page 21-41)
B1235	Air mix control motor stuck	Signal error	(see page 21-42)
B1239	Mode control motor circuit open or short	Signal error	(see page 21-44)
B1240	Mode control motor, linkage, door malfunction	Signal error	(see page 21-46)
B1241	Blower motor circuit malfunction	Signal error	(see page 21-47)
B2983	Recirculation control motor, linkage, door malfunction	Signal error	(see page 21-51)
B2986	Recirculation control motor circuit open	Signal error	(see page 21-52)

HandsFreeLink Control Unit

DTC	Description	DTC type	Page
B1750	Communication bus line error (BUS-OFF)	Loss of communication	(see page 22-107)
B1775	Microphone input/output short to power/open	Signal error	(see page 23-376)
B1776	Microphone input/output short to ground/open	Signal error	(see page 23-377)
B1779	HFL switch (HFL talk/HFL back buttons) circuit open/short	Signal error	(see page 23-379)
B1780	HFL switch (HFL talk/HFL back buttons) circuit short	Signal error	(see page 23-381)
B1792	HandsFreeLink control unit internal error	Internal error	(see page 23-382)

Immobilizer-Keyless Control Unit

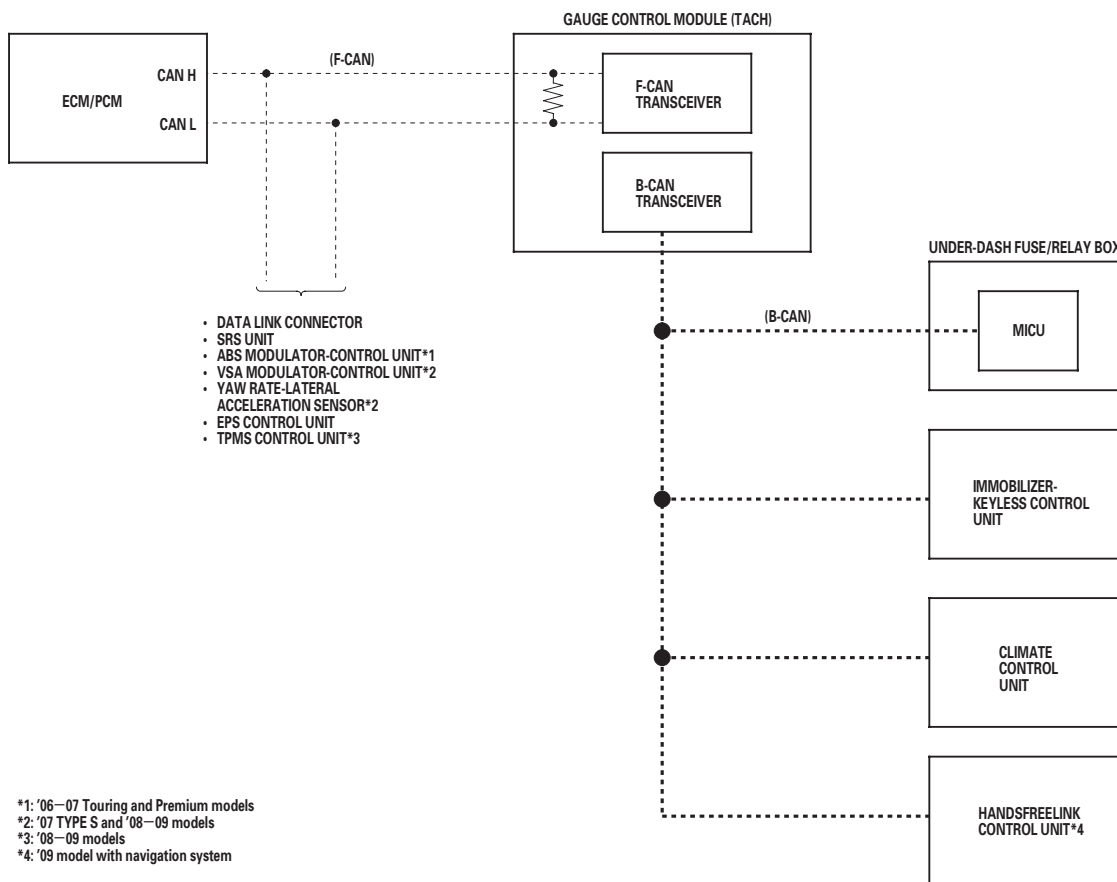
DTC	Description	DTC type	Page
B1900	Communication bus line error (BUS-OFF)	Loss of communication	(see page 22-108)
B1905	Immobilizer-keyless control unit lost communication with the MICU (DRLOCKSW message)	Loss of communication	(see page 22-317)
B1906	Immobilizer-keyless control unit lost communication with the gauge control module (A/T message)	Loss of communication	(see page 22-318)
B1925	Ignition key switch signal error	Signal error	(see page 22-319)

Multiplex Integrated Control System

System Description

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

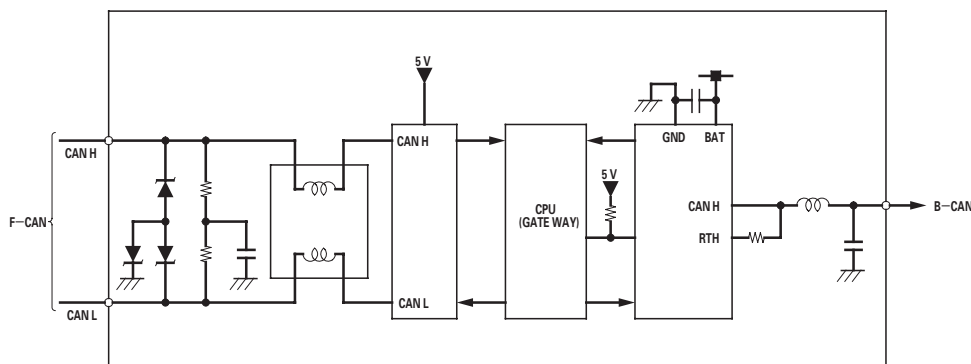
The body controller area network (B-CAN) and the fast controller area network (F-CAN) share information between multiple electronic control units (ECUs). B-CAN communication moves at a slower speed (33.33 kbps) for convenience related items and for other functions. F-CAN information moves at a faster 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.

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 is any malfunction 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 22-241).

- Error 1: There is a malfunction in the communication line between the gauge control module (tach) and the F-CAN.
- Error 2: There is a malfunction in the communication line between the gauge control module (tach) and the B-CAN.
- Error 3: There is a malfunction in the communication line between the gauge control module (tach) and the gauge control module (speedo) (UART line).

Except TYPE S Error Code List

Error code	Type of communication line(s) error
Error 1	F-CAN communication
Error 2	B-CAN communication
Error 3	UART communication
Error 12	F-CAN and B-CAN communication
Error 13	F-CAN and UART communication
Error 23	B-CAN and UART communication
Error 123	F-CAN, B-CAN and UART communication

TYPE S 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



(cont'd)

Multiplex Integrated Control System

System Description (cont'd)

MICU Control Functions Index

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

Refer to the each system circuit diagram in detail.

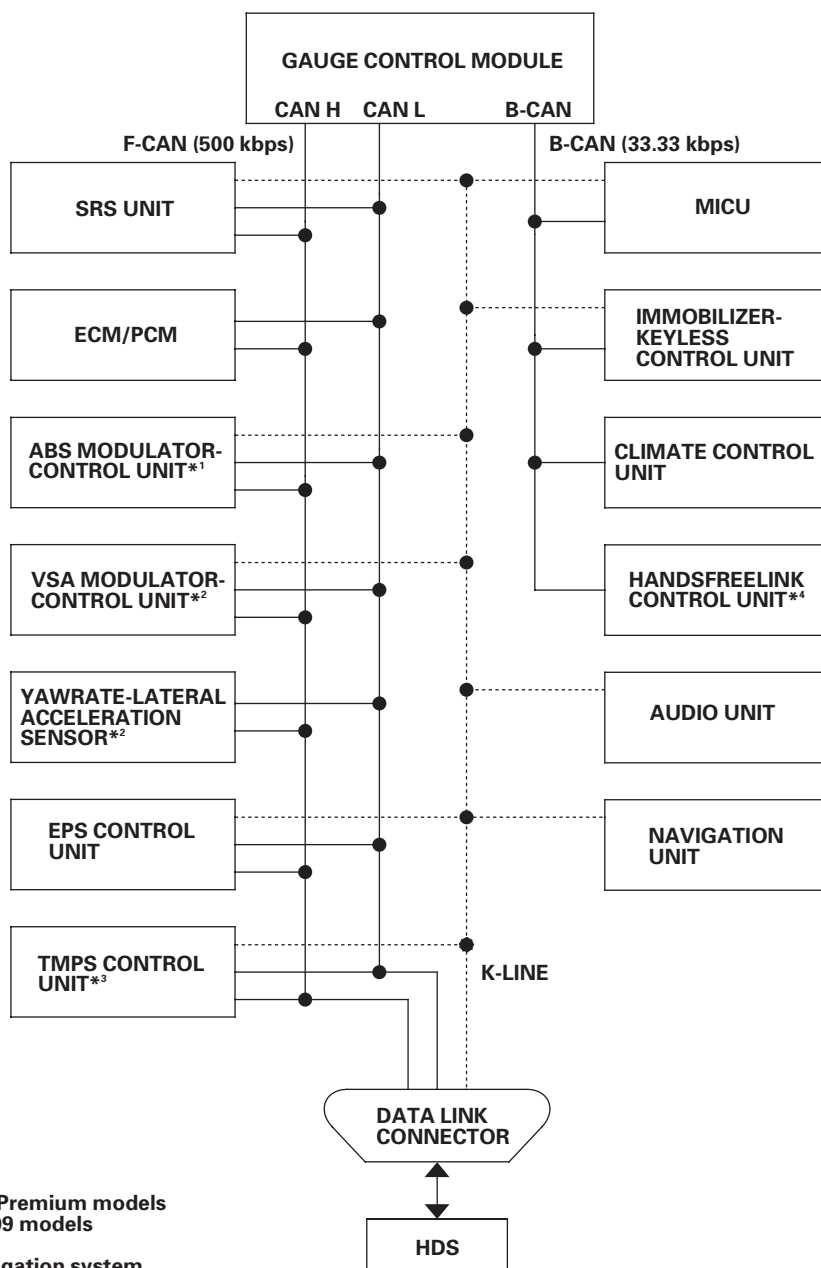
System	Function
Multiplex Control	Sends the switch input signal information to the MICU and outputs the information. The MICU controls the ECUs electric load and communication based upon the information received the B-CAN.
On-Board Diagnosis	The MICU has a gateway function which sends the results of the MICU internal diagnosis and the B-CAN connected ECUs diagnosis to the HDS.
Self-Diagnosis	Test mode 1 diagnoses the communication line between the MICU and B-CAN connected unit. Test mode 2 checks the switch inputs connected to the MICU.
Interior Light(s)	The MICU controls the interior lights ON, OFF and dimming based upon the information of the related switches and/or the B-CAN related information.
Sleep Function	The MICU has a sleep function, which it enters during the power down mode.

The MICU also controls the function of these circuits:

- Entry lights control (map lights and ceiling light)
- Exterior lights control (including the daytime running lights control)
- Horn
- Interlock system
- Key-in reminder
- Keyless entry
- Lights-on reminder
- Power door locks
- Power window key-off timer
- Seat belt reminder
- Security alarm
- Turn signal/hazard flasher
- Wiper/washer

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 line called K-LINE. The K-LINE is distinguished 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 doing 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 its self.



(cont'd)

Multiplex Integrated Control System

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 in LOCK (0).

- 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 to LOCK (0), and the driver's door is opened, then closed, there is a delay of 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 a key is in the ignition.
- 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 22-99).

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 an 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.



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	MICU * * : MICU internal circuit

Entry Lights Control System

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

	Input	Output
MICU	IG1 power supply Ignition key switch Driver's door switch Front passenger's door switch Left rear door switch Right rear door switch Driver's door lock knob switch (LOCK)	Interior light
B-CAN	Keyless LOCK signal	

Lighting System (Headlights, Parking Lights, Fog Lights, Side Marker Lights, License Plate Lights, and Taillights)

The MICU contains the relay circuits for the headlight high/low beams and taillights, and controls the lighting system ON/OFF based upon input signals from the combination light switch.

	Input	Output
MICU	Headlight OFF switch Headlight ON switch Fog light switch Dimmer switch Combination light switch (parking lights, side marker lights, license plate lights, and taillights) Passing switch	Headlights (low beam) Headlights (high beam) Parking lights Fog lights Side marker lights License plate lights Taillights

Daytime Running Lights

The MICU controls the exterior lights as a daytime running lights based upon input signals from each switch.

	Input	Output
MICU	Headlight OFF switch Headlight ON switch Dimmer switch Combination light switch (parking lights, side marker lights, license plate lights, and taillights) Passing switch	Headlights (low beam) Headlights (high beam) Parking lights Side marker lights License plate lights Taillights
B-CAN	Transmission range switch (P position)	

Turn Signal/Hazard Warning Lights

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

	Input	Output
MICU	IG1 power supply Turn signal switch (left/right) Hazard warning switch	Turn signal lights (left/right)

Door Lock Response Operation

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

	Input	Output
B-CAN	Door lock signals	Door lock actuator (LOCK/UNLOCK) Driver's door lock actuator (UNLOCK) Trunk lid release actuator

Power Window Key-off Operation

The MICU controls the power windows key-off operation based upon input signals from each switch.

	Input	Output
MICU	IG1 power supply Ignition key switch Driver's door switch Front passenger's door switch	Power window key-off timer

(cont'd)

Multiplex Integrated Control System

System Description (cont'd)

Power Door Locks (Vehicle Speed Sense)

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

	Input	Output
MICU	IG1 power supply Driver's door switch Front passenger's door switch Left rear door switch Right rear door switch Trunk lid latch switch Driver's door lock knob switch (UNLOCK) Front passenger's door lock knob switch (UNLOCK) Left rear door lock knob switch (UNLOCK) Right rear door lock knob switch (UNLOCK) Transmission range switch (P position)	Door lock (LOCK)
B-CAN	Vehicle speed pulse Engine RPM	

Power Door Locks (Normally LOCK/UNLOCK Operation)

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

	Input	Output
MICU	IG1 power supply Ignition key switch Driver's door switch Front passenger's door switch Left rear door switch Right rear door switch Trunk lid latch switch Driver's door lock knob switch (LOCK) Driver's door lock switch (LOCK/UNLOCK) Driver's door key cylinder switch (UNLOCK) Front passenger's door lock switch (LOCK/UNLOCK)	Door lock actuators (LOCK/UNLOCK)

Keyless Entry System

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

	Input	Output
MICU	IG1 power supply Ignition key switch Driver's door switch Front passenger's door switch Left rear door switch Right rear door switch Trunk lid latch switch Driver's door lock knob switch (LOCK/UNLOCK) Driver's door lock switch (LOCK/UNLOCK) Driver's door key cylinder switch (UNLOCK) Front passenger's door lock switch (LOCK/UNLOCK) Transmission range switch (P position)	Door lock actuator (LOCK/UNLOCK) Driver's door lock actuator (UNLOCK) Trunk lid release actuator
B-CAN	Keyless LOCK signal	

Keyless PANIC

The MICU controls the keyless PANIC based upon B-CAN signals.

	Input	Output
B-CAN	Keyless PANIC signal (action, headlight low, parking light and horn)	Headlights (low beam) Parking lights Side marker lights License plate lights Taillights Horn



Security Alarm System

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

	Input	Output
MICU	IG1 power supply Ignition key switch Audio switch Driver's door switch Front passenger's door switch Left rear door switch Right rear door switch Trunk lid latch switch Driver's door key cylinder switch (UNLOCK) Driver's door lock knob switch (UNLOCK) Front passenger's door lock knob switch (UNLOCK) Left rear door lock knob switch (UNLOCK) Right rear door lock knob switch (UNLOCK) Hood switch	Horn Headlights Parking lights Side marker lights License plate lights Taillights
B-CAN	Keyless LOCK signal Door lock signal	

Key-in Reminder

The MICU controls the door lock actuators based upon ignition key switch, the driver's door switch, and driver's door lock knob switch signals.

	Input	Output
MICU	Ignition key switch Driver's door switch Driver's door lock knob switch	Door lock actuator (LOCK/UNLOCK) Driver's door lock actuator (UNLOCK)

Key Interlock (A/T)

The MICU controls the key interlock solenoid based upon IG1, transmission range switch, and park-pin switch signals.

	Input	Output
MICU	Ignition switch ACC Transmission range switch (P position) Park-pin switch	Key interlock solenoid

Answer Back Response Operation

The MICU controls the lighting system and horn based upon B-CAN signals.

	Input	Output
B-CAN	Answer back signals (headlight low, horn, parking lights)	Horn Headlights Parking lights Side marker lights License plate lights Taillights

Wiper/Washer

The MICU controls the wiper motor and the washer motor based upon IG1 and wiper/washer switch signals.

	Input	Output
MICU	IG1 power supply Wiper switch (INT and LO) Wiper switch (LO and HI) Wiper switch (MIST) Washer switch Wiper intermittent speed	Wiper motor Washer motor

Collision Detection Signal (CDS)

The MICU controls the door lock actuators based upon IG1 and B-CAN signals.

	Input	Output
MICU	IG1 power supply	Door lock (LOCK/UNLOCK)
B-CAN	SRS signal (front, side and rear) Impact sensors	

(cont'd)

Multiplex Integrated Control System

System Description (cont'd)

HDS Inputs and Commands

Certain inputs happen so quickly that the HDS cannot 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
Gauges	Cruise Control Main Switch	OFF/ON
	Cruise Control Set Switch	OFF/ON
	Cruise Control Resume Switch	OFF/ON
	Washer Fluid Level Switch	OFF/ON
	VSA/TCS Off Switch	OFF/ON
	Gauge Select/Reset Switch	OFF/ON
	Parking Brake Switch	OFF/ON
	Brake Fluid Level Switch	OFF/ON
	Illumination Volume Plus Switch	OFF/ON
	Illumination Volume Minus Switch	OFF/ON
	Km/h mph Select Switch	OFF/ON
	Fuel Sending Unit Input 1	deg
	Fuel Sending Unit Input 2	VOLTAGE
	VSA/TCS Active Indicator	OFF/ON
	VSA/TCS Indicator (Warning)	OFF/ON
	ABS Indicator	OFF/ON
	Cruise Control Main Switch Indicator	OFF/ON
	MIL Indicator	OFF/ON
	Washer Fluid Level Indicator	OFF/ON
	DRL Indicator	OFF/ON
	Low Oil Pressure Indicator	OFF/ON
	Charging System Indicator	OFF/ON
	Cruise Main Switch ON Indicator	OFF/ON
	Maintenance Minder Indicator	OFF/ON
	High Beam Indicator	OFF/ON
	Parking Light ON Indicator	OFF/ON
	Low Fuel Warning Indicator	OFF/ON
	Security Indicator	OFF/ON
	Fog Light Indicator	OFF/ON
	Seat Belt Indicator	OFF/ON
	Speed Indicator (km/h)	0—249 km/h, over 250 km/h, Fail
	Speed Indicator (mph)	0—154 mph, over 155 mph, Fail
	Low Tire Pressure Indicator	OFF/ON
	TPMS Indicator	OFF/ON
	A/T Gear Position Switch (R)	OFF/ON
	A/T Gear Position Switch (P)	OFF/ON



System Menu	Data List	Data List Indication
Lighting	Driver's Door Switch	OFF/ON
	Hazard Switch	OFF/ON
	Headlight Switch (OFF)	OFF/ON
	Headlight Switch (PARKING)	OFF/ON
	Headlight Switch (HEADLIGHT)	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
	Ignition Key Cylinder Light Command	OFF/ON
	Interior Light Command	OFF/ON
	Left Turn Signal Command	OFF/ON
	Right Turn Signal Command	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
Door Locks	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
	Front Passenger's Door Lock Sw. (LOCK)	OFF/ON
	Front Passenger's Door Lock Sw. (UNLOCK)	OFF/ON
	Front Passenger's Door Lock Knob Sw. (UNLOCK)	OFF/ON
	Driver's Rear Door Lock Knob Switch (UNLOCK)	OFF/ON
	Passenger's Rear Door Lock Knob Sw. (UNLOCK)	OFF/ON
	Driver's Door Key Cylinder Switch (LOCK)	OFF/ON
	Driver's Door 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
	Door LOCK Command	OFF/ON
	Door UNLOCK Command	OFF/ON
	Driver's Door UNLOCK Command	OFF/ON

(cont'd)

Multiplex Integrated Control System

System Description (cont'd)

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
	Trunk Lid/Tailgate Switch	OFF/ON
	Front Passenger's Door Lock Sw. (LOCK)	OFF/ON
	Front Passenger's Door Lock Sw. (UNLOCK)	OFF/ON
	Front Passenger's Door Lock Knob Sw. (UNLOCK)	OFF/ON
	Driver's Rear Door Lock Knob Switch (UNLOCK)	OFF/ON
	Passenger's Rear Door Lock Knob Sw. (UNLOCK)	OFF/ON
	Trunk Key Cylinder (UNLOCK)	OFF/ON
	Driver's Door Key Cylinder Switch (LOCK)	OFF/ON
	Driver's Door 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
	Door LOCK Command	OFF/ON
	Door UNLOCK Command	OFF/ON
	Driver's Door UNLOCK Command	OFF/ON
Wipers	Brake Pedal Position Switch	OFF/ON
	Windshield Wiper Switch (LOW)	OFF/ON
	Windshield Wiper Switch (HIGH)	OFF/ON
	Windshield Wiper Switch (MIST)	OFF/ON
	Windshield Wiper Switch (INT)	OFF/ON
	Windshield Washer Switch	OFF/ON
	Windshield Wiper Motor PARK Switch	OFF/ON
	Intermittent Wiper Dwell Timer	0.0—1.0 k Ω /OPEN
	Windshield Wiper Motor HI Command	OFF/ON
	Windshield Wiper Motor LO Command	OFF/ON
	Windshield Washer Motor Command	OFF/ON



System Menu	Data List	Data List Indication
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
	Trunk Lid/Tailgate Switch	OFF/ON
	Front Passenger's Door Lock Sw. (LOCK)	OFF/ON
	Front Passenger's Door Lock Sw. (UNLOCK)	OFF/ON
	Front Passenger's Door Lock Knob Sw. (UNLOCK)	OFF/ON
	Driver's Rear Door Lock Knob Switch (UNLOCK)	OFF/ON
	Passenger's Rear Door Lock Knob Sw. (UNLOCK)	OFF/ON
	Trunk Key Cylinder (UNLOCK)	OFF/ON
	Radio Switch	OFF/ON
	Hazard Switch	OFF/ON
	Hood Switch	OFF/ON
	Driver's Door Key Cylinder Switch (LOCK)	OFF/ON
	Driver's Door 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
	Door LOCK Command	OFF/ON
	Door UNLOCK Command	OFF/ON
	Driver's Door UNLOCK Command	OFF/ON
	Security Hazard Signal Command	OFF/ON
	Headlight Command	OFF/ON
	Headlight High Beam Command	OFF/ON
	Parking Light Command	OFF/ON

(cont'd)

Multiplex Integrated Control System

System Description (cont'd)

Function Test:

System Menu	Data List Indication	Data List and Operation Time
Door Locks	LOCK all doors	Outputs LOCK signal 1 time (0.6 sec) to all doors
	UNLOCK driver's side door	Outputs UNLOCK signal 1 time (0.6 sec) to driver's door
	UNLOCK all doors	Outputs UNLOCK signal 1 time (0.6 sec) to all doors
Lighting	Interior Light Command	Illuminates for 30 seconds.
	LEFT Turn Signal Command	Blinks for 5 seconds.
	RIGHT Turn Signal Command	Blinks for 5 seconds.
	Hazard flasher	Blinks turn signal (left and right) for 15 seconds.
	Headlight Command	Operates headlight (low) for 15 seconds.
	Headlight HIGH Beam Command	Operates headlight (high) for 15 seconds.
	Fog Light	Operates fog light relay for 15 seconds.
Keyless	Parking Light Command	Operates small lights for 15 seconds.
	Trunk Lid/Tailgate Release Command	Unlock trunk
	Horn Command	Operates horn for 1 second.
Wipers	Windshield Wiper Motor LOW Command	Operates windshield wiper motor for 5 seconds (low speed).
	Windshield Wiper Motor HIGH Command	Operates windshield wiper motor for 5 seconds (high speed).
	Windshield Washer Command	Operates windshield washer motor for 5 seconds.
Gauges	Self Diagnostic Test	_____

Troubleshooting - B-CAN System Diagnosis Test Mode A

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

NOTE:

- If the HDS is not available, do the Test Mode 1 and Test Mode 2 (see page 22-97).
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures.

1. Compare the symptom with this list of B-CAN related systems:

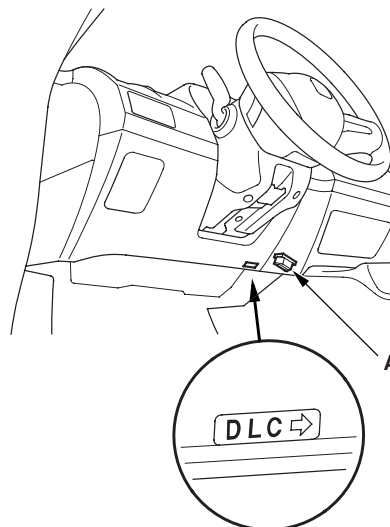
- Gauge control module
- Exterior lights
- Turn signals
- Entry light control
- Interior lights
- Door-open and trunk-open indicators
- Horns (security and panic)
- Chimes (key-in, seat belt, lights-on, and parking brake)
- Power window/moonroof timer
- Wiper/washer
- Security
- Keyless entry
- Power door locks
- Key interlock
- Dash light brightness control

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 to the data link connector (A), then turn the ignition switch to ON (II).



3. From the BODY ELECTRICAL menu, select UNIT INFORMATION, and then select CONNECTED UNIT listed to see if the following control units are communicating with the HDS.

- MICU
- Gauge control module
- Immobilizer-keyless control unit
- Climate control unit
- HandsFreeLink control unit

NOTE:

- If one or more of the units are not communicating with the HDS, DETECT will be displayed.
- If the unit is not communicating or the vehicle is not equipped, "Not Available" will be displayed.

Are all control units communicating with the HDS?

YES—Go to step 4.

NO—If any of the control units are not communicating, go to B-CAN System Diagnosis Test Mode B (see page 22-94). If all units are not communicating or only the MICU is communicating, go to DTC B1000 troubleshooting (see page 22-102). ■

(cont'd)

Multiplex Integrated Control System

Troubleshooting - B-CAN System Diagnosis Test Mode A (cont'd)

4. Select the system that has the problem from the BODY ELECTRICAL 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 22-95) if the system does not stop or turn off. Go to Test Mode D (see page 22-96) if the system does not run or turn on.

- Exterior lights
- Turn signals
- Entry light control
- Interior lights
- Horn (security and panic)
- Wiper/washer

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

- Gauge control module
- Door-open and trunk-open indicators
- Chimes (key-in, seat belt, lights-on, and parking brake)
- Security
- Keyless entry
- Key interlock
- Dash light brightness control
- Audio system
- Navigation (if equipped)
- HandsFreeLink (if equipped)

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).
- Signal error DTCs.

Troubleshooting - B-CAN System Diagnosis Test Mode B

Do 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 22-93).

1. Using the HDS, select the system that has the symptom from the BODY ELECTRICAL menu.
2. Select DTCs, and then check for loss of communication DTCs.

Are any loss of communication DTCs indicated?

YES—Go to step 3.

NO—Replace the MICU. ■

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

Unit not communicating
MICU (see page 22-109)
Gauge control module (see page 22-271)
Immobilizer-keyless control unit (see page 22-330)
Climate control unit (see page 21-24)
HandsFreeLink control unit (see page 23-388)

Multiplex Integrated Control System

Troubleshooting - B-CAN System Diagnosis Test Mode A (cont'd)

4. Select the system that has the problem from the BODY ELECTRICAL 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 22-95) if the system does not stop or turn off. Go to Test Mode D (see page 22-96) if the system does not run or turn on.

- Exterior lights
- Turn signals
- Entry light control
- Interior lights
- Horn (security and panic)
- Wiper/washer

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

- Gauge control module
- Door-open and trunk-open indicators
- Chimes (key-in, seat belt, lights-on, and parking brake)
- Security
- Keyless entry
- Key interlock
- Dash light brightness control
- Audio system
- Navigation (if equipped)
- HandsFreeLink (if equipped)

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).
- Signal error DTCs.

Troubleshooting - B-CAN System Diagnosis Test Mode B

Do 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 22-93).

1. Using the HDS, select the system that has the symptom from the BODY ELECTRICAL menu.
2. Select DTCs, and then check for loss of communication DTCs.

Are any loss of communication DTCs indicated?

YES—Go to step 3.

NO—Replace the MICU. ■

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

Unit not communicating
MICU (see page 22-109)
Gauge control module (see page 22-271)
Immobilizer-keyless control unit (see page 22-330)
Climate control unit (see page 21-24)
HandsFreeLink control unit (see page 23-388)



Troubleshooting - B-CAN System Diagnosis Test Mode C

Do 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 22-96).
- 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 22-88).
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures.

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 22-93). ■

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 the 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.

Are the switch and wire harness OK?

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

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

Multiplex Integrated Control System

Troubleshooting - B-CAN System Diagnosis Test Mode D

Do 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 22-95).
- See the B-CAN system unit input/output index for a list of input and output devices and the control units that monitor the inputs and control the output devices (see page 22-88).
- Always cycle the ignition switch within 3 seconds when prompted in the DTC troubleshooting procedures.

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 22-93). ■

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. Do 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—Inspect the ground for the component. If OK, 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 indicate 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.

Is 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. ■

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

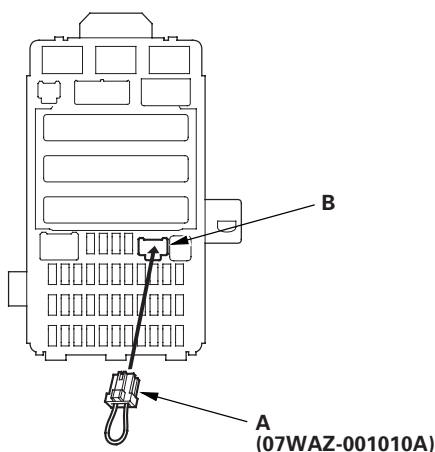
1. Check the No. 23 (10 A) fuse in the under-hood fuse/relay box and No. 10 (7.5 A) fuse in the under-dash fuse/relay box.

Are the fuses OK?

YES—Go to step 2.

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

2. Remove the left kick panel (see page 20-66).
3. Turn the ignition switch to 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 light. When the ceiling light flashes quickly once, and then goes off the system is in Test Mode 1.

6. Check for B-CAN DTCs indicated by the gauge control module (tach) odometer/trip meter display while still in Test Mode 1. Push the SEL/RESET switch 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)
 - Signal error DTCs
9. Clear the DTCs by pressing and holding the SEL/RESET switch 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 service connector is disconnected for too short or too long of a time, or the ignition switch is turned to LOCK (0), 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 light will blink once. If the circuit is faulty, there will be no indication.

(cont'd)

Multiplex Integrated Control System

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

MICU

Item
Driver's door lock switch (UNLOCK)
Driver's door lock switch (LOCK)
Driver's door lock knob switch (UNLOCK)
Driver's door lock knob switch (LOCK)
Driver's door key cylinder switch (UNLOCK)*
Driver's door key cylinder switch (LOCK)*
Front passenger's door lock switch (UNLOCK)
Front passenger's door lock switch (LOCK)
Front passenger's door lock knob switch (UNLOCK)
Left rear door lock knob switch (UNLOCK)
Right rear door lock knob switch (UNLOCK)
Driver's door switch (OPEN)
Front passenger's door switch (OPEN)
Left rear door switch (OPEN)
Right rear door switch (OPEN)
Trunk lid latch switch (OPEN)
Audio switch
Windshield wiper HI/LO switch
Windshield wiper INT/LO switch
Windshield wiper MIST switch
Windshield washer switch (ON)
Windshield wiper intermittent dwell time controller
Windshield wiper motor park switch
Turn signal switch (LEFT)
Turn signal switch (RIGHT)
Hazard warning switch (ON)
Headlight switch (ON)
Headlight switch (OFF)
Lighting switch (ON)
Dimmer switch (ON)
Passing switch (ON)
Fog light switch (ON)
Hood switch (OPEN)
A/C pressure switch/thermal protector
Transmission range switch (P)
Ignition key cylinder switch
Brake 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.

Does the ceiling light work properly in all switch positions?

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

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



Sleep and Wake-up Mode Test

1. Shift to the sleep mode:

Turn the ignition switch to LOCK (0), and remove the key. 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) Trunk lid latch switch (Trunk lid closed) Hazard warning switch (OFF)

2. Confirm the sleep mode:

Measure the frequency on the B-CAN communication line (PNK wire); there should be 0 Hz when the system is in the sleep mode. Check the parasitic draw at the battery while shifting into the sleep mode; the amperage should change from about 200 mA to less than 35 mA.

3. Shift to the wake up mode:

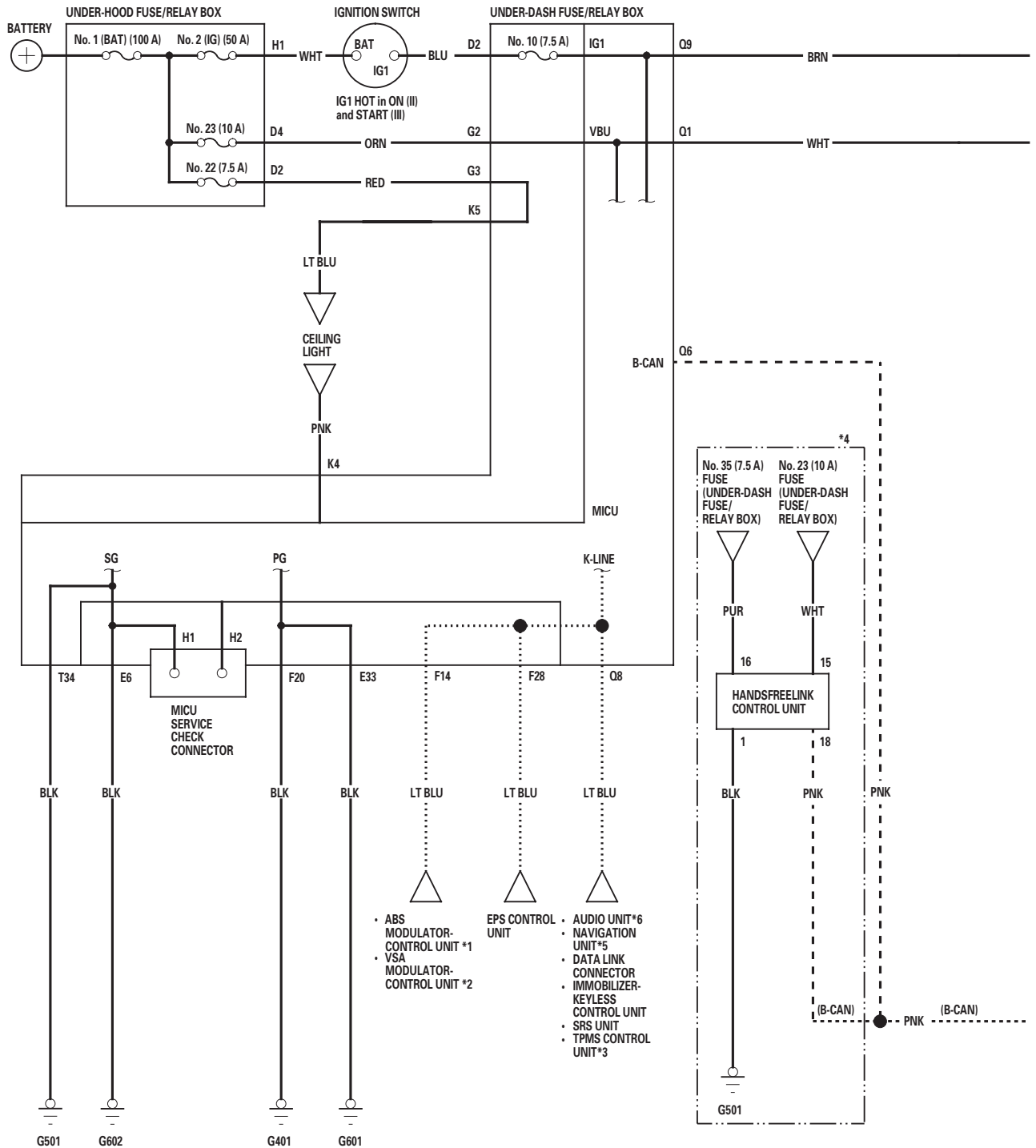
When the ignition switch is turned to ON (II), the MICU, gauge control module, immobilizer-keyless control unit, and ECM/PCM wake up at the same time without "talking" to each other through the communication lines. When any switch in the multiplex integrated control system is turned on, it wakes up its 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.

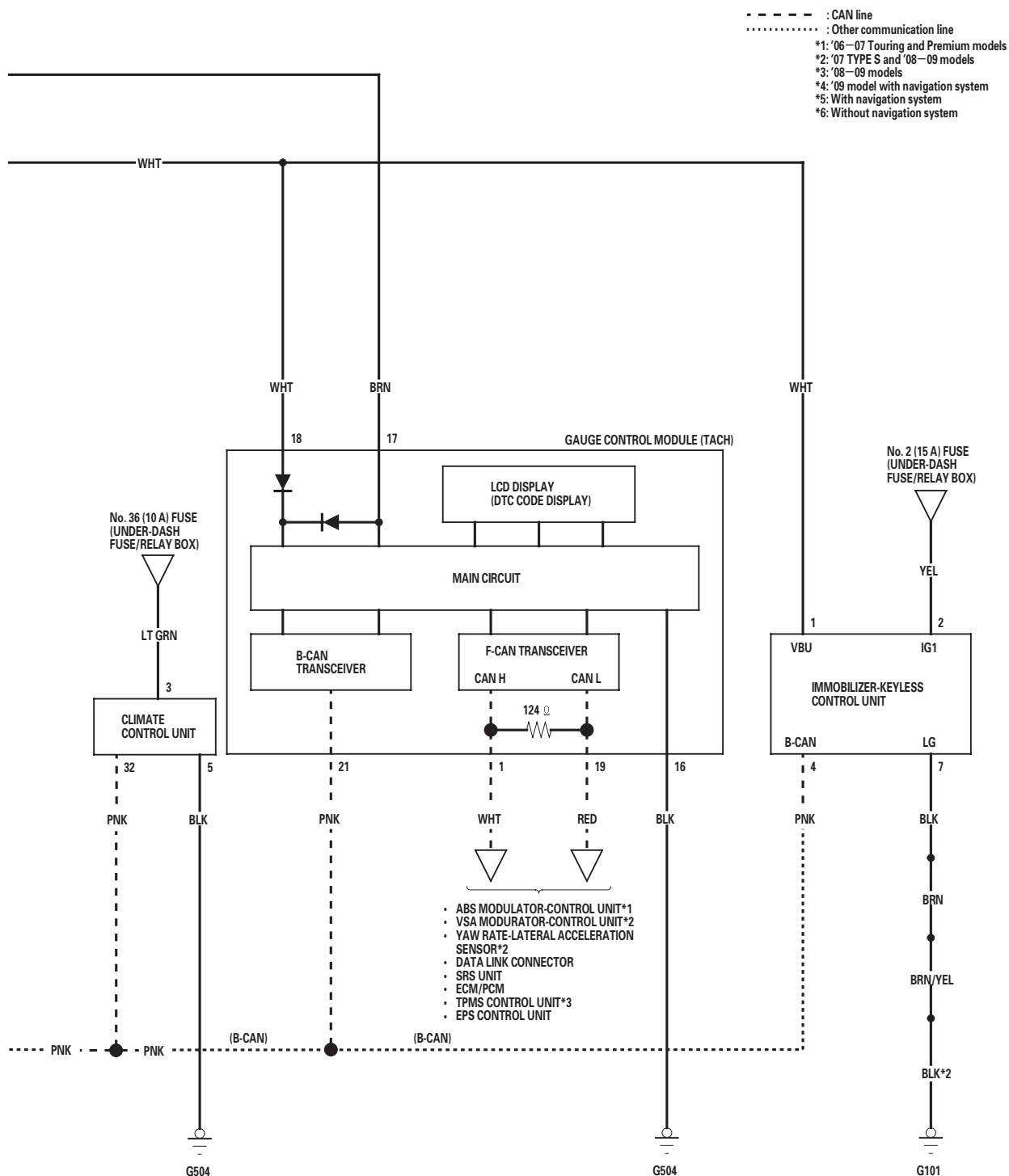
NOTE: If any control unit is faulty and will not wake up, several circuits in the system will malfunction at the same time. In the table below, the control unit is followed by a list of the switches and input signals that can wake it up.

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 Trunk lid latch switch (Trunk lid open) Hood switch (with security) (hood open) Hazard warning switch (ON) Combination light switch (Parking, Headlight, Dimmer, Passing ON) Ignition key switch (key inserted)

Multiplex Integrated Control System

Circuit Diagram





Multiplex Integrated Control System

DTC Troubleshooting

DTC B1000: Communication Bus Line Error (BUS-OFF)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
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 22-67) and the charging system. ■

5. Check for DTCs with the HDS.

Are DTCs B1008, B1011, and B1032 also indicated?

YES—Go to step 6.

NO—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

6. Turn the ignition switch to LOCK (0).

7. Disconnect the appropriate connector at each control unit in the table one at a time. Clear the DTCs, then recheck for DTCs after each unit is disconnected.

Control Unit	Connector
Gauge control module (tach)	36P connector
Immobilizer-keyless control unit	7P connector
Climate control unit	32P connector
HandsFreeLink control unit	28P connector

Is DTC B1000 indicated with each individual unit disconnected?

YES—Go to step 8.

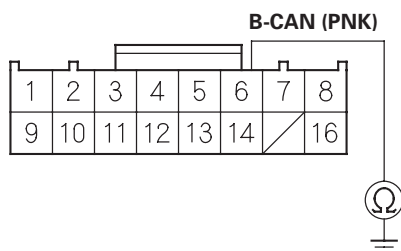
NO—Check the power and grounds to the control unit that was disconnected when B1000 did not reset. If OK, replace the control unit. ■

8. Disconnect all of the appropriate connectors for each of the units in the table.

Control Unit	Appropriate Connector
Gauge control module (tach)	36P connector
Immobilizer-keyless control unit	7P connector
Climate control unit	32P connector
HandsFreeLink control unit	28P connector

9. Disconnect under-dash fuse/relay box connector Q (16P).
10. Check for continuity between under-dash fuse/relay box connector Q (16P) No. 6 terminal and body ground.

UNDER-DASH FUSE/RELAY BOX CONNECTOR Q (16P)



Wire side of female terminals

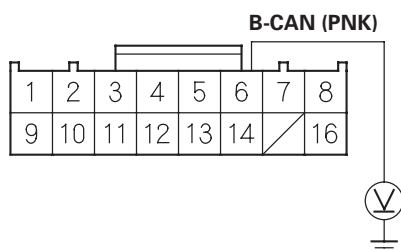
Is there continuity?

YES—Repair a short to ground in the wire between the under-dash fuse/relay box and the affected control unit. ■

NO—Go to step 11.

11. Measure the voltage between under-dash fuse/relay box connector Q (16P) terminal No. 6 and body ground.

UNDER-DASH FUSE/RELAY BOX CONNECTOR Q (16P)



Wire side of female terminals

Is there less than 0.1 V?

YES—Replace the under-dash fuse/relay box (see page 22-66). ■

NO—Repair a short to power in the wire between the under-dash fuse/relay box and the affected control unit. ■

DTC B1001: MICU (CPU) Error

DTC B1002: MICU (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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1001 and/or B1002 indicated?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Intermittent failure, the MICU is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67) and the charging system. ■

Multiplex Integrated Control System

DTC Troubleshooting (cont'd)

DTC B1008: 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1008 indicated?

YES—Go to step 5.

NO—Intermittent failure, the gauge control module is OK at this time. Check for loose or poor connections at the gauge control module (tach) 36P connector and at under-dash fuse/relay box connector Q (16P). If the connections are good, check the battery condition (see page 22-67) and the charging system. ■

5. Check for DTCs with the HDS.

Are DTCs B1011 and B1032 also indicated with DTC B1008?

YES—Check for an open in the communication circuit between the MICU and the gauge control module (tach). If the circuit is bad, repair the open. ■

NO—Go to the gauge control module (tach) input test (see page 22-271). ■

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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1011 indicated?

YES—Go to step 5.

NO—Intermittent failure, the gauge control module is OK at this time. Check for loose or poor connections at the gauge control module (tach) 36P connector and at under-dash fuse/relay box connector Q (16P). If the connections are good, check the battery condition (see page 22-67) and the charging system. ■

5. Check for DTCs with the HDS.

Are DTCs B1008 and B1032 also indicated with DTC B1011?

YES—Check for an open in the communication circuit between the MICU and the gauge control module (tach). If the circuit is bad, repair the open. ■

NO—Go to the gauge control module (tach) input test (see page 22-271). ■



DTC B1032: MICU Lost Communication with the SRS Unit (CDS Message) CDS (Collision detection signal) input 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1032 indicated?

YES—Go to step 5.

NO—Intermittent failure, the gauge control module is OK at this time. Check for loose or poor connections at the gauge control module (tach) 36P connector, and at under-dash fuse/relay box connector Q (16P). If the connections are good, check the battery condition (see page 22-67) and the charging system. ■

5. Check for DTCs with the HDS.

Are DTCs B1008 and B1011 also indicated with DTC B1032?

YES—Check for an open in the communication circuit between the MICU and the gauge control module (tach). If the circuit is bad, repair the open. ■

NO—Go to the gauge control module (tach) input test (see page 22-271). ■

DTC B1036: IG1 Line 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1036 indicated?

YES—Go to step 5.

NO—Intermittent failure, the system is OK at this time. Check for loose or poor connection at the gauge control module (tach) 36P connector, and at under-dash fuse/relay box connector Q (16P). If the connections are good, check the battery condition (see page 22-67) and the charging system. ■

5. Check for DTCs with the HDS.

Is DTC B1008 indicated with DTC B1036?

YES—Troubleshoot the indicated DTC. ■

NO—Go to step 6.

6. Turn the ignition switch to LOCK (0).
7. Turn the ignition switch to ON (II).

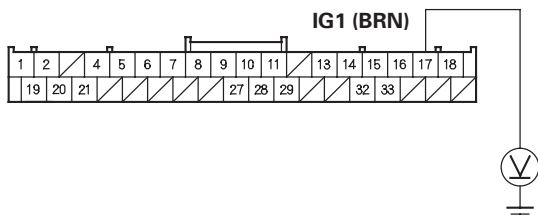
(cont'd)

Multiplex Integrated Control System

DTC Troubleshooting (cont'd)

8. Measure the voltage between gauge control module (tach) 36P connector terminal No. 17 and body ground.

GAUGE CONTROL MODULE (TACH) 36P CONNECTOR



Wire side of female terminals

Is there battery voltage?

YES—Faulty MICU; substitute a known-good under-dash fuse/relay box and recheck (see page 22-66). ■

NO—Check No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is OK, check for an open in the wire between the under-dash fuse/relay box and the gauge control module (tach), or repair a short in the wire between the under-dash fuse/relay box and the gauge control module (tach). ■

DTC B1150: Communication Bus Line Error (Bus OFF)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Are DTCs B1001, B1008, B1011, B1032, and or B1900 also indicated with DTC B1150?

YES—Troubleshooting DTC B1000. ■

NO—If only DTC B1150 is present, replace the gauge control module (tach) assembly. If no DTCs are present, it's an intermittent failure, the system is OK at this time. Check for loose or poor connections at the gauge control module (tach) 36P connector, and at under-dash fuse/relay box connector Q (16P). ■



DTC B1200: Communication Bus Line Error (Bus OFF)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Are DTCs B1000, B1008, B1011, B1032, and or B1900 also indicated with DTC B1200?

YES—Troubleshoot DTC B1000. ■

NO—If only DTC B1200 is present, replace the climate control unit. If no DTCs are present, it's an intermittent failure, the system is OK at this time. Check for loose or poor connections at the climate control unit 32P connector, and at under-dash fuse/relay box connector Q (16P). ■

DTC B1750: Communication Bus Line Error (Bus OFF)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Are DTCs B1000, B1008, B1011, and B1032 and or B1900 also indicated with DTC B1750?

YES—Troubleshoot DTC B1000. ■

NO—If only DTC B1750 is present, replace the HandsFreeLink control unit. If no DTCs are present, it's an intermittent failure, the system is OK at this time. Check for loose or poor connections at the HandsFreeLink control unit 28P connector, and at under-dash fuse/relay box connector Q (16P). ■

Multiplex Integrated Control System

DTC Troubleshooting (cont'd)

DTC B1900: Communication Bus Line Error (Bus OFF)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Are DTCs B1000, B1008, B1011, and B1032 also indicated with DTC B1900?

YES—Troubleshoot DTC B1000. ■

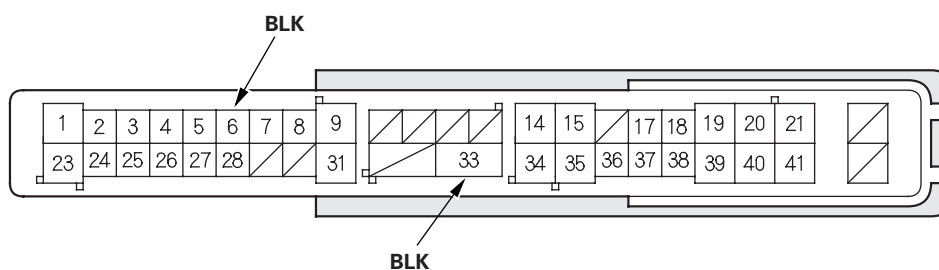
NO—If only DTC B1900 is present, replace the immobilizer-keyless control unit. If no DTCs are present, it's an intermittent failure, the system is OK at this time. Check for loose or poor connections at the immobilizer control unit 7P connector, and at under-dash fuse/relay box connector Q (16P). ■

MICU Input Test

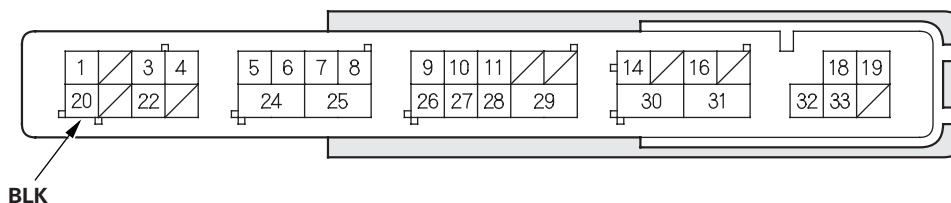
1. Before troubleshooting the multiplex integrated control system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93).
2. Check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is blown, replace it and go to step 3.
3. Disconnect under-dash fuse/relay box connectors E, F, G, K, and T.

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

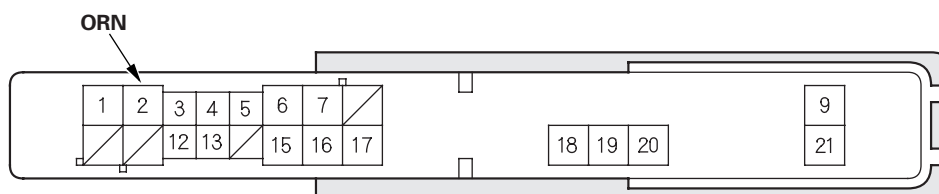
UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR G (21P)

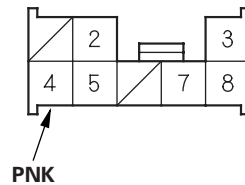


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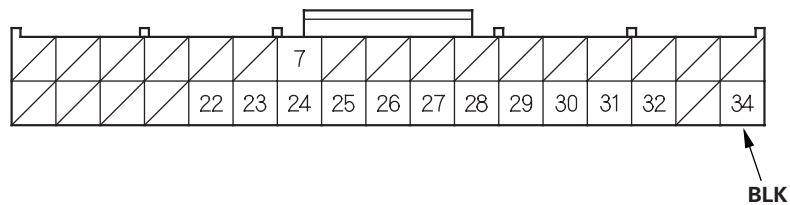
Multiplex Integrated Control System

MICU Input Test (cont'd)

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



UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



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 disconnected, do these input tests at the following 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 desired result is not obtained
G2	ORN	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
K4	PNK	Under all conditions	Attach to ground: The ceiling light should come on.	• Blown No. 22 (7.5 A) fuse in the under-hood fuse/relay box • Blown bulb(s) • Faulty ceiling light • An open in the wire

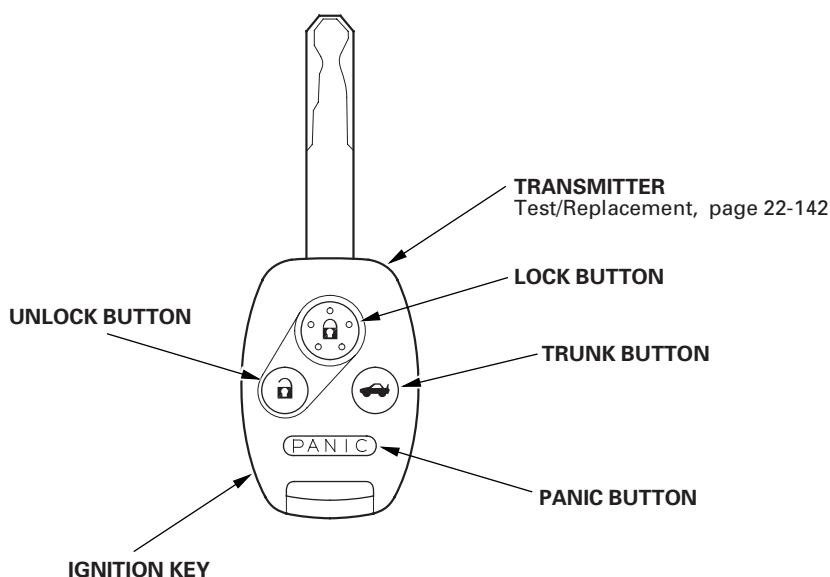
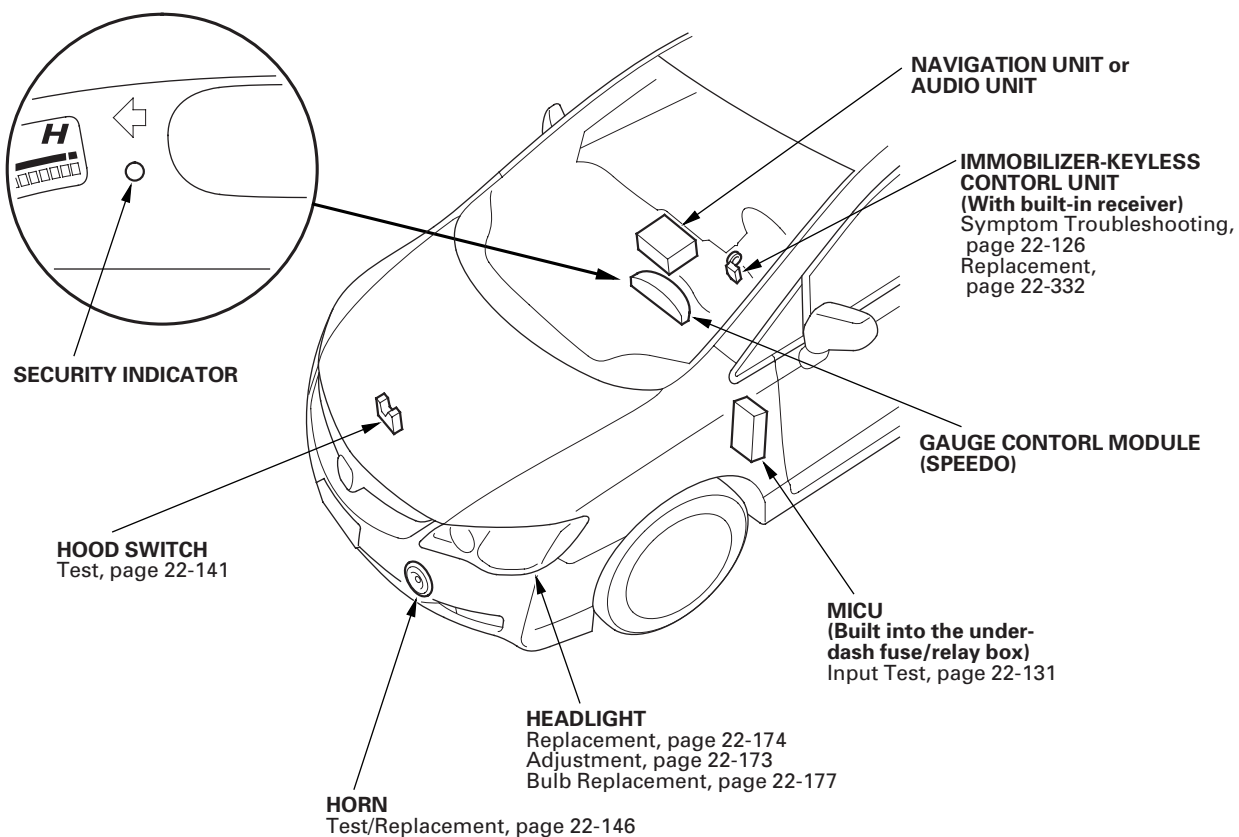
6. Reconnect the connectors to the under-dash fuse/relay box, and do these input tests at the following connectors.

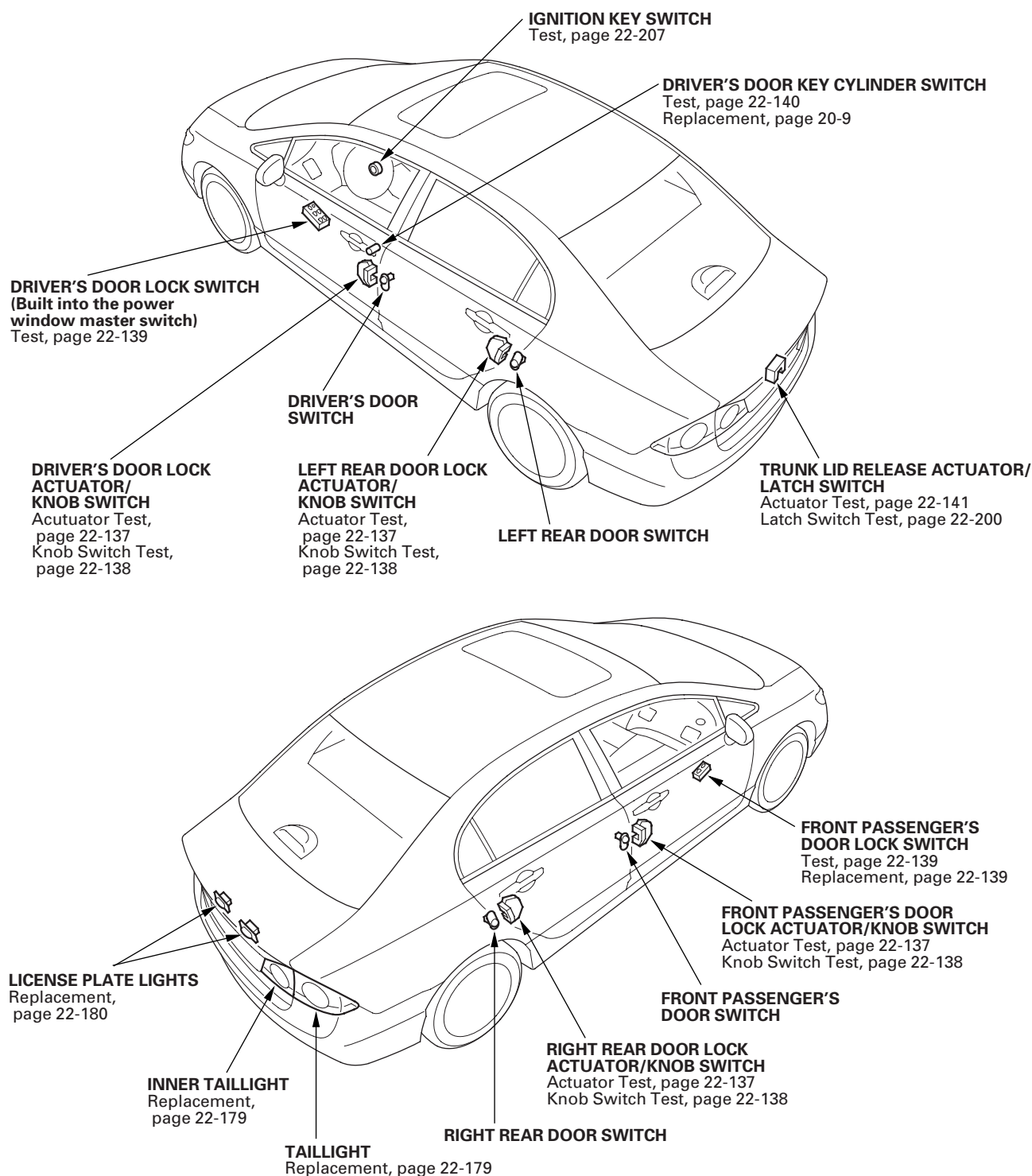
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
E6	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G602) • An open in the wire
E33	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G601) • An open in the wire
F20	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
T34	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G501) • An open in the wire

Keyless/Power Door Locks/Security System

Component Location Index





Keyless/Power Door Locks/Security System

System Description

Security Alarm System

The security alarm system is armed automatically after the doors, hood, and trunk are closed and locked. For the system to arm, the ignition switch must be to LOCK (0), the key must be removed from the ignition switch, and the MICU must receive signals that the doors, hood, and trunk are closed and locked. The alarm can be disarmed at any time by unlocking the driver's door with the key or pressing the UNLOCK button on the transmitter.

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 or navigation unit (if equipped). In other words, all of the other switches are open, and have about 10 to 12 V, including the key cylinder switches. The security indicator in the gauge control module (speedo) begins to flash immediately after the vehicle is completely closed and locked, and 15 seconds later, the security system arms. If the security indicator does not flash, the system is not arming. A beep sounds and parking lights flash to confirm the security alarm system is armed if the LOCK button is pressed a second time within 5 seconds.

If one of the switches is misadjusted or shorted internally, or there is a short in the circuit, the security system will not arm. As long as the control unit continues to receive a ground signal (0 V), it senses that the vehicle is not closed and locked, and the 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 truck, or someone 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, and the 10 to 12 V reference drops to 0 V. If the audio unit or navigation unit (if equipped) is disconnected, the input loses its ground, and the input voltage goes to 10 to 12 V. The system sounds the alarm when any of these occur:

- A door or the trunk is forced open.
- A door is unlocked without using the key or the transmitter.
- The hood is opened.
- The audio unit or navigation unit (if equipped) is disconnected.
- The transmitter PANIC button is pressed.

When the system sounds the alarm, the horn sounds 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.



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 2 seconds, the horn sounds and the exterior lights flash for about 20 seconds.

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

Keyless Entry System

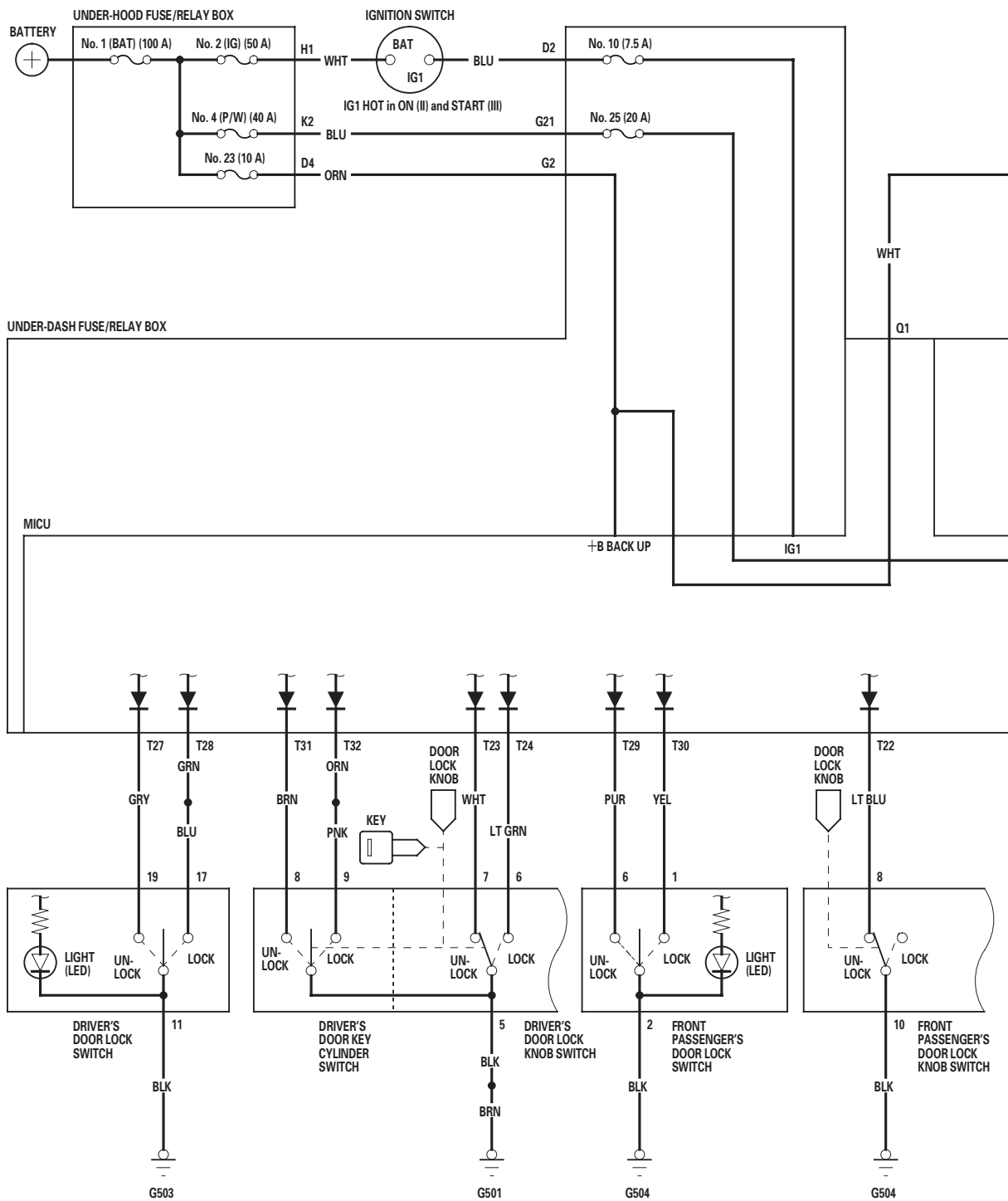
The keyless entry system is integrated with the multiplex integrated control system. The multiplex integrated control unit (MICU) receives LOCK, UNLOCK and PANIC signals from the immobilizer-keyless control unit (keyless receiver).

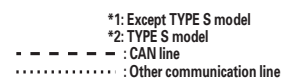
The keyless entry system allows you to lock and unlock the vehicle with the transmitter.

When the switch for the ceiling light is in the center (DOOR) position, it will come on when the UNLOCK button is pressed. If a door is not opened, the light will go off in about 30 seconds, and the doors will relock. If the doors are locked with the transmitter within 30 seconds, the light will go off immediately.

Keyless/Power Door Locks/Security System

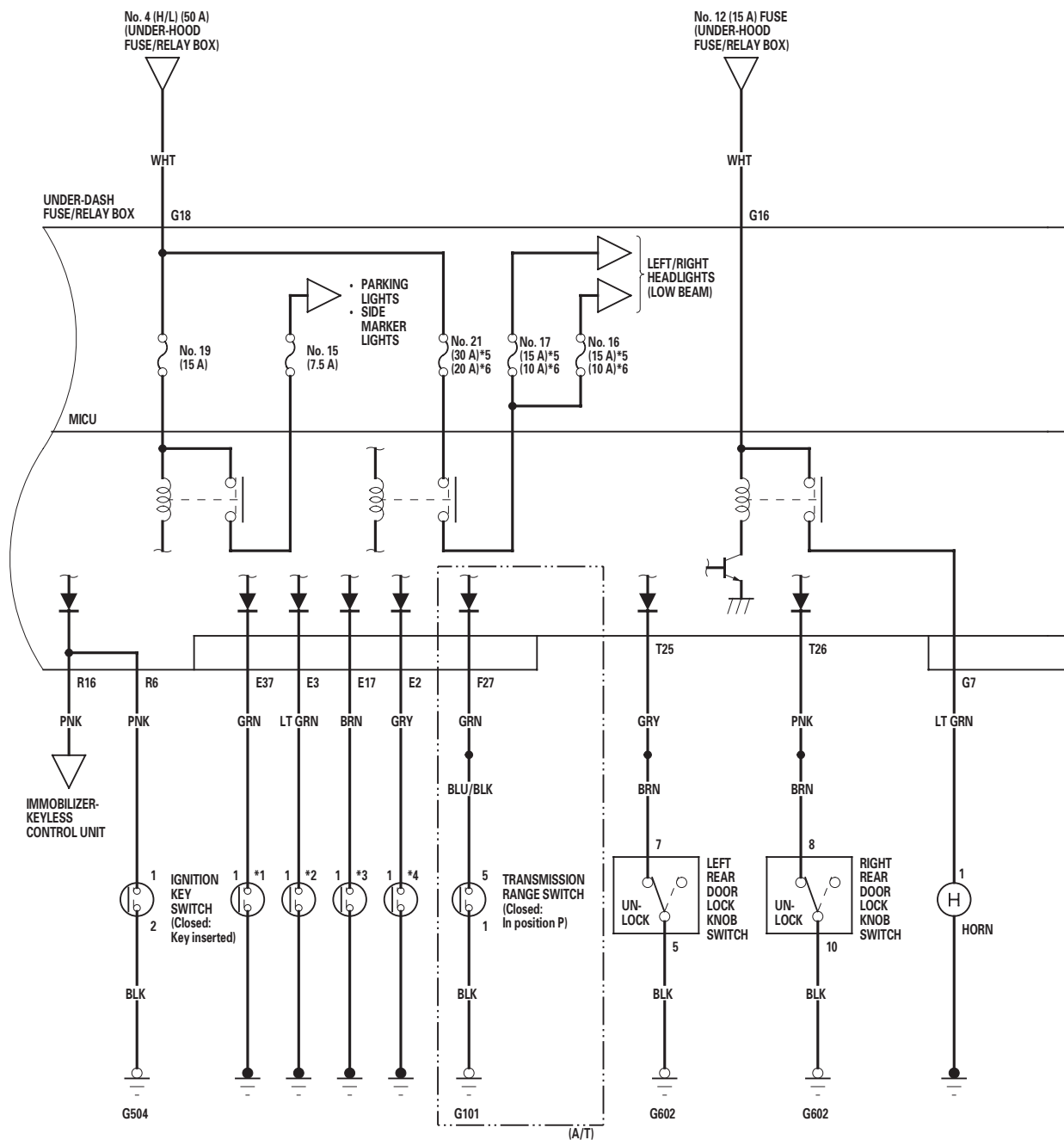
Circuit Diagram



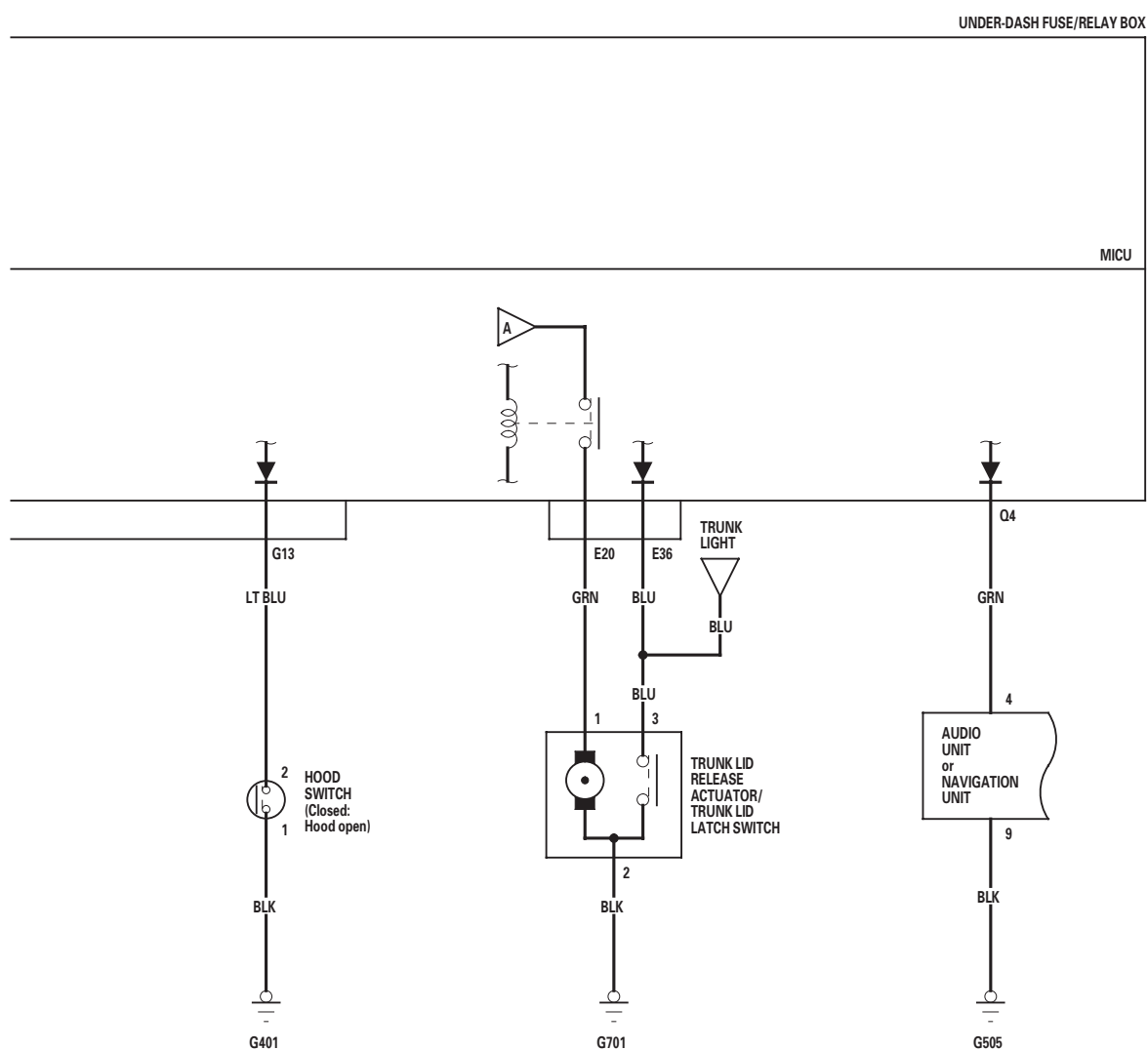


Keyless/Power Door Locks/Security System

Circuit Diagram (cont'd)



- *1: DRIVER'S DOOR SWITCH (Closed: Door open)
- *2: FRONT PASSENGER'S DOOR SWITCH (Closed: Door open)
- *3: LEFT REAR DOOR SWITCH (Closed: Door open)
- *4: RIGHT REAR DOOR SWITCH (Closed: Door open)
- *5: With HID
- *6: Without HID



Keyless/Power Door Locks/Security System

DTC Troubleshooting

DTC B1026: Front Passenger's Door Lock Switch 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Operate the front passenger's door lock switch several times.
4. Check for DTCs with the HDS.

Is DTC B1026 indicated?

YES—Go to step 5.

NO—Intermittent failure. The front passenger's door lock system is OK at this time. ■

5. With the front passenger's door lock switch in the neutral position, select KEYLESS from the HDS 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) in the DATA LIST.

Are both information indicators OFF?

YES—Go to step 12.

NO—Go to step 7.

7. Disconnect the front passenger's power window switch 8P connector.
8. Check the ON/OFF information of the FRONT PASSENGER'S DOOR LOCK SWITCH (LOCK) and FRONT PASSENGER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.

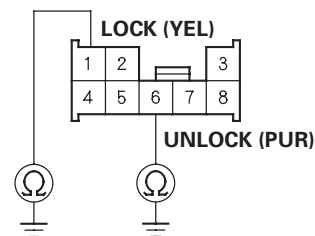
Are both information indicators OFF?

YES—Faulty door lock switch; replace the front passenger's power window switch (see page 22-220). ■

NO—Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Disconnect under-dash fuse/relay box connector T (34P).
11. Check for continuity between front passenger's power window switch 8P connector terminals No. 1 (LOCK) and No. 6 (UNLOCK) and body ground.

FRONT PASSENGER'S POWER WINDOW SWITCH 8P CONNECTOR



Wire side of female terminals

Is there continuity?

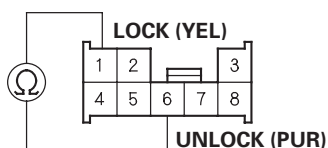
YES—Repair a short in the LOCK or UNLOCK wire. ■

NO—Faulty MICU, replace the under-dash fuse/relay box (see page 22-66). ■



12. Turn the ignition switch to LOCK (0).
13. Disconnect the front passenger's window switch 8P connector.
14. Disconnect under-dash fuse/relay box connector T (34P).
15. Check for continuity between front passenger's power window switch 8P connector terminals No. 1 (LOCK) and No. 6 (UNLOCK).

FRONT PASSENGER'S POWER WINDOW SWITCH 8P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair a short in the wire between the LOCK and UNLOCK wires. ■

NO—Substitute a known-good front passenger's power window switch, and recheck. If the symptom/indication goes away, replace the original front passenger's power window switch. If not, the MICU is faulty, replace the under-dash fuse/relay box (see page 22-66). ■

DTC B1127: Driver's Door Key Cylinder Switch 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Insert the ignition key into the driver's door key cylinder switch, and turn the key in LOCK and UNLOCK positions ten times.
4. Check for DTCs with the HDS.

Is DTC B1127 indicated?

YES—Go to step 5.

NO—Intermittent failure. The driver's door key cylinder switch system is OK at this time. ■

5. With the driver's door key cylinder in the neutral position, select KEYLESS with the HDS, 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 12.

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 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. ■

NO—Go to step 9.

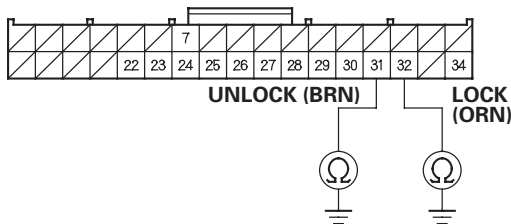
(cont'd)

Keyless/Power Door Locks/Security System

DTC Troubleshooting (cont'd)

9. Turn the ignition switch to LOCK (0).
10. Disconnect under-dash fuse/relay box connector T (34P).
11. Check for continuity between under-dash fuse/relay box connector T (34P) terminals No. 31 (UNLOCK) and No. 32 (LOCK) and body ground.

UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



Wire side of female terminals

Is there continuity?

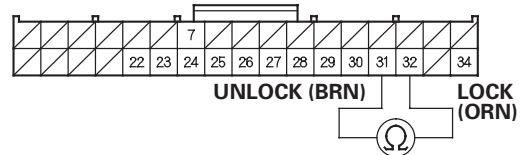
YES—Faulty MICU, replace the under-dash fuse/relay box (see page 22-66). ■

NO—Go to step 12.

12. Turn the ignition switch to LOCK (0).
13. Disconnect the driver's door lock actuator 10P connector.
14. Disconnect under-dash fuse/relay box connector T (34P).

15. Check for continuity between under-dash fuse/relay box connector T (34P) terminals No. 31 (UNLOCK) and No. 32 (LOCK).

UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



Wire side of female terminals

Is there continuity?

YES—Repair a short in the wire between the LOCK and UNLOCK wires. ■

NO—Substitute a known-good MICU, and recheck. If the symptom/indication goes away, replace the original MICU, if not, replace the driver's door lock actuator. ■

DTC B1128: Driver's Door Lock Switch Signal Error (LOCK/UNLOCK)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Operate the driver's door lock switch LOCK/UNLOCK several times.
4. Check for DTCs with the HDS.

Is DTC B1128 indicated?

YES—Go to step 5.

NO—Intermittent failure. The driver's door lock system is OK at this time. ■

5. With the driver's door lock switch in the neutral position, select KEYLESS from the HDS and enter the DATA LIST.
 6. Check the ON/OFF information of the DRIVER'S DOOR LOCK SWITCH (LOCK) and DRIVER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.
- Are both information indicators OFF?*
- YES**—Go to step 12.
- NO**—Go to step 7.
7. Disconnect the driver's power window master switch 22P connector.

8. Check the ON/OFF information of the DRIVER'S DOOR LOCK SWITCH (LOCK) and DRIVER'S DOOR LOCK SWITCH (UNLOCK) in the DATA LIST.

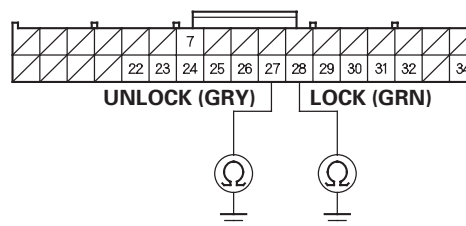
Are both information indicators OFF?

YES—Faulty door lock switch; replace the driver's power window master switch (see page 22-219). ■

NO—Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Disconnect under-dash fuse/relay box connector T (34P).
11. Check for continuity between under-dash fuse/relay box connector T (34P) terminals No. 28 (LOCK) and No. 27 (UNLOCK) and body ground.

UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



Wire side of female terminals

Is there continuity?

YES—Repair a short in the LOCK or UNLOCK wire. ■

NO—Faulty MICU, replace the under-dash fuse/relay box (see page 22-66). ■

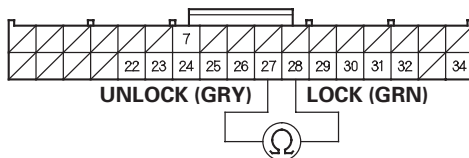
(cont'd)

Keyless/Power Door Locks/Security System

DTC Troubleshooting (cont'd)

12. Turn the ignition switch to LOCK (0).
13. Disconnect the power window master switch 22P connector.
14. Disconnect under-dash fuse/relay box connector T (34P).
15. Check for continuity between under-dash fuse/relay box connector T (34P) terminals No. 28 (LOCK) and No. 27 (UNLOCK).

UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



Wire side of female terminals

Is there continuity?

YES—Repair a short in the wire between the LOCK and UNLOCK wires. ■

NO—Substitute a known-good power window master switch, and recheck. If the symptom/indication goes away, replace the original power window master switch. If not, the MICU is faulty, replace the under-dash fuse/relay box (see page 22-66). ■

DTC B1129: Driver's Door Lock Knob Switch Signal Error (LOCK/UNLOCK)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Operate the driver's door lock knob switch several times.
4. Check for DTCs with the HDS.

Is DTC B1129 indicated?

YES—Go to step 5.

NO—Intermittent failure. The system is OK at this time. ■

5. Select **KEYLESS** from the **BODY ELECTRICAL** menu, and enter the **DATA LIST**.
6. Check the **ON/OFF** information of the **DRIVER'S DOOR LOCK KNOB SWITCH (LOCK)** and the **DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK)**.

Is the DRIVER'S DOOR LOCK KNOB SWITCH (LOCK) information indicator ON and the DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK) information indicator OFF with the driver's door lock knob switch in the LOCK position, and is the DRIVER'S DOOR LOCK KNOB SWITCH (LOCK) information indicator OFF and the DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK) information indicator ON with the driver's door lock knob switch in the UNLOCK position?

YES—Faulty MICU, replace the under-dash fuse/relay box (see page 22-66). ■

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 LOCK KNOB SWITCH (LOCK) and DRIVER'S DOOR LOCK KNOB SWITCH (UNLOCK) in the DATA LIST.

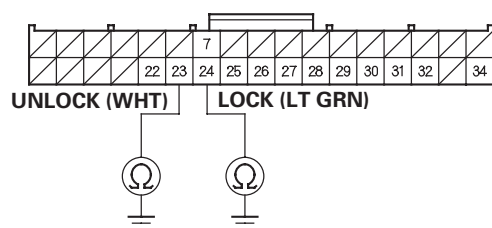
Are both information indicators OFF?

YES—Check for an open in the driver's door lock knob switch (LOCK) wire or the driver's door lock knob switch (UNLOCK) wire between the MICU and the driver's door lock knob switch. If OK, replace the driver's door lock actuator. ■

NO—Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Disconnect under-dash fuse/relay box connector T (34P).
11. Check for continuity between under-dash fuse/relay box connector T (34P) terminals No. 23 (UNLOCK) and No. 24 (LOCK) and body ground.

UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



Wire side of female terminals

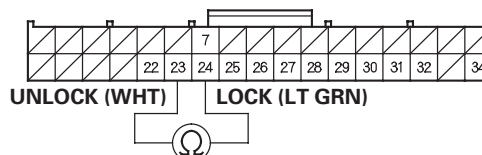
Is there continuity?

YES—Repair a short to ground in the LOCK or UNLOCK wire. ■

NO—Go to step 12.

12. Check for continuity between under-dash fuse/relay box connector T (34P) terminals No. 23 (UNLOCK) and No. 24 (LOCK).

UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)



Wire side of female terminals

Is there continuity?

YES—Repair a short in the wire between the LOCK wire and UNLOCK wire. ■

NO—Faulty MICU, replace the under-dash fuse/relay box (see page 22-66). ■

Keyless/Power Door Locks/Security System

Symptom Troubleshooting

Power Door Locks/Keyless

1. If the door lock system works properly, but the keyless operation does not, refer to the immobilizer-keyless control unit symptom troubleshooting information (see page 22-321).

NOTE: The door lock system does not function when:

- Any of the doors is open.
- Ignition key is in the ignition key switch.
- Ignition switch is ON (II).

No.	Symptom	Check Items
1	The doors will not lock or unlock.*	• MICU input test (see page 22-131). • Driver's door key cylinder switch test (see page 22-140). • Door lock switch test (see page 22-139). • Door lock knob switch test (see page 22-138).
2	The doors will not lock.*	• MICU input test (see page 22-131). • Door lock knob switch test (see page 22-138). • 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 22-131). • Door lock knob switch test (see page 22-138). • Door switch test (check the door switch ON/OFF information with the HDS).
4	Keyless operation does not work (LOCK, UNLOCK, PANIC).	Symptom troubleshooting (see page 22-127).
5	Doors will not unlock with the transmitter, but will unlock with the door switch.	Symptom troubleshooting (see page 22-129).
6	Doors will not lock with the transmitter, but will lock with the door switch.	Symptom troubleshooting (see page 22-129).
7	Doors automatically relock after being unlocked with the transmitter even though a door has been opened.	Symptom troubleshooting (see page 22-130).
8	The horn does not sound when PANIC button on the transmitter pressed.	Symptom troubleshooting (see page 22-129).
9	Keyless operation will work even though the ignition key is in the ignition switch.	Ignition key switch test (see page 22-207).

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

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 22-142).

1. Turn the ignition switch to ON (II).

2. Try to start the engine.

Does the engine start?

YES—The system is OK, go to step 3.

NO—Go to the immobilizer symptom troubleshooting (see page 22-323). ■

3. Turn the ignition switch to LOCK (0).

4. Connect the HDS to the data link connector.

5. Close all doors, then turn the ignition switch to ON (II).

Do all door switches indicate OFF?

YES—Go to step 7.

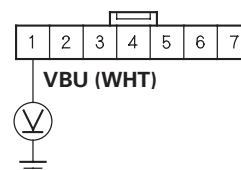
NO—Faulty door switch, or shorted door switch wire. Repair as necessary. ■

7. Remove the ignition key from the ignition switch.

8. Disconnect the immobilizer-keyless control unit 7P connector.

9. Measure the voltage between immobilizer-keyless control unit 7P connector terminal No. 1 and body ground.

IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR



Wire side of female terminals

Is there battery voltage?

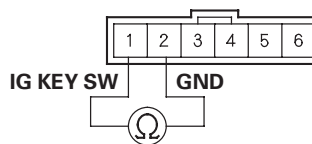
YES—Go to step 10.

NO—Check the fuse No. 23 (10 A) in the under-hood 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 an open in the wire. ■

10. Disconnect the ignition key switch 6P connector.

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

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 (see page 17-14). ■

NO—Go to step 12.

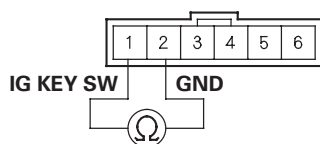
(cont'd)

Keyless/Power Door Locks/Security System

Symptom Troubleshooting (cont'd)

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

IGNITION KEY SWITCH 6P CONNECTOR



Terminal side of male terminals

Is there continuity?

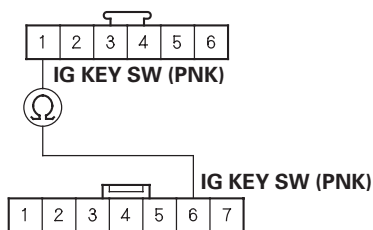
YES—Go to step 14.

NO—Faulty ignition key switch, replace the steering lock assembly (see page 17-14). ■

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

IGNITION KEY SWITCH 6P CONNECTOR

Wire side of female terminals



IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR

Wire side of female terminals

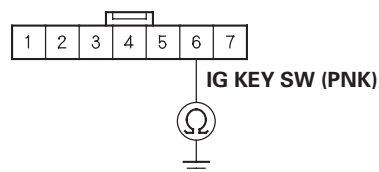
Is there continuity?

YES—Go to step 15.

NO—Repair an open in the wire. ■

15. Check for continuity between immobilizer-keyless control unit 7P connector terminal No. 6 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 (see page 22-332). ■



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 to LOCK (0).
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 switch PNK wire. Repair as necessary. ■

NO—Go to step 6.

6. Do the transmitter test (see page 22-142).

Is the transmitter OK?

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

NO—Replace the transmitter (see page 22-142). ■

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 22-142).

Is the transmitter OK?

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

NO—Replace the transmitter (see page 22-142). ■

Keyless/Power Door Locks/Security System

Symptom Troubleshooting (cont'd)

Doors automatically relock 30, 60, or 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 to ON (II).
3. Close all doors.
4. Watch the ceiling light and the door indicator on the gauge control module.

Do the ceiling light and door indicator go off?

YES—Go to step 5.

NO—Repair a 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.

Do 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 (see page 22-66). ■

NO—Repair an open in the wire between the MICU and the door switch. If the wire is OK, faulty the door switch, replace the door lock actuator assembly. ■

Tripped Sensor History

The security system stores information on the last tripped sensor if the security system has been violated. The information can be retrieved using the HDS.

To retrieve the last tripped sensor data:

1. Select HISTORY DATA from the security system test mode menu.
2. Select CURRENT DATA.
3. Confirm that the VIN matches the Vehicle then press the enter button.
4. Scroll through the data list.
 - Sensors that were violated will indicate DETECT.
 - Sensors that were not violated will indicate NONE.
5. Inspect the DETECT circuit for:
 - Misadjusted or damaged switch.
 - Loose or corroded connections.
 - Intermittent short to ground.

Keyless/Power Door Locks/Security System

Symptom Troubleshooting (cont'd)

Doors automatically relock 30, 60, or 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 to ON (II).
3. Close all doors.
4. Watch the ceiling light and the door indicator on the gauge control module.

Do the ceiling light and door indicator go off?

YES—Go to step 5.

NO—Repair a 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.

Do 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 (see page 22-66). ■

NO—Repair an open in the wire between the MICU and the door switch. If the wire is OK, faulty the door switch, replace the door lock actuator assembly. ■

Tripped Sensor History

The security system stores information on the last tripped sensor if the security system has been violated. The information can be retrieved using the HDS.

To retrieve the last tripped sensor data:

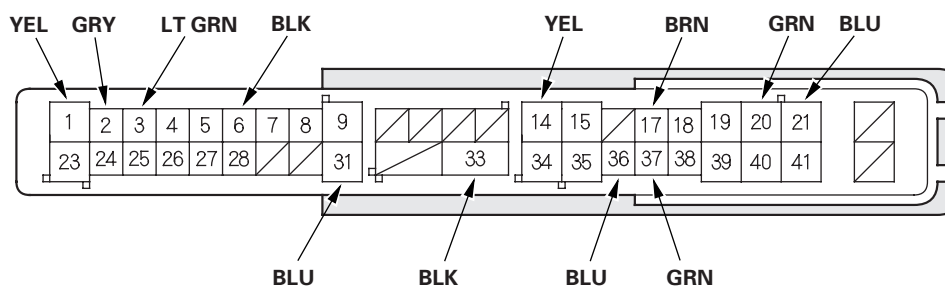
1. Select HISTORY DATA from the security system test mode menu.
2. Select CURRENT DATA.
3. Confirm that the VIN matches the Vehicle then press the enter button.
4. Scroll through the data list.
 - Sensors that were violated will indicate DETECT.
 - Sensors that were not violated will indicate NONE.
5. Inspect the DETECT circuit for:
 - Misadjusted or damaged switch.
 - Loose or corroded connections.
 - Intermittent short to ground.

MICU Input Test

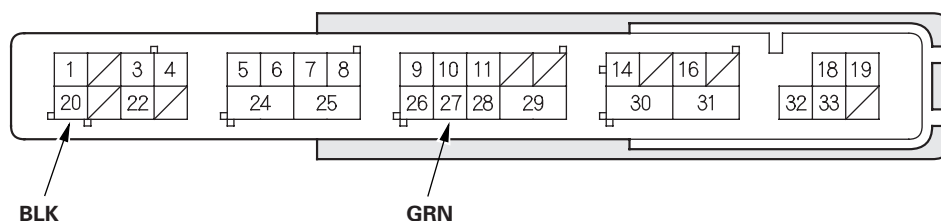
1. Before troubleshooting the keyless/power door locks/security system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93).
2. Check the No. 10 (7.5 A) and No. 25 (20 A) fuses in the under-dash fuse/relay box. If any fuse is blown, replace it and go to step 3.
3. Disconnect under-dash fuse/relay box connectors E, F, G, M, N, Q, R, and T.

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

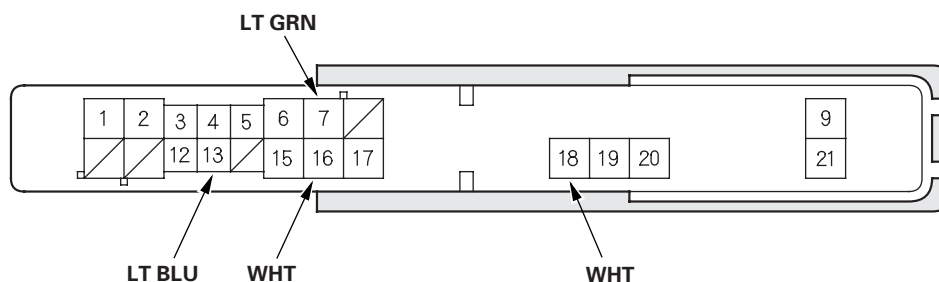
UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



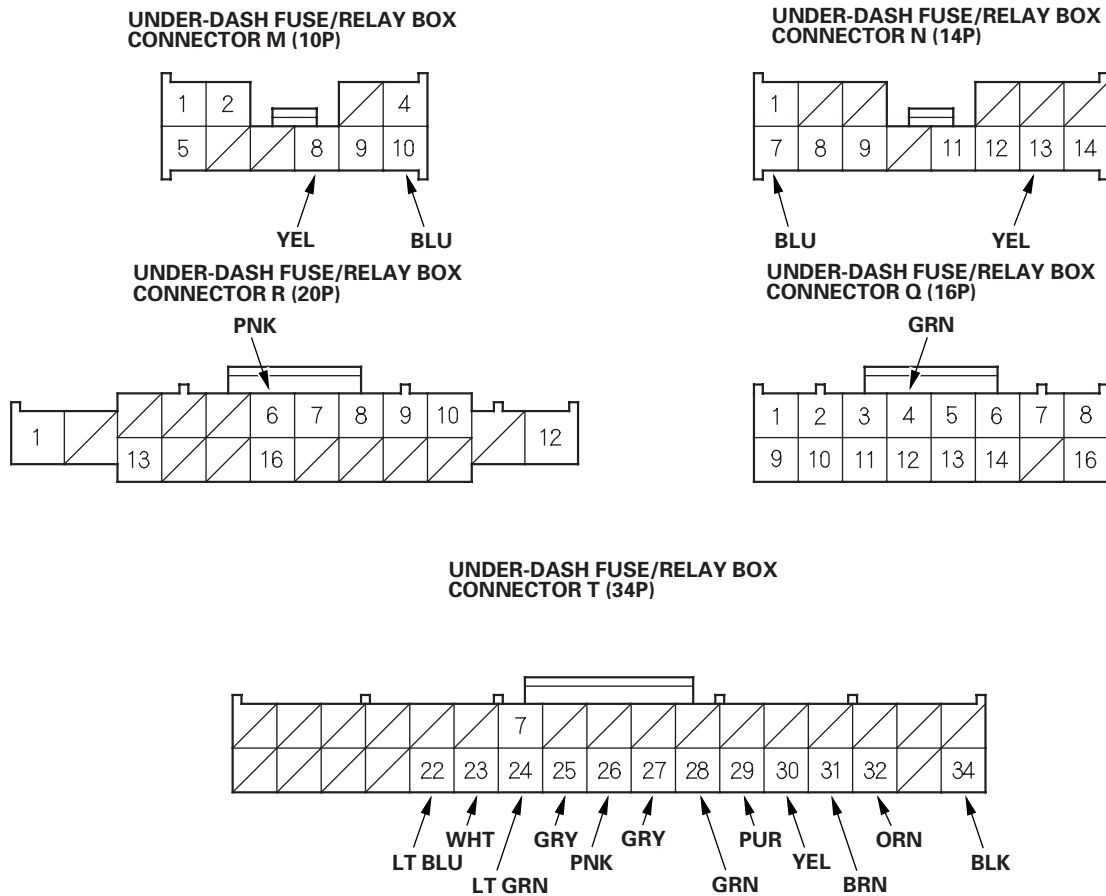
UNDER-DASH FUSE/RELAY BOX CONNECTOR G (21P)



(cont'd)

Keyless/Power Door Locks/Security System

MICU Input Test (cont'd)



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 disconnected, do these input tests at the following 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 desired result is not obtained
G16	WHT	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 12 (15 A) fuse in the under-hood fuse/relay box • An open in the wire
G18	WHT	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 4 (50 A) fuse in the under-hood fuse/relay box • An open in the wire
G7	LT GRN	Under all conditions	Connect terminals G16 and G7 with a jumper wire momentarily: The horn should sound.	• Poor ground (body ground) • Blown No. 12 (15 A) fuse in the under-hood fuse/relay box • Faulty horn • An open in the wire
E20	GRN	Under all conditions	Connect terminals G2 and E20 with a jumper wire: The trunk release actuator should work (Trunk lid should open).	• Poor ground (G701) • Faulty trunk release actuator • An open in the wire
N7	BLU	Under all conditions	Connect battery power to terminal N13 and ground terminal N7 momentarily: The driver's door lock actuator should unlock.	• Faulty driver's door lock actuator • An open in the wire
N13	YEL			
M8	YEL	Under all conditions	Connect battery power to terminal M8 and ground terminal M10 momentarily: The front passenger's door lock actuator should unlock.	• Faulty front passenger's door lock actuator • An open in the wire
M10	BLU			
E1	YEL	Under all conditions	Connect battery power to terminal E1 and ground terminal E21 momentarily: The right rear door lock actuator should unlock.	• Faulty right rear door lock actuator • An open in the wire
E21	BLU			
E14	YEL	Under all conditions	Connect battery power to terminal E14 and ground terminal E31 momentarily: The left rear door lock actuator should unlock.	• Faulty left rear door lock actuator • An open in the wire
E31	BLU			

(cont'd)

Keyless/Power Door Locks/Security System

MICU Input Test (cont'd)

6. Reconnect the connectors to the under-dash fuse/relay box, and do these input tests at the following 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.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
E6	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G602) • An open in the wire
E33	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G601) • An open in the wire
F20	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
T34	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G501) • An open in the wire
E2	GRY	Right rear door open	Measure the voltage to ground: There should be less than 1 V.	• Faulty right rear door switch • 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 • A short to ground in the wire
E3	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 • 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 • A short to ground in the wire
E17	BRN	Left rear door open	Measure the voltage to ground: There should be less than 1 V.	• Faulty left rear door switch • A short to ground in the wire
		Left rear door closed	Measure the voltage to ground: There should be more than 5 V.	• Faulty left rear door switch • A short to ground in the wire
E36	BLU	Trunk lid open	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G701) • Faulty trunk lid latch switch • An open in the wire
		Trunk lid closed	Measure the voltage to ground: There should be more than 5 V.	• Faulty trunk lid latch switch • A short to ground in the wire
E37	GRN	Driver's door open	Measure the voltage to ground: There should be less than 1 V.	• Faulty driver's door switch • 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 • A short to ground in the wire
F27	GRN	Transmission range switch in P	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G101) • Faulty transmission range switch • An open in the wire
		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 • A short to ground in the wire
G13	LT BLU	Hood open	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G401) • Faulty hood switch • An open in the wire
		Hood closed	Measure the voltage to ground: There should be more than 5 V.	• Faulty hood switch • A short to ground in the wire



Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
Q4	GRN	Under all conditions	Measure the voltage to ground: There should be less than 1 V.	• An open in the wire • Faulty audio unit or navigation unit.
R6	PNK	Ignition key inserted into the ignition switch	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G504) • Faulty ignition key switch • An open in the wire
		Ignition switch to LOCK (0) and ignition key removed from the ignition switch	Measure the voltage to ground: There should be more than 5 V.	• Faulty ignition key switch • A short to ground in the wire
T22	LT BLU	Front passenger's door lock knob switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G504) • Faulty front passenger's door lock knob switch • An open in the wire
		Front passenger's door lock knob switch locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty front passenger's door lock knob switch • A short to ground in the wire
T23	WHT	Driver's door lock knob switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
		Driver's door lock knob switch locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver's door lock knob switch • A short to ground in the wire
T24	LT GRN	Driver's door lock knob switch unlocked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver's door lock knob switch • A short to ground in the wire
		Driver's door lock knob switch locked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver's door lock knob switch • An open in the wire
T25	GRY	Left rear door lock knob switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G602) • Faulty left rear door lock knob switch • An open in the wire
		Left rear door lock knob switch locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty left rear door lock knob switch • A short to ground in the wire
T26	PNK	Right rear door lock knob switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G602) • Faulty right rear door lock knob switch • An open in the wire
		Right rear door lock knob switch locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty right rear door lock knob switch • A short to ground in the wire

(cont'd)

Keyless/Power Door Locks/Security System

MICU Input Test (cont'd)

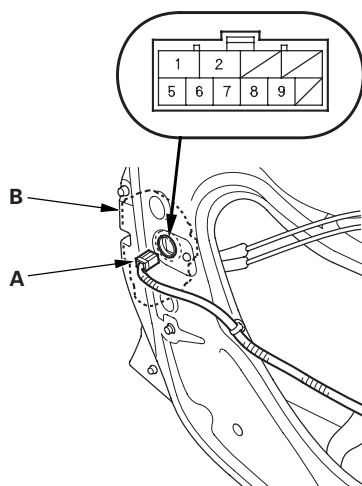
Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
T27	GRY	Driver door lock switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G503) • Faulty driver door lock switch • An open in the wire
		Driver door lock switch in neutral or locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver door lock switch • A short to ground in the wire
T28	GRN	Driver door lock switch locked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G503) • Faulty driver door lock switch • An open in the wire
		Driver door lock switch in neutral or unlocked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver door lock switch • A short to ground in the wire
T29	PUR	Front passenger's door lock switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G504) • Faulty front passenger's door lock switch • An open in the wire
		Front passenger's door lock switch in neutral or locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty front passenger's door lock switch • A short to ground in the wire
T30	YEL	Front passenger's door lock switch locked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G504) • Faulty front passenger's door lock switch • An open in the wire
		Front passenger's door lock switch in neutral or unlocked	Measure the voltage to ground: There should be more than 5 V.	• Faulty front passenger's door lock switch • A short to ground in the wire
T31	BRN	Driver door key cylinder switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver door key cylinder switch • An open in the wire
		Driver door key cylinder switch in neutral or locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver door key cylinder switch • A short to ground in the wire
T32	ORN	Driver door key cylinder switch locked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver door key cylinder switch • An open in the wire
		Driver door key cylinder switch in neutral or unlocked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver door key cylinder switch • A short to ground in the wire

Door Lock Actuator Test

Driver's Door and Left Rear Door

1. Remove the door panel (see page 20-7).
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.

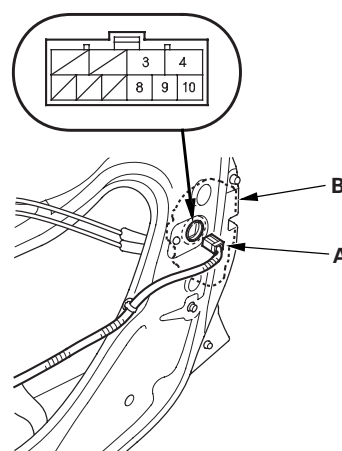
Terminal Position	1	2
LOCK	⊕	⊖
UNLOCK	⊖	⊕

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

Front Passenger's Door and Right Rear Door

1. Remove the door panel.
 - Front door panel (see page 20-7)
 - Rear door panel (see page 20-17)
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	⊖	⊕

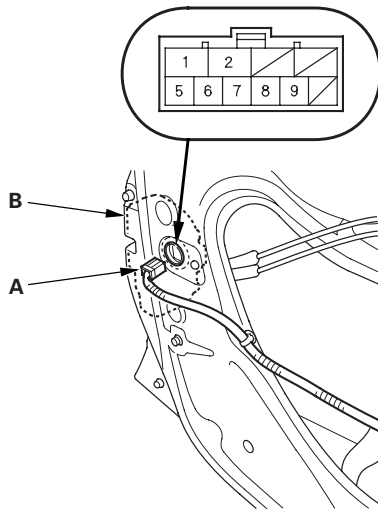
4. If the actuator does not operate as specified, replace it.

Keyless/Power Door Locks/Security System

Door Lock Knob Switch Test

Driver's Door

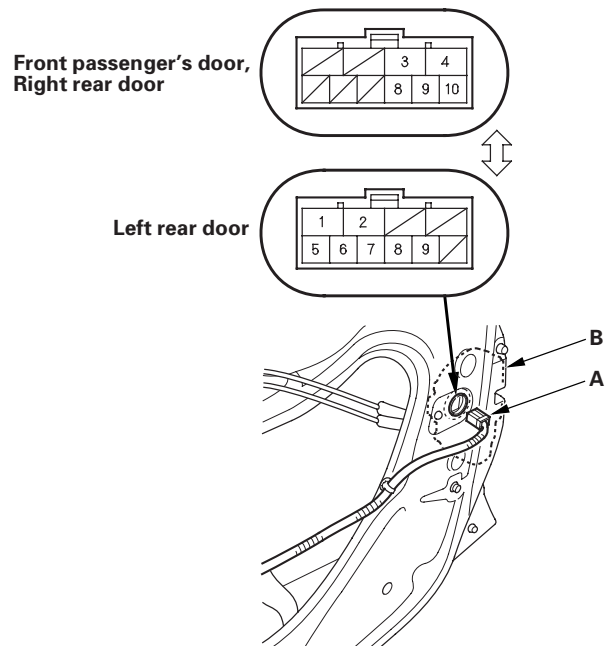
1. Remove the driver's door panel (see page 20-7).
2. Disconnect the 10P connector (A) from the actuator (B).



3. Check for continuity between the terminals.
 - There should be continuity between terminals No. 6 and No. 5 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 terminals No. 7 and No. 5 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's Door

1. Remove the passenger's door panel (see page 20-7).
2. Disconnect the 10P connector (A) from the actuator (B).



3. Check for continuity between the terminals.

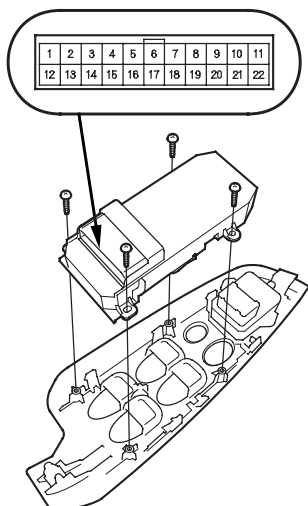
There should be continuity between terminals No. 8 [No. 7] and No. 10 [No. 5] when the door lock knob switch in the UNLOCK position and no continuity when the switch is in the LOCK position.

[] : Left rear door
4. If the continuity is not specified, replace the door lock actuator.

Door Lock Switch Test

Driver's door

1. Remove the power window master switch and disconnect its connector (see page 22-219).

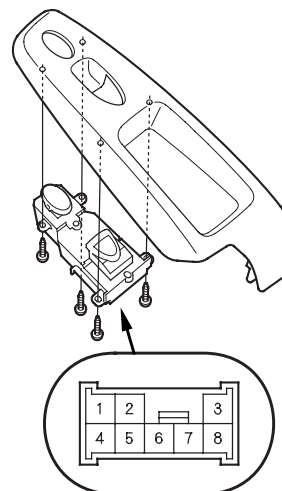


2. Check for continuity between the power window master switch 22P connector terminals.
 - There should be continuity between terminals No. 11 and No. 17 when the door lock switch is in the LOCK position. (With security)
 - There should be no continuity between terminals No. 11 and No. 17 when the door lock switch is in the UNLOCK position. (With security)
 - There should be continuity between terminals No. 11 and No. 19 when the door lock switch is in the UNLOCK position.
 - There should be no continuity between terminals No. 11 and No. 19 when the door lock switch is in the LOCK position.
3. If the continuity is not as specified, replace the power window master switch.

Front passenger's door

1. Remove the front passenger's power window switch (see page 22-220).

NOTE: The illustration shows the front passenger's door.

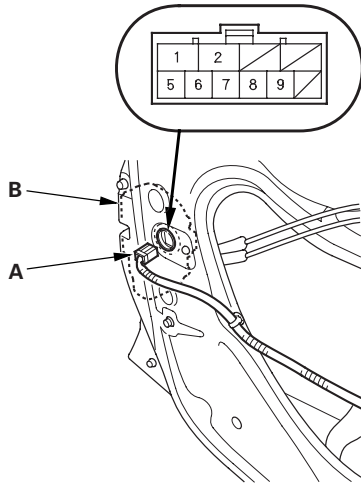


2. Check for continuity between the front passenger's power window switch 8P connector terminals.
 - There should be continuity between terminals No. 1 and No. 2 when the door lock switch is in the LOCK position.
 - There should be no continuity between terminals No. 1 and No. 2 when the door lock switch is in the UNLOCK position.
 - There should be continuity between terminals No. 2 and No. 6 when the door lock switch is in the UNLOCK position.
 - There should be no continuity between terminals No. 2 and No. 6 when the door lock switch is in the LOCK position.
3. If the continuity is not as specified, replace the front passenger's window switch.

Keyless/Power Door Locks/Security System

Door Key Cylinder Switch Test

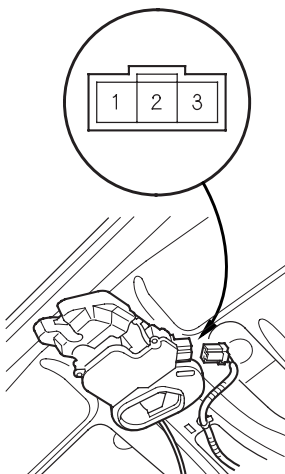
1. Remove the driver's door panel (see page 20-7).
2. Disconnect the 10P connector (A) from the key cylinder switch (B).



3. Check for continuity between the terminals.
 - There should be continuity between terminals No. 9 and No. 5 when the door key cylinder switch is in LOCK position. (With security)
 - There should be no continuity between terminals No. 9 and No. 5 when the door key cylinder switch is in the neutral or UNLOCK position. (With security)
 - There should be continuity between terminals No. 8 and No. 5 when the door key cylinder switch is in UNLOCK position.
 - There should be no continuity between terminals No. 8 and No. 5 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 20-9).

Trunk Lid Release Actuator Test

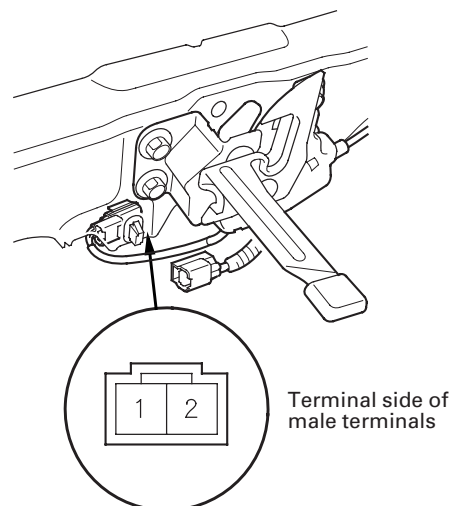
1. Open the trunk lid.
2. Disconnect the 3P connector from the trunk lid latch switch/trunk lid release actuator.



3. Check actuator operation by connecting power to terminal No. 1 and ground to terminal No. 2 momentarily. The actuator should work.
4. If the actuator does not work, replace the trunk lid latch switch/trunk lid release actuator assembly (see page 20-185).

Hood Switch Test

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



3. Check for continuity between the terminals.
 - There should be continuity between terminals No. 1 and No. 2 when the hood is opened (latch released).
 - There should be no continuity between terminals No. 1 and No. 2 when the hood is closed (latch pushed down).
4. If the continuity is not as specified, replace the hood latch assembly (see page 20-181).

Keyless/Power Door Locks/Security System

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 seconds, the doors relock automatically.
- The doors do not lock or unlock with the transmitter if the ignition key is inserted in the ignition switch.

With HDS

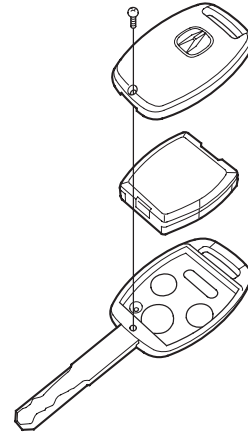
1. Press the lock or unlock button five or six times to reset the transmitter.
 - If the locks work, the transmitter is OK.
 - If any of the transmitter buttons do not work, replace the transmitter, then do the transmitter programming registration (see page 22-329).
 - If the locks don't work, go to step 2.
2. Connect the HDS to the data link connector.
3. Select the 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. Go to keyless operation troubleshooting (see page 22-127).
- If DIFFERENT KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, the transmitter is not registered to the vehicle, if necessary, reprogram and register the transmitter (see page 22-329).
- If KEYLESS ENTRY TRANSMITTER CODE IS NOT RECEIVED is indicated, go to step 5.

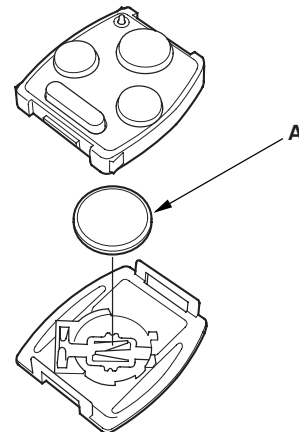
5. Open the transmitter and check for water damage.

- If you find any water damage, replace the transmitter, then reprogram and register the transmitter (see page 22-329).
- 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 TRANSMITTER CODE IS NOT RECEIVED is indicated, go to step 7.



7. Use a different known-good keyless transmitter and repeat steps 3 and 4.

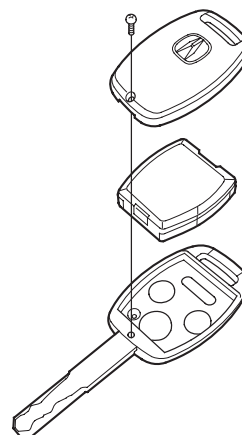
NOTE: The keyless transmitter does not need to be programmed to the vehicle for this test.

- If (DIFFERENT) KEYLESS ENTRY TRANSMITTER CODE IS RECEIVED is indicated, replace the keyless transmitter and do the immobilizer system registration (see page 22-329).
- 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 22-329).

NOTE: As the keyless transmitter is combined with the immobilizer transponder, when the transponder is registered by the HDS, the keyless transmitter programming is completed automatically.

Without HDS

1. Start the engine.
 - If the engine does not start, go to the immobilizer symptom troubleshooting (see page 22-323).
 - 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. Open the transmitter and check for water damage.
 - If you find any water damage, replace the transmitter.
 - If there is no water damage, go to step 4.

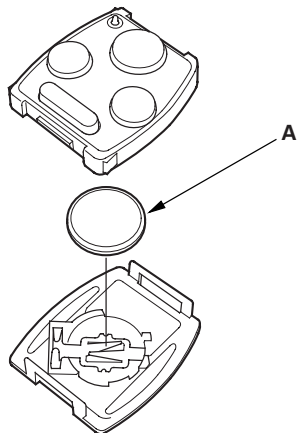


(cont'd)

Keyless/Power Door Locks/Security System

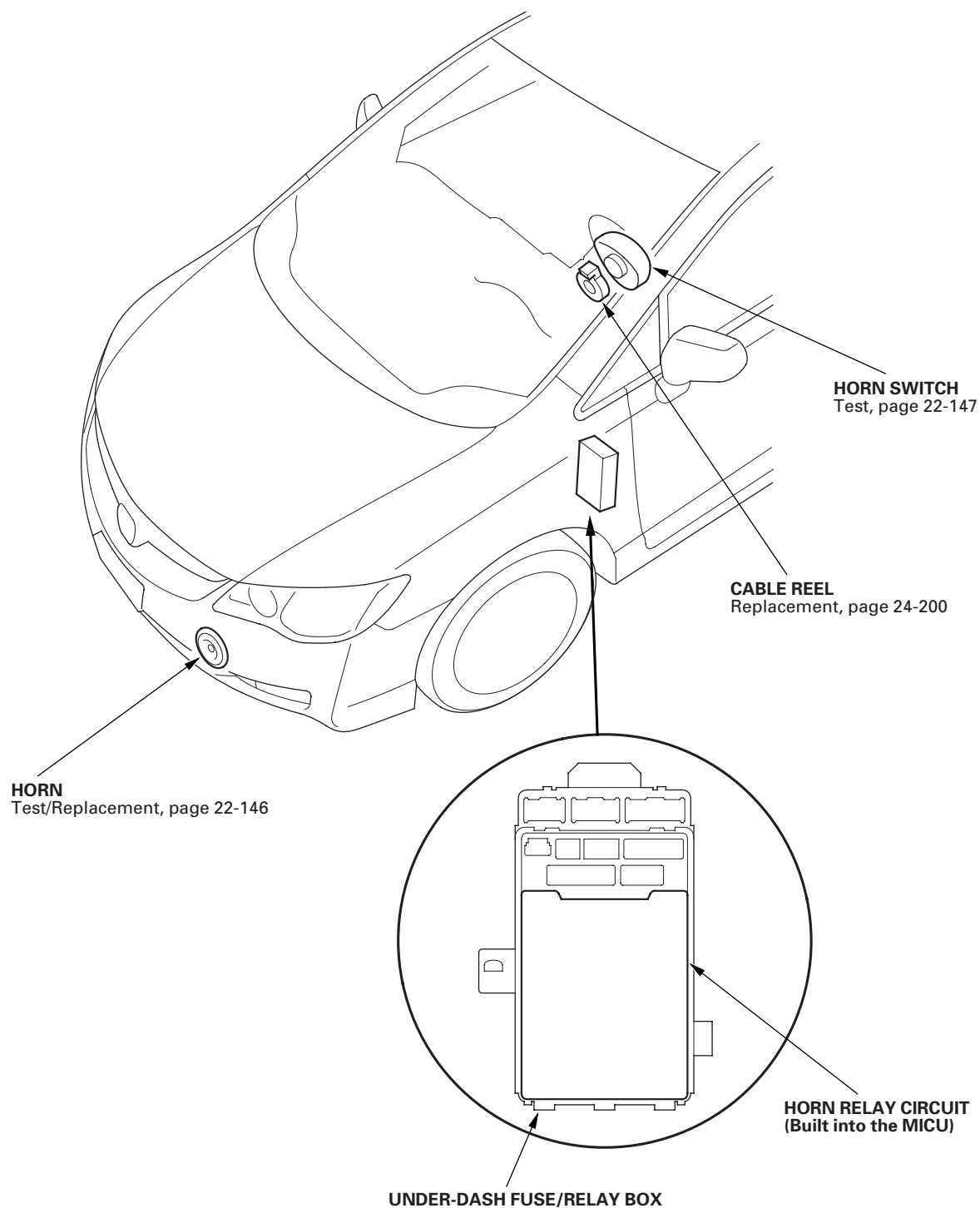
Transmitter Test/Replacement (cont'd)

4. 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, go to step 5.



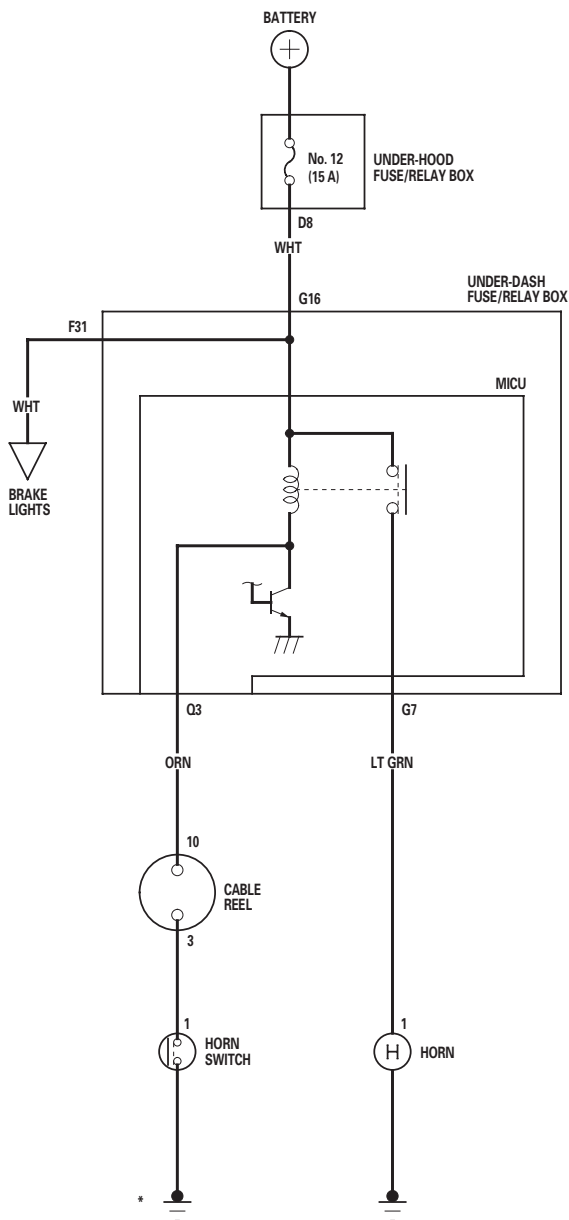
5. Reprogram and register the transmitter (see page 22-329), then try to lock and unlock the doors.
 - If the doors lock and unlock, the transmitter is OK.
 - If the doors don't lock and unlock, substitute a known-good transmitter and recheck (see page 22-329). If still not operating, replace the immobilizer-keyless control unit.

Component Location Index



Horns

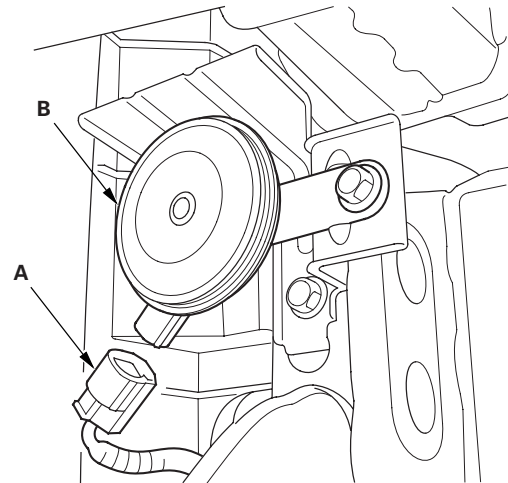
Circuit Diagram



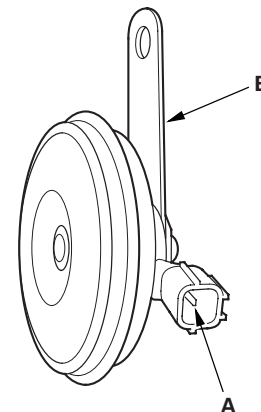
* : Ground through steering column.

Horn Test/Replacement

1. Remove the front bumper (see page 20-146).
2. Disconnect the 1P connector (A) from the horn (B).



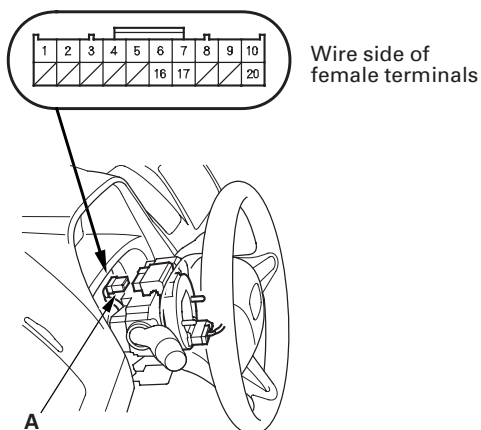
3. Test the horn by connecting battery power to the terminal (A) and grounding the bracket (B). The horn should sound.



4. If it fails to sound, replace it.

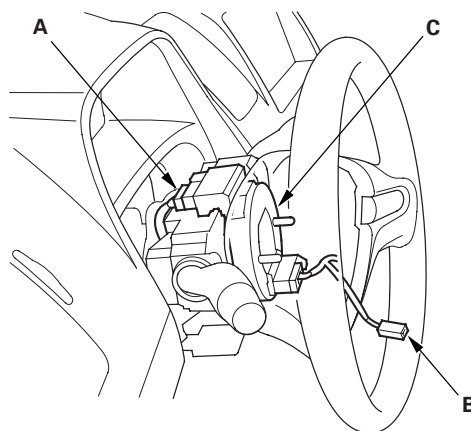
Horn Switch Test

1. Remove the steering column covers (see page 17-9).
2. Disconnect the cable reel 20P connector (A) from the dashboard wire harness.



3. Using a jumper wire, connect dashboard wire harness 20P connector terminal No. 10 to body ground. The horn should sound.
 - If the horn sounds, go to step 4.
 - If the horn does not sound, check these items:
 - No. 12 (15 A) fuse in the under-hood fuse/relay box.
 - MICU.
 - Horn.
 - An open in the wire.

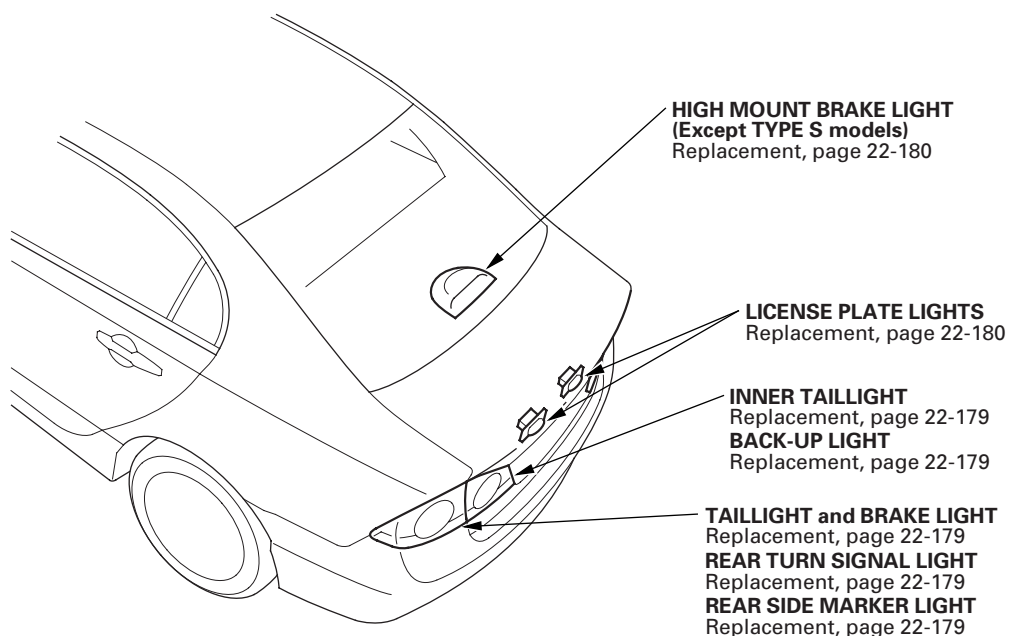
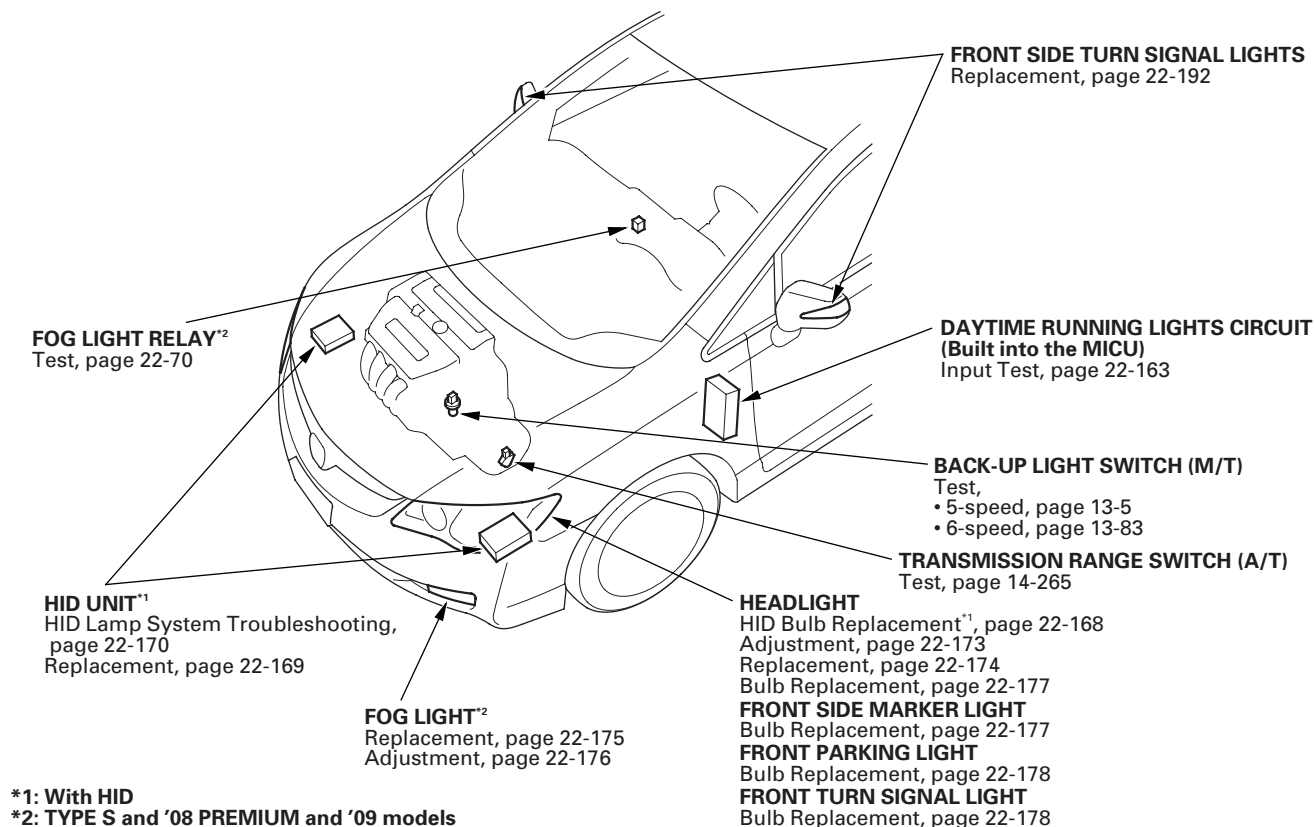
4. Reconnect the cable reel 20P connector (A) to the dashboard wire harness.

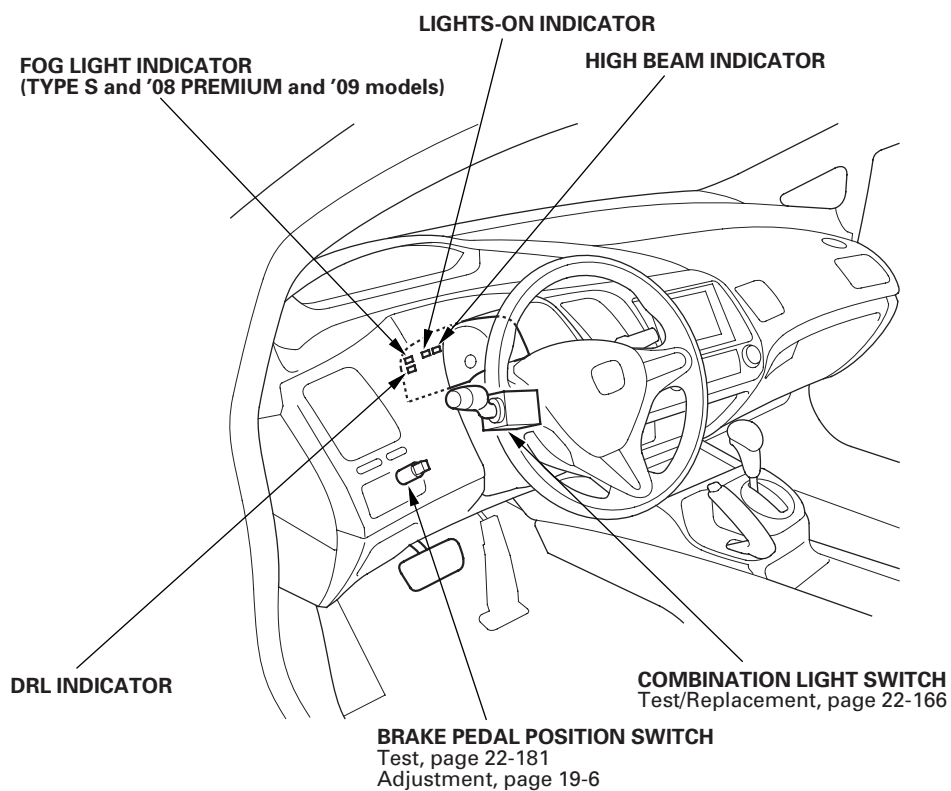
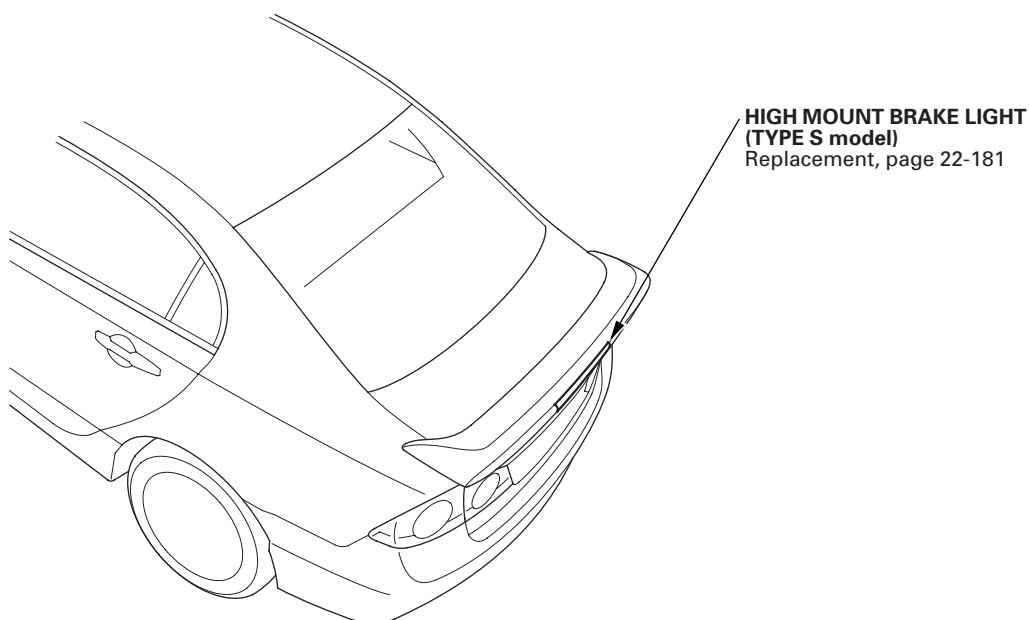


5. Remove the driver's airbag assembly (see page 24-188), and disconnect the horn switch 1P positive terminal (B) from the cable reel (C).
6. Using a jumper wire, connect the 1P connector to body ground.
 - If the horn sounds, replace the driver's airbag assembly.
 - If the horn does not sound, check these items:
 - Cable reel.
 - An open in the wire.

Exterior Lights

Component Location Index

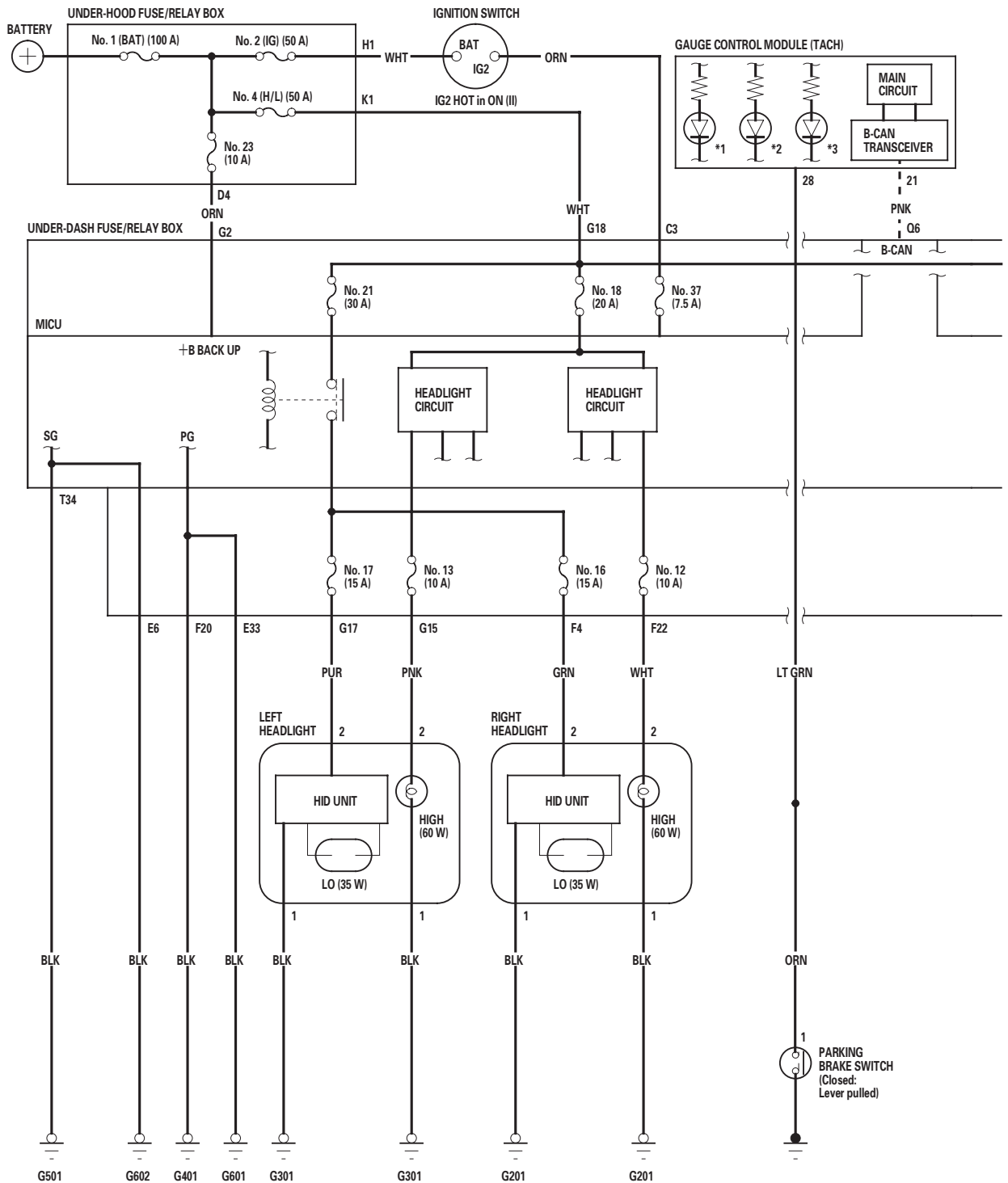




Exterior Lights

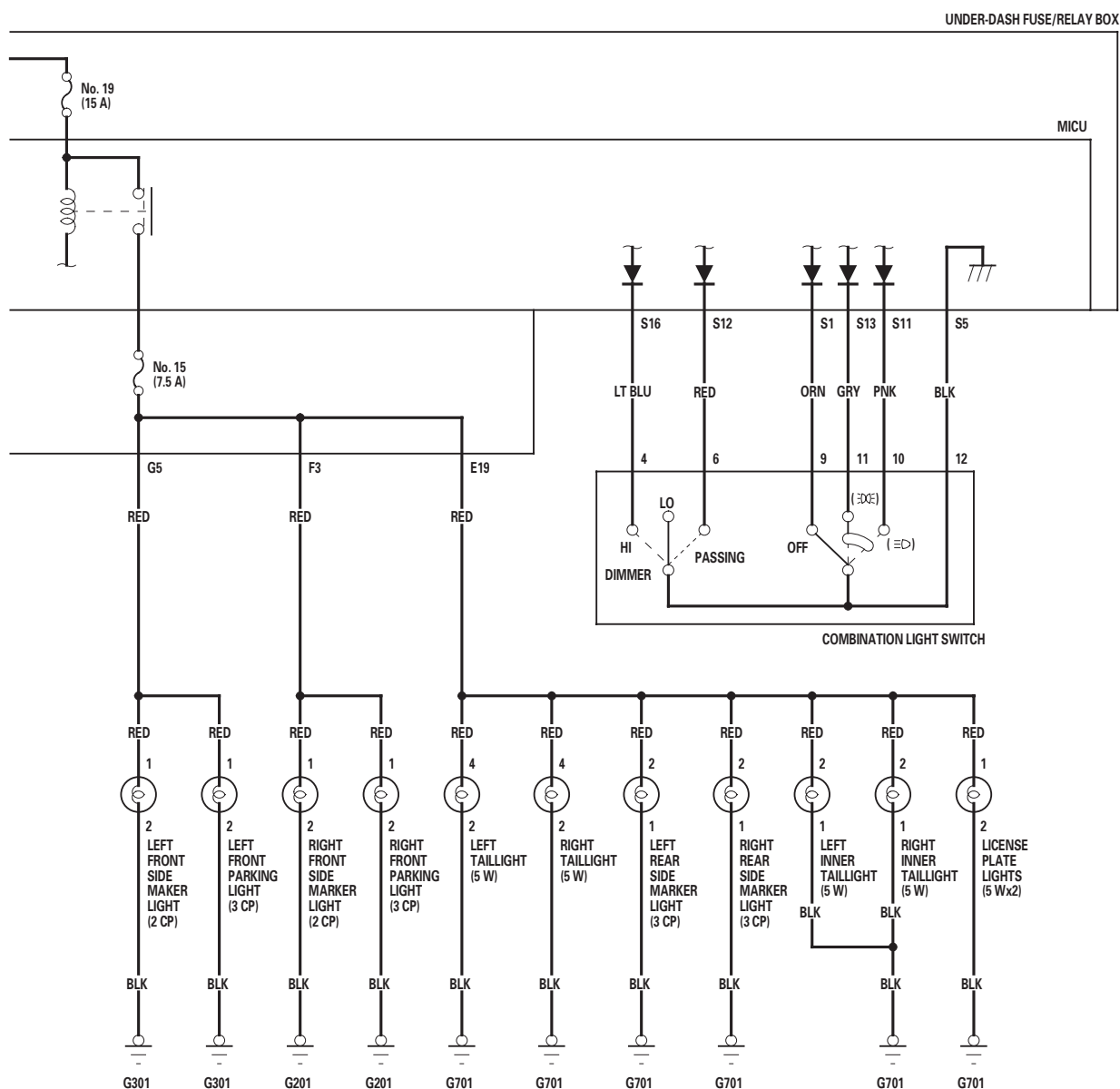
Circuit Diagram

With HID





*1: HIGH BEAM INDICATOR (LED)
*2: LIGHTS-ON INDICATOR (LED)
*3: DRL INDICATOR (LED)
- - - - - : CAN line



Circuit Diagram (cont'd)

Wiring Diagram for 2002 Ford Focus 1.8L

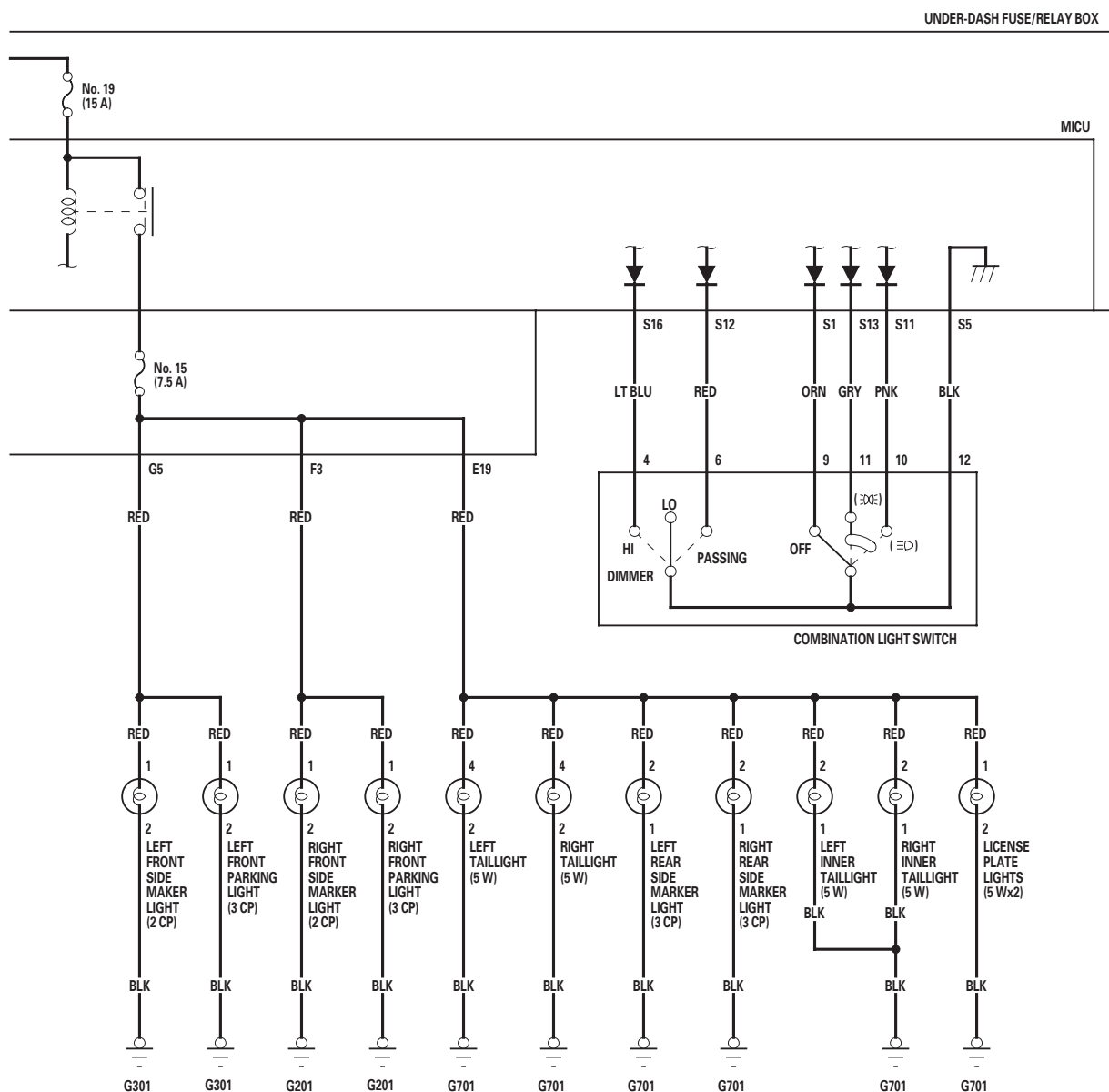
Legend:

- WHT: White
- ORN: Orange
- GRN: Green
- BLK: Black
- PNK: Pink
- PUR: Purple
- LT GRN: Light Green

Key Components and Connections:

- BATTERY:** Connected to No. 1 (BAT) (100 A) fuse.
- UNDER-HOOD FUSE/RELAY BOX:** Contains fuses No. 2 (IG) (50 A), No. 4 (H/L) (50 A), and No. 23 (10 A). Includes relay K1.
- IGNITION SWITCH:** BAT terminal connected to No. 2 (IG) fuse. IG2 terminal connected to IG2 HOT in ON (II) relay.
- GAUGE CONTROL MODULE (TACH):** Includes MAIN CIRCUIT and B-CAN TRANSCEIVER. Connected to fuses No. 18 (20 A) and No. 37 (7.5 A).
- UNDER-DASH FUSE/RELAY BOX:** Contains fuses No. 17 (10 A), No. 13 (10 A), No. 16 (10 A), and No. 12 (10 A). Includes relay K1.
- MICU:** Motor In-Circuit Unit, connected to the B-CAN TRANSCEIVER.
- HEADLIGHT CIRCUIT:** Two circuits for LEFT and RIGHT HEADLIGHTS. Each circuit includes a LOW (51 W) and HIGH (60 W) beam. Connected to fuses No. 17 (10 A), No. 13 (10 A), No. 16 (10 A), and No. 12 (10 A).
- PARKING BRAKE SWITCH:** Connected to the ORN wire, labeled "PARKING BRAKE SWITCH (Closed: Lever pulled)".

*1: HIGH BEAM INDICATOR (LED)
 *2: LIGHTS-ON INDICATOR (LED)
 *3: DRL INDICATOR (LED)
 - - - - - : CAN line

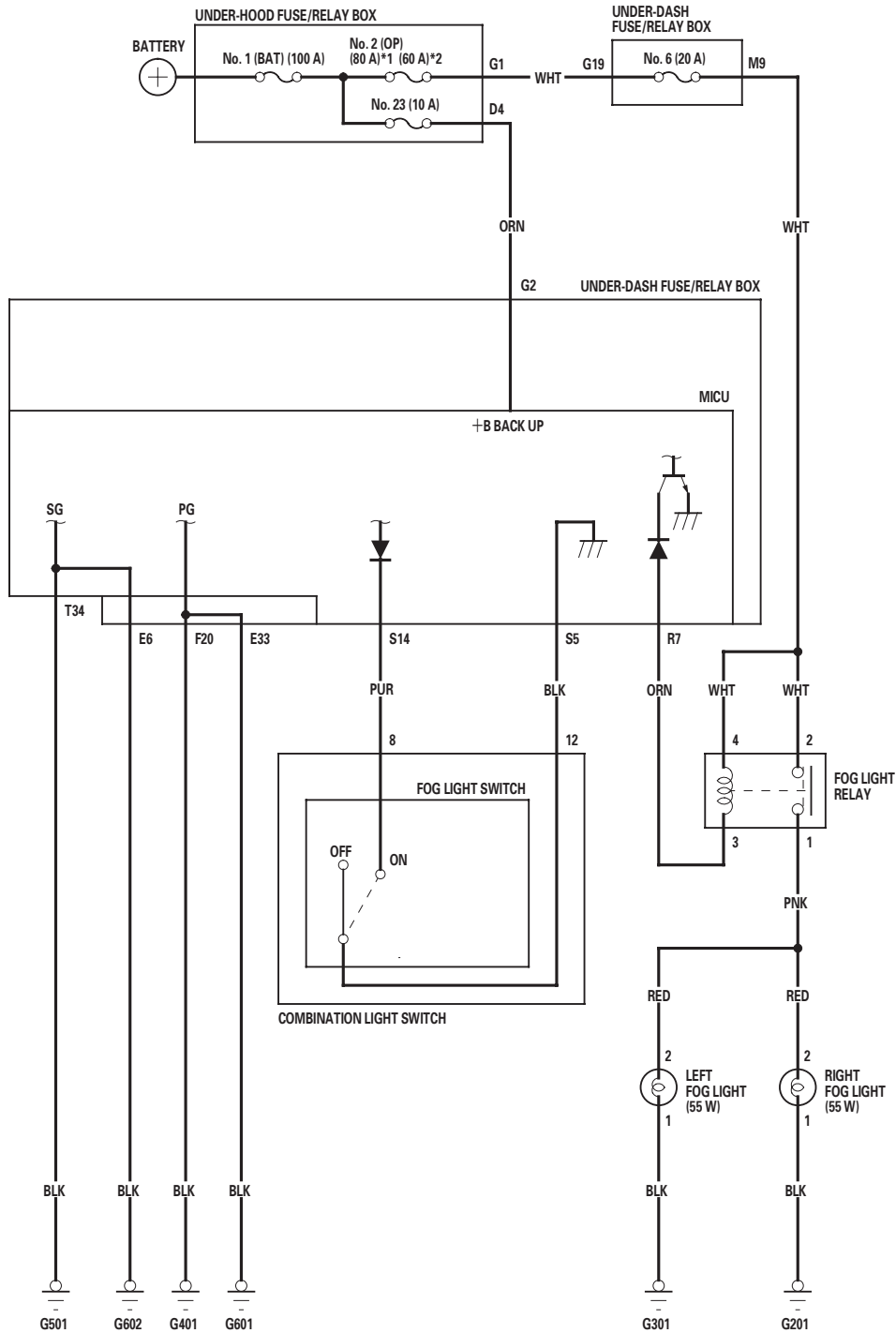


Exterior Lights

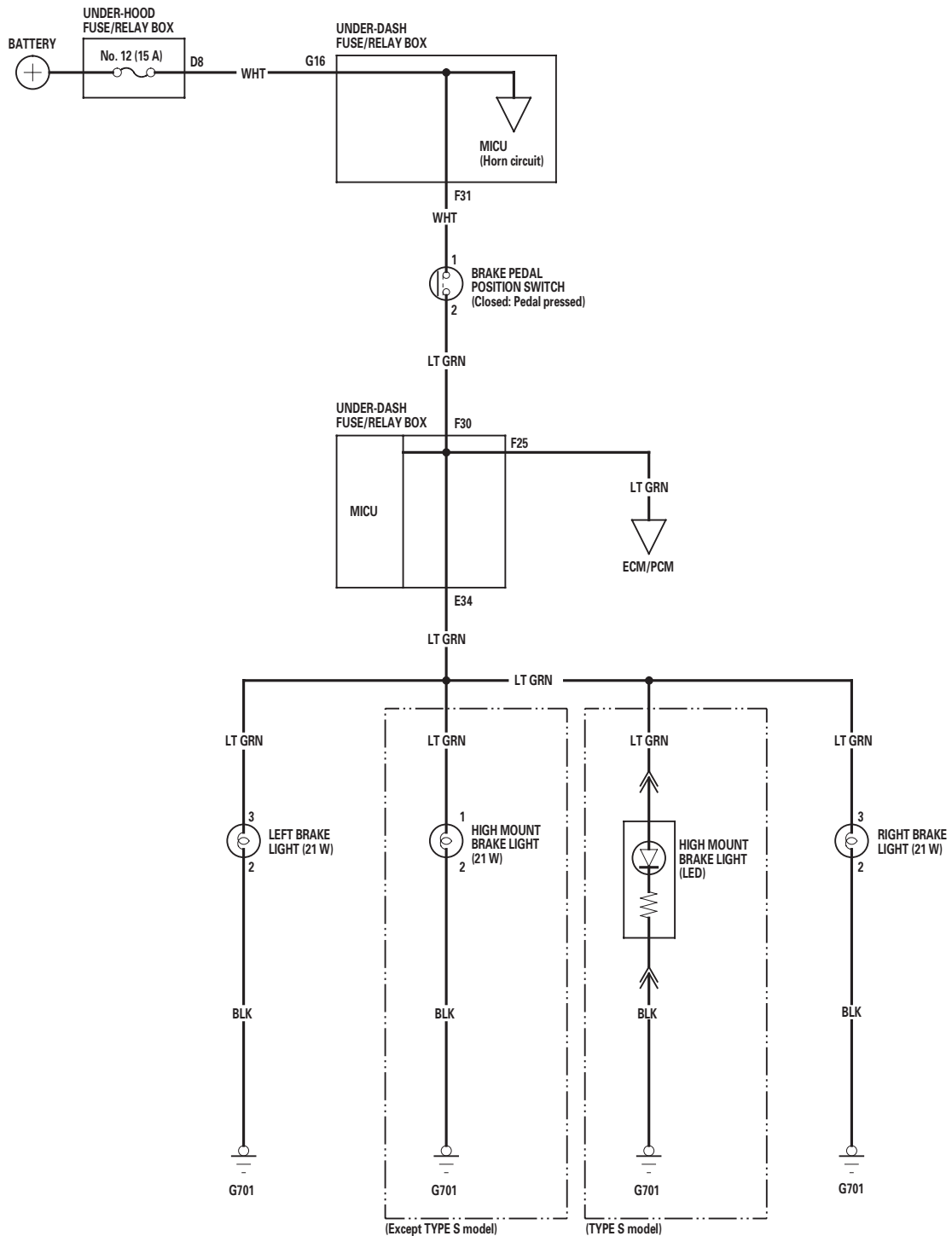
Circuit Diagram - Fog Lights

TYPE S and '08 PREMIUM and '09 models

*1: '07 model
*2: '08-'09 models

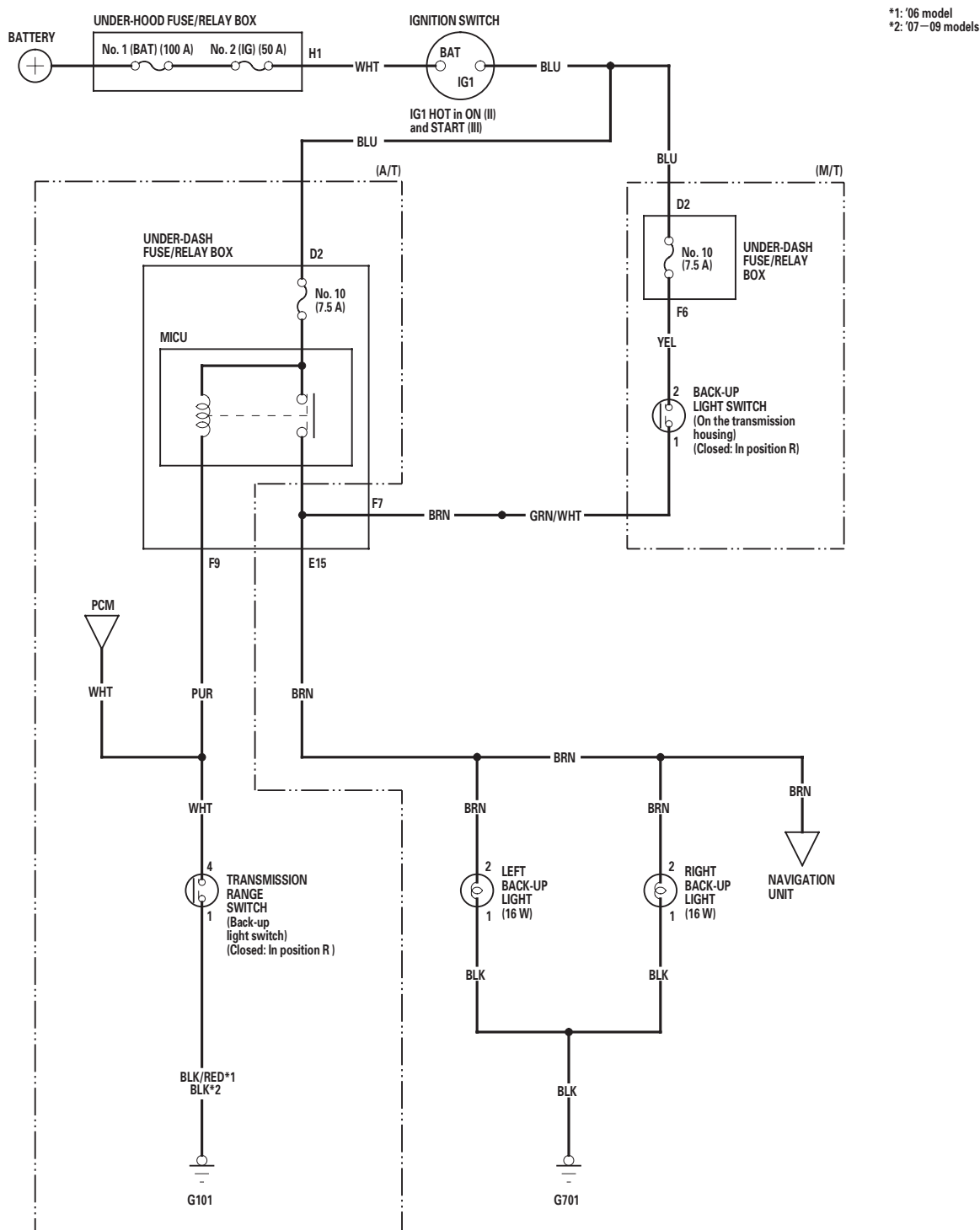


Circuit Diagram - Brake Lights



Exterior Lights

Circuit Diagram - Back-up Lights



DTC Troubleshooting

DTC B1078: Daytime Running Lights System Error

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Turn the ignition switch to ON (II).
2. Pull the parking brake lever.
3. Clear the DTCs with the HDS.
4. Release the parking brake lever.
5. Turn the ignition switch to LOCK (0), and then back to ON (II).
6. Check for DTCs with the HDS.

Is DTC B1078 indicated?

YES—Go to step 7.

NO—Intermittent failure. The daytime running lights system is OK at this time. Check for loose or poor connections. ■

7. Turn the headlight switch ON (high beam).

Do both headlights (high beam) come on?

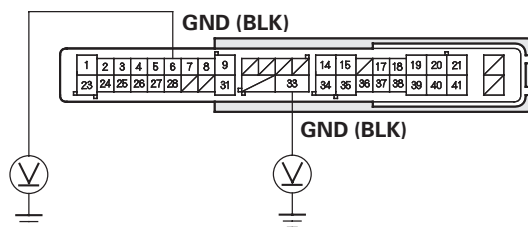
YES—Go to step 8.

NO—Go to step 10.

8. Turn the ignition switch to LOCK (0).

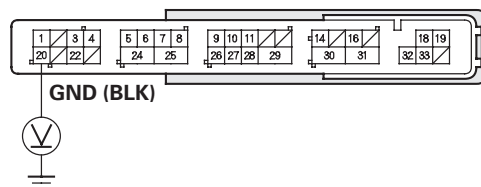
9. Measure the voltage between under-dash fuse/relay box connector E (42P) terminals No. 6 and No. 33 and body ground, and between under-dash fuse/relay box connector F (34P) terminal No. 20 and body ground individually.

UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



Wire side of female terminals

UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



Wire side of female terminals

Is there less than 0.5 V?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Repair an open in the BLK wire or poor ground (G401, G501, G601, G602). ■

10. Turn the ignition switch to LOCK (0) and turn the headlight switch OFF.

(cont'd)

Exterior Lights

DTC Troubleshooting (cont'd)

11. Check the No. 12, No. 13, and No. 18 fuses in the under-dash fuse/relay box.

Are all fuses OK?

YES—Go to step 12.

NO—Replace the blown fuse and recheck. If the No. 18 (20 A) fuse is blown again, replace the under-dash fuse/relay box. If the No. 12 (10 A) or No. 13 (10 A) fuse is blown again, repair a short in the wire between the under-dash fuse/relay box and appropriate headlight (high beam). ■

12. Check the headlight bulbs.

Are the headlight bulbs OK?

YES—Go to step 13.

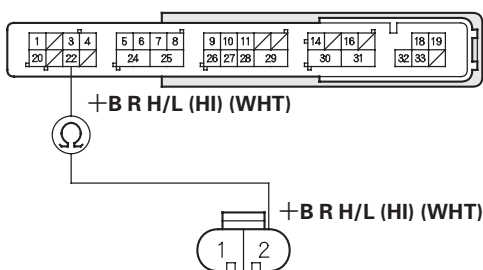
NO—Replace the faulty bulb. ■

13. Disconnect under-dash fuse/relay box connectors F (34P) and G (21P).

14. Disconnect the both headlight (high beam) 2P connectors.

15. Check for continuity between right headlight (high beam) 2P connector terminal No. 2 and under-dash fuse/relay box connector F (34P) terminal No. 22.

UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)
Wire side of female terminals



RIGHT HEADLIGHT (HIGH BEAM) 2P CONNECTOR
Wire side of female terminals

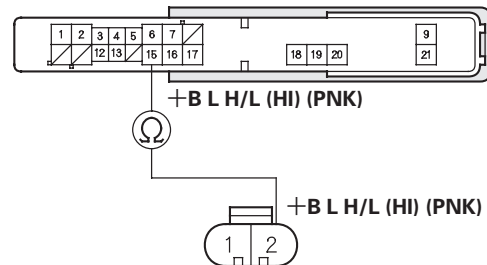
Is there continuity?

YES—Go to step 16.

NO—Repair an open in the wire between the right headlight (high beam) and the under-dash fuse/relay box. ■

16. Check for continuity between left headlight (high beam) 2P connector terminal No. 2 and under-dash fuse/relay box connector G (21P) terminal No. 15.

UNDER-DASH FUSE/RELAY BOX CONNECTOR G (21P)
Wire side of female terminals



LEFT HEADLIGHT (HIGH BEAM) 2P CONNECTOR
Wire side of female terminals

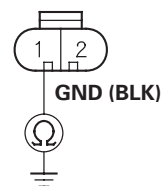
Is there continuity?

YES—Go to step 17.

NO—Repair an open in the wire between the left headlight (high beam) and the under-dash fuse/relay box. ■

17. Check for continuity between headlight (high beam) 2P connector terminal No. 1 and body ground.

HEADLIGHT (HIGH BEAM) 2P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Repair an open in the BLK wire or poor ground (G201-right side, G301-left side). ■



DTC B1275: Combination Light Switch OFF Position Circuit Malfunction

DTC B1276: Combination Light Switch Parking (SMALL) Position Circuit Malfunction

DTC B1278: Combination Light 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Turn the combination light switch to the PARKING (SMALL), and ON (low beam) positions for 6 seconds in each position, and then to the OFF position.
4. Check for DTCs with the HDS.

Is DTC B1275, B1276, 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. Select LIGHTING from the BODY ELECTRICAL system select menu, and enter DATA LIST.
6. Check each combination light switch position value with the DATA LIST menu.

When the combination light switch is turned OFF

Data List	Value
Headlight Switch (OFF)	ON
Headlight Switch (PARKING)	OFF
Headlight Switch (HEADLIGHT)	OFF

When the combination light switch is turned to PARKING (SMALL)

Data List	Value
Headlight Switch (OFF)	OFF
Headlight Switch (PARKING)	ON
Headlight Switch (HEADLIGHT)	OFF

When the combination light switch is turned ON (HEADLIGHT)

Data List	Value
Headlight Switch (OFF)	OFF
Headlight Switch (PARKING)	ON
Headlight Switch (HEADLIGHT)	ON

Are all data list values correct?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Go to step 7.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the combination light switch 12P connector.
9. Turn the ignition switch to ON (II).
10. Select LIGHTING from the BODY ELECTRICAL system select menu, and enter DATA LIST.
11. Check each combination light switch position value with the DATA LIST menu.

When the combination light switch is turned OFF

Data List	Value
Headlight Switch (OFF)	OFF
Headlight Switch (PARKING)	OFF
Headlight Switch (HEADLIGHT)	OFF

Are all data list values indicated OFF?

YES—Go to step 15.

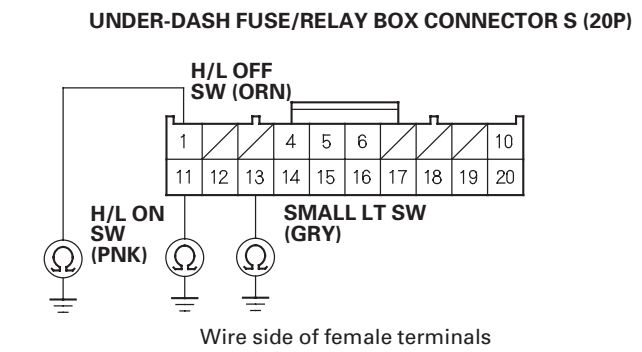
NO—Go to step 12.

(cont'd)

Exterior Lights

DTC Troubleshooting (cont'd)

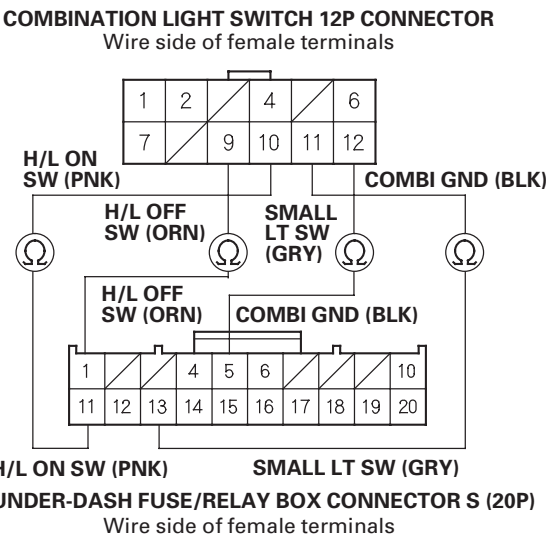
- 12. Turn the ignition switch to LOCK (0).
- 13. Disconnect under-dash fuse/relay box connector S (20P).
- 14. Check for continuity between body ground and under-dash fuse/relay box connector S (20P) terminals No. 1, No. 11, and No. 13 individually.



- Is there continuity?
- YES**—Repair a short to ground in the wire. ■
- NO**—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■
- 15. Turn the ignition switch to LOCK (0).
 - 16. Do the combination light switch test (see page 22-166).
- Is the combination light switch OK?
- YES**—Go to step 17.
- NO**—Replace the combination light switch. ■
- 17. Disconnect under-dash fuse/relay box connector S (20P).

- 18. Check for continuity between under-dash fuse/relay box connector S (20P) terminals and the combination light switch 12P connector terminals as shown:

Under-dash fuse/relay box connector S (20P)	Combination light switch 12P connector
1	9
11	10
13	11
5	12



- Is there continuity?
- YES**—Go to step 19.
- NO**—Repair an open in the wire. ■
- 19. Check for continuity between under-dash fuse/relay box connector S (20P) terminals as shown:

From terminal	To terminal
1	11, 12, 13, 16
13	11, 12, 16

- Is there continuity?
- YES**—Repair a short between the wires. ■
- NO**—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Turn the combination light (headlight) switch ON.
4. Change the dimmer switch from low beam to high beam.
5. Turn the combination light switch OFF, and then to the passing position, and wait for at least 6 seconds.
6. Check for DTCs with the HDS.

Is DTC B1279 indicated?

YES—Go to step 7.

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

7. Select LIGHTING from the BODY ELECTRICAL system select menu, then enter DATA LIST.
8. Check each combination light switch position value with the DATA LIST menu.

When the passing switch is operated

Data List	Value
Headlight Switch (PASSING)	ON
Headlight Switch (High beam)	OFF

When the headlight switch is turned ON, and the dimmer switch changed from low beam to high beam

Data List	Value
Headlight Switch (PASSING)	OFF
Headlight Switch (High beam)	ON
Headlight Switch (HEADLIGHT)	ON

Are all data list values correct?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Disconnect the combination light switch 12P connector.
11. Turn the ignition switch to ON (II).
12. Select LIGHTING from the BODY ELECTRICAL system select menu, then enter DATA LIST.
13. Check each combination light switch position value with the DATA LIST menu.

When the combination light switch is turned OFF

Data List	Value
Headlight Switch (PASSING)	OFF
Headlight Switch (High beam)	OFF
Headlight Switch (HEADLIGHT)	OFF

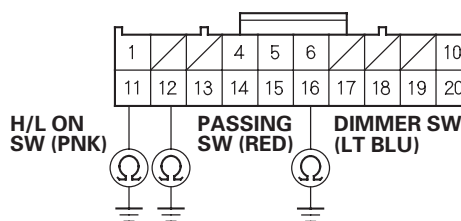
Are all data list values indicated OFF?

YES—Go to step 17.

NO—Go to step 14.

14. Turn the ignition switch to LOCK (0).
15. Disconnect under-dash fuse/relay box connector S (20P).
16. Check for continuity between body ground and under-dash fuse/relay box connector S (20P) terminals No. 11, No. 12, and No. 16 individually.

UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



Wire side of female terminals

Is there continuity?

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

NO—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

(cont'd)

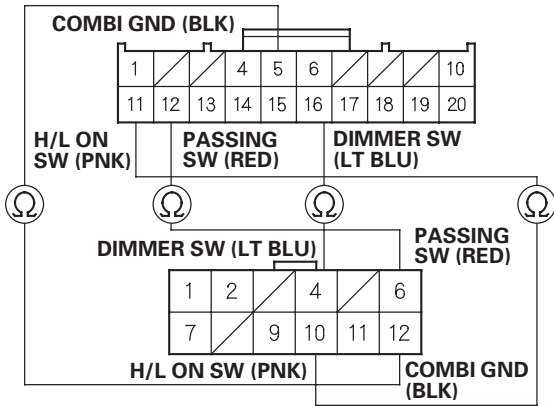
Exterior Lights

DTC Troubleshooting (cont'd)

17. Turn the ignition switch to LOCK (0).
18. Do the combination light switch test (see page 22-166).
- Is the combination light switch OK?*
- YES**—Go to step 19.
- NO**—Replace the combination light switch. ■
19. Disconnect under-dash fuse/relay box connector S (20P).
20. Check for continuity between under-dash fuse/relay box connector S (20P) terminals and the combination light switch 12P connector terminals as shown:

Under-dash fuse/relay box connector S (20P)	Combination light switch 12P connector
5	12
11	10
12	6
16	4

UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)
Wire side of female terminals



COMBINATION LIGHT SWITCH 12P CONNECTOR
Wire side of female terminals

- Is there continuity?*
- YES**—Go to step 21.
- NO**—Repair an open in the wire. ■

21. Check for continuity between under-dash fuse/relay box connector S (20P) terminals as shown:

From terminal	To terminal
12	1, 11, 13, 16
16	1, 11, 13

- Is there continuity?*
- YES**—Repair a short between the wires. ■
- NO**—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

MICU Input Test

NOTE:

- The MICU turns on the headlights (high beams) in a dimming mode for the Daytime Running Lights under the following conditions:
 - With the ignition switch turned to ON (II)
 - The headlight switch OFF
 - The parking brake is released (parking brake switch OFF)
- The DRL indicator will come on when one of the headlight (high beams) bulbs is blown, or if the high beam wiring has an open circuit with the daytime running lights ON.
- If the vehicle is equipped with an optional remote control engine start system, the daytime running lights will not function when started with the remote start.

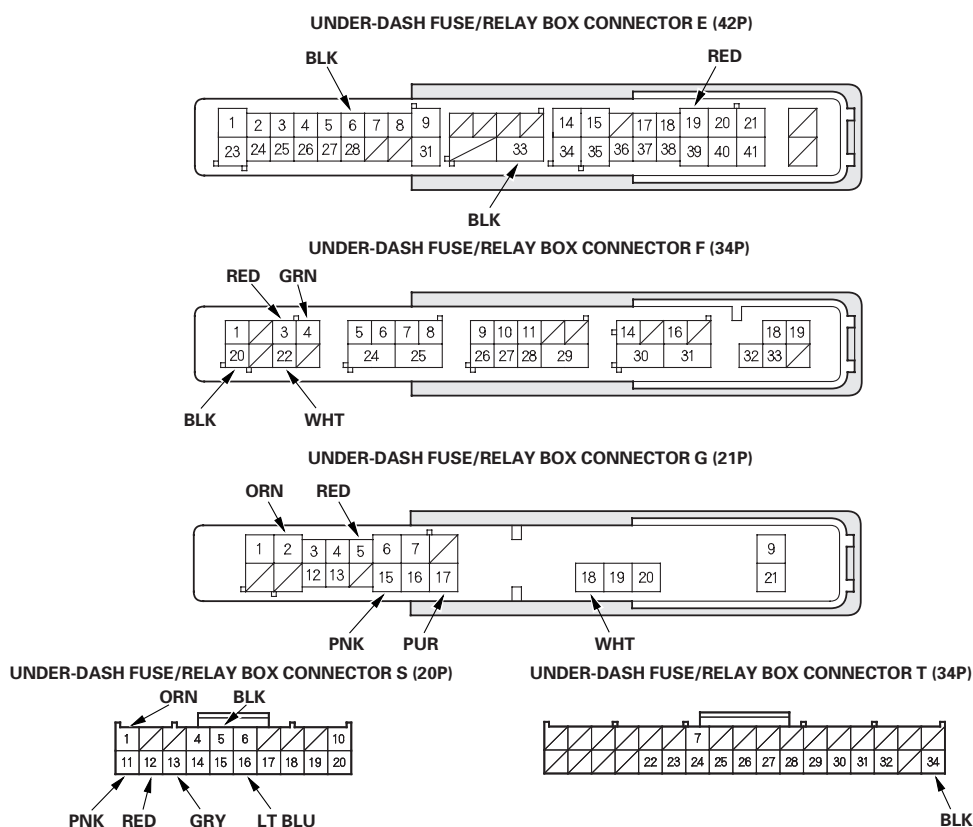
1. Before testing the lighting system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93).
2. Check the No. 12 (10 A), No. 13 (10 A), No. 15 (7.5 A), No. 16 (15 A)^{*1}, (10 A)^{*2}, No. 17 (15 A)^{*1}, (10 A)^{*2}, No. 18 (20 A), No. 19 (15 A), No. 21 (30 A)^{*1}, (20 A)^{*2}, and No. 37 (7.5 A) fuses in the under-dash fuse/relay box. If any fuse is blown, replace it and go to step 3.

* 1: With HID

* 2: Without HID

3. Disconnect under-dash fuse/relay box connectors E, F, G, S, and T.

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



(cont'd)

Exterior Lights

MICU Input Test (cont'd)

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 disconnected, do these input tests at the following 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 desired result is not obtained
E19	RED	Under all conditions	Connect battery power to terminal E19: The taillights, rear side marker lights, and license plate lights should come on.	• Poor ground (G701) • Blown bulb • An open in the wire
F3	RED	Under all conditions	Connect battery power to terminal F3: The right front side marker light and right front parking light should come on.	• Poor ground (G201) • Blown bulb • An open in the wire
F4	GRN	Under all conditions	Connect battery power to terminal F4: The right headlight (low beam) should come on.	• Poor ground (G201) • Blown bulb • Faulty HID unit* • An open in the wire
F22	WHT	Under all conditions	Connect battery power to terminal F22: The right headlight (high beam) should come on.	• Poor ground (G201) • Blown bulb • An open in the wire
G5	RED	Under all conditions	Connect battery power to terminal G5: The left front side marker light and left front parking light should come on.	• Poor ground (G301) • Blown bulb • An open in the wire
G15	PNK	Under all conditions	Connect battery power to terminal G15: The left headlight (high beam) should come on.	• Poor ground (G301) • Blown bulb • An open in the wire
G17	PUR	Under all conditions	Connect battery power to terminal G17: The left headlight (low beam) should come on.	• Poor ground (G301) • Blown bulb • Faulty HID unit* • An open in the wire

* : With HID



6. Reconnect the connectors to the under-dash fuse/relay box, and do these input tests at the following connectors.

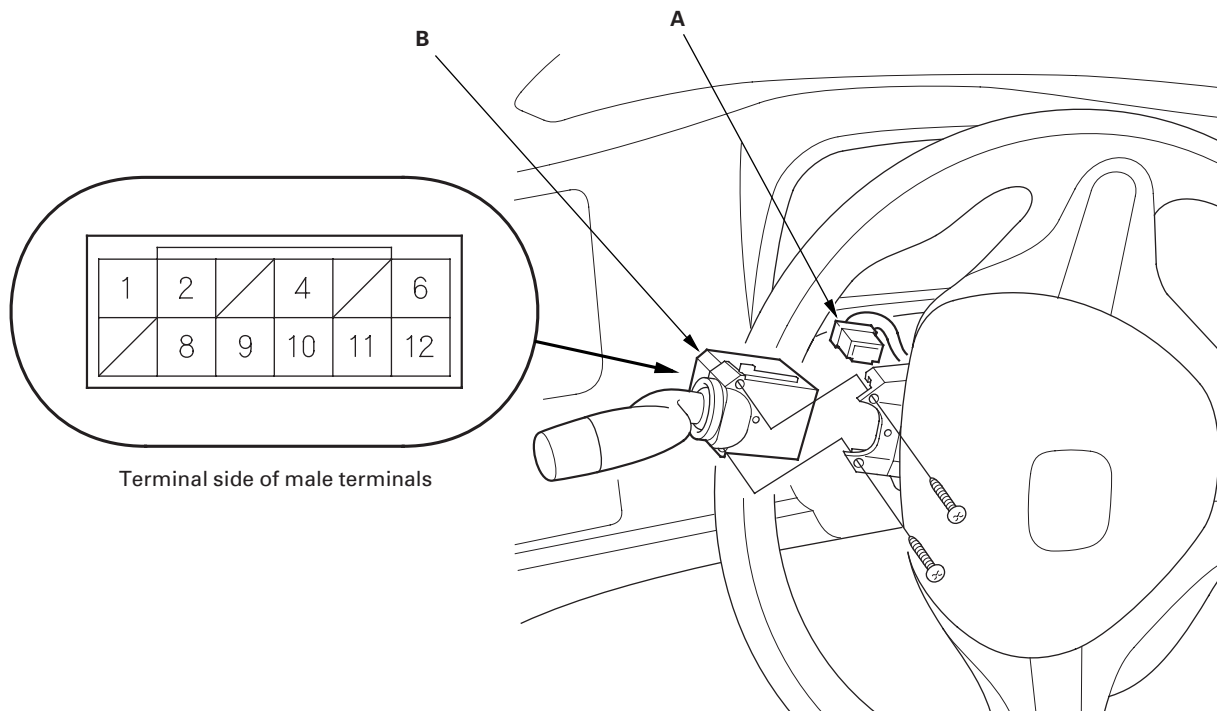
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the MICU must be faulty; replace the under-dash fuse/relay box.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
G2	ORN	Under all conditions	Measure the voltage between terminal G2 and body ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
G18	WHT	Under all conditions	Measure the voltage between terminal G18 and body ground: There should be battery voltage.	• Blown No. 4 (50 A) fuse in the under-hood fuse/relay box • An open in the wire
E6	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G602) • An open in the wire
E33	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G601) • An open in the wire
F20	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
T34	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G501) • An open in the wire
S1 · S5	ORN · BLK	Combination light switch OFF	Measure the voltage between terminals S1 and S5: There should be less than 1 V.	• Faulty combination light switch • An open in the wire
		Combination light switch in any other position than OFF	Measure the voltage between terminals S1 and S5: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
S11 · S5	PNK · BLK	Combination light switch (Headlight position) ON	Measure the voltage between terminals S11 and S5: There should be less than 1 V.	• Faulty combination light switch • An open in the wire
		Combination light switch OFF	Measure the voltage between terminals S11 and S5: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
S12 · S5	RED · BLK	Combination light switch lever pulled (Passing)	Measure the voltage between terminals S12 and S5: There should be less than 1 V.	• Faulty combination light switch • An open in the wire
		Combination light switch lever released from passing position	Measure the voltage between terminals S12 and S5: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
S13 · S5	GRY · BLK	Combination light switch (SMALL position) ON	Measure the voltage between terminals S13 and S5: There should be less than 1 V.	• Faulty combination light switch • An open in the wire
		Combination light switch OFF	Measure the voltage between terminals S13 and S5: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
S16 · S5	LT BLU · BLK	Combination light switch (Dimmer) in high beam position	Measure the voltage between terminals S16 and S5: There should be less than 1 V.	• Faulty combination light switch • An open in the wire
		Combination light switch (Dimmer) in low beam position	Measure the voltage between terminals S16 and S5: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
C3	ORN	Ignition switch ON (II)	Measure the voltage between terminal C3 and body ground: There should be battery voltage.	• Faulty ignition switch • An open in the wire

Exterior Lights

Combination Light Switch Test/Replacement

1. Remove the driver's dashboard lower cover (see page 20-102).
2. Remove the steering column covers (see page 17-9).
3. Disconnect the 12P connector (A) from the combination light switch (B).



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



5. Inspect the connector terminals to be sure they are all making good contact.

- If the terminals are bent, loose or corroded, repair them as necessary, and recheck the system.
- If the terminals look OK, check for continuity between the terminals in each switch position according to the tables.
 - If the continuity is not as specified, replace the switch.

Light switch

Terminal		4	6	9	10	11	12
Position							
Headlight switch	OFF			○			○
	⏏					○	○
	⏏ LOW				○	○	○
					○	○	○
Passing switch	HIGH	○			○	○	○
	ON		○				○

Turn signal switch

Terminal		1	2	12
Position				
LEFT			○	○
Neutral				
RIGHT		○		○

Fog light switch (TYPE S and '08 PREMIUM and '09 models)

Terminal		8	12
Position			
OFF			
ON		○	○

Exterior Lights

HID Bulb Replacement

⚠ WARNING

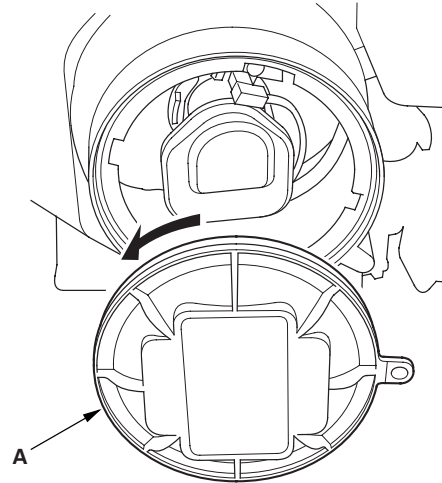
A transient high tension (25,000 V) occurs at the bulb sockets of the high intensity discharge (HID) lamps when the combination light switch is turned ON. It may cause serious electrical shock or electrocution if you do not observe the cautions.

⚠ CAUTION

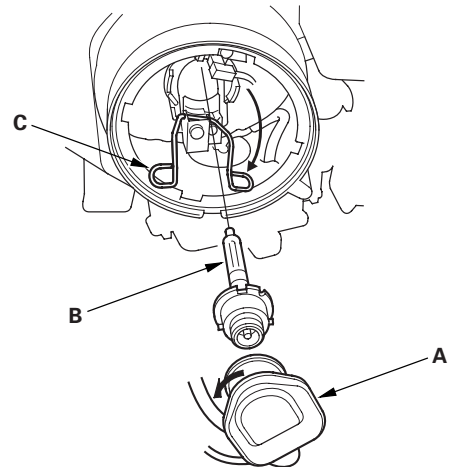
- Never turn on the combination light switch before fitting the HID bulbs to their bulb sockets and completing the reassembly of the headlight assembly.
- Do not service the headlight assembly in wet conditions, such as rain or snow, near a sprinkler system, or when your hands are wet to prevent electrocution.
- 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 fats.
- Do not turn on the HID bulb by using a power source other than the battery mounted on your vehicle.

1. Turn the combination light switch OFF.
2. Do the battery terminal disconnection procedure (see page 22-68).
3. Remove the battery. (left side bulb)

4. Turn the cover (A) 45 ° counterclockwise to remove it from the headlight assembly.



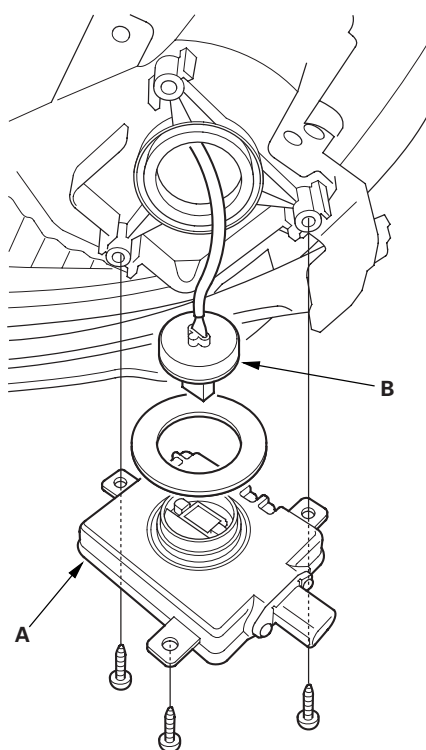
5. Turn the socket (A) 45 ° counterclockwise to remove it from the bulb (B).



6. Pull the retaining spring (C) away from the bulb then remove the bulb.
7. Install the new bulb in the reverse order of removal. Make sure the notches in the bulb align with the tabs in the headlight.
8. Install the parts in the reverse order of removal.
9. Do the battery terminal reconnection procedure (see page 22-68).

HID Unit Replacement

1. Turn the combination light switch OFF.
2. Make sure the ignition switch is in LOCK (0) position, then do the battery terminal disconnection procedure (see page 22-68).
3. Remove the headlight assembly (see page 22-174).
4. Remove the socket from the HID bulb (see page 22-168).
5. Remove the three mounting screws and the HID unit (A).
6. Disconnect the 4P connector (B) from the HID unit.
7. Install the HID unit in the reverse order of removal.
8. Do the battery terminal reconnection procedure (see page 22-68).



Exterior Lights

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.

⚠ 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.

Special Tools Required

HID bulb test light 07AAJ-S3MA100

NOTE: Before troubleshooting the HID Lamp System, do the multiplex integrated control system troubleshooting using B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Check the No. 16 (15 A), No. 17 (15 A), and No. 21 (30 A) fuses in the under-dash fuse/relay box.

Are fuses OK?

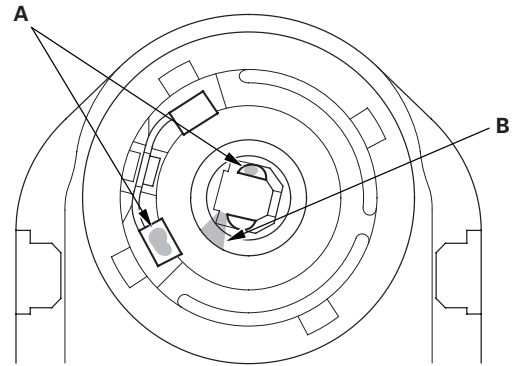
YES—Go to step 2.

NO—Replace the fuse(s), and recheck. ■

2. Turn the combination light switch OFF.
3. Do the battery terminal disconnection procedure (see page 22-68).

4. Remove the socket from the HID bulb (see page 22-168).

5. Check for corrosion (A) and traces of electrical arcing (B) at the socket mating part.

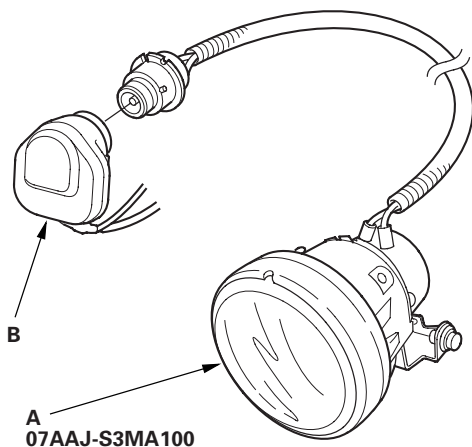


Is the socket corroded or burnt?

YES—Go to step 7.

NO—Replace the socket, and recheck. ■

6. Connect the HID bulb test light (A) to the socket (B).



7. Do the battery terminal reconnection procedure (see page 22-68).
8. Turn the combination light (headlight) switch ON.

Does the bulb in the test light come on?

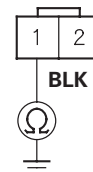
YES—Replace the original HID bulb (see page 22-168). ■

NO—Go to step 10.

9. Turn the combination light (headlight) switch OFF.
10. Do the battery terminal disconnection procedure (see page 22-68).
11. Disconnect the HID bulb test light from the socket.
12. Do the battery terminal reconnection procedure (see page 22-68).
13. Disconnect the HID unit 2P connector.
14. Turn the combination light (headlight) switch ON.

15. Check for continuity between the HID unit 2P connector terminal No. 1 and body ground.

HID UNIT 2P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Go to step 16.

NO—Repair an open in the wire between the HID unit and body ground. If the wire is OK, check for poor ground at G201 or G301. ■

(cont'd)

Exterior Lights

HID Lamp System Troubleshooting (cont'd)

16. Measure the voltage between the HID unit 2P connector terminal No. 2 and body ground.

HID UNIT 2P CONNECTOR



Wire side of female terminals

Is there battery voltage?

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

NO—Go to step 17.

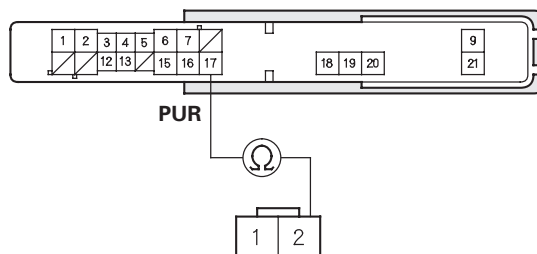
17. Disconnect under-dash fuse/relay box connector G (21P)^{*1} and/or F (34P)^{*2}.

- * 1: Left headlight
- * 2: Right headlight

18. Check for continuity between under-dash fuse/relay box G (21P) terminal No. 17 or F (34P) terminal No. 4 and HID unit 2P connector terminal No. 2.

LEFT HEADLIGHT

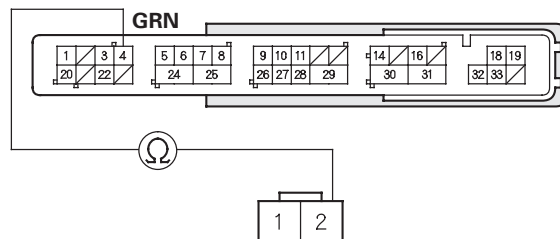
UNDER-DASH FUSE/RELAY BOX CONNECTOR G (21P)
Wire side of female terminals



HID UNIT 2P CONNECTOR (LEFT HEADLIGHT)
Wire side of female terminals

RIGHT HEADLIGHT

UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)
Wire side of female terminals



HID UNIT 2P CONNECTOR (RIGHT HEADLIGHT)
Wire side of female terminals

Is there continuity?

YES—Replace the under-dash fuse/relay box. ■

NO—Repair an open in the wire between the under-hood fuse/relay box and the HID unit. ■

Headlight Adjustment

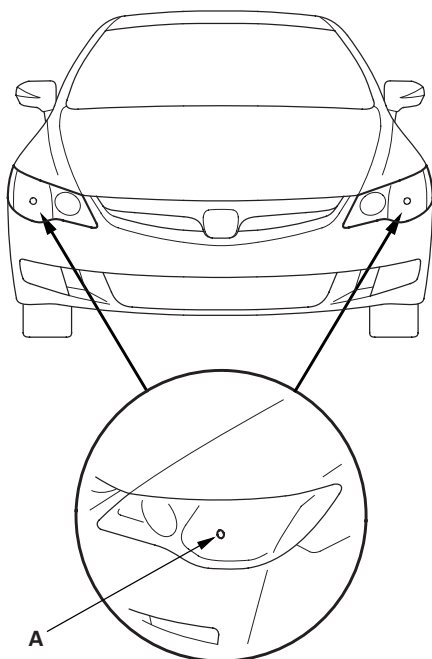
CAUTION

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

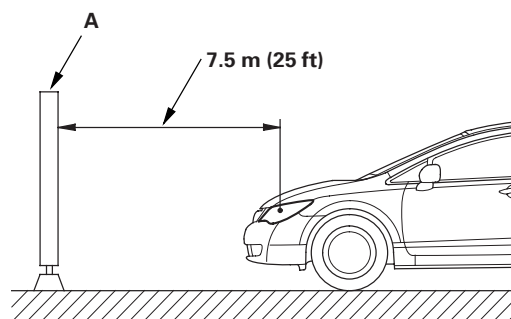
Before adjusting the headlights:

- 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).



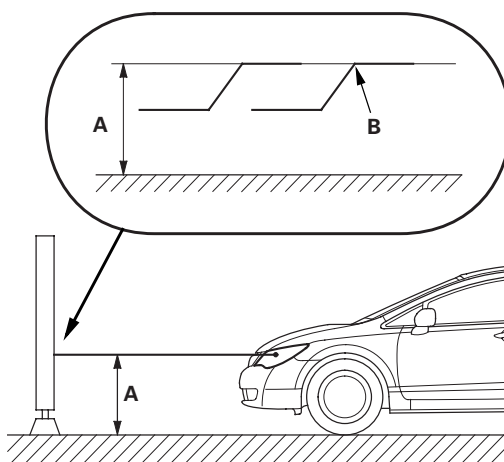
3. Turn the low beams on.

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.

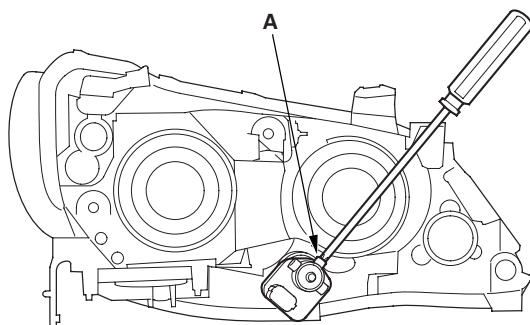
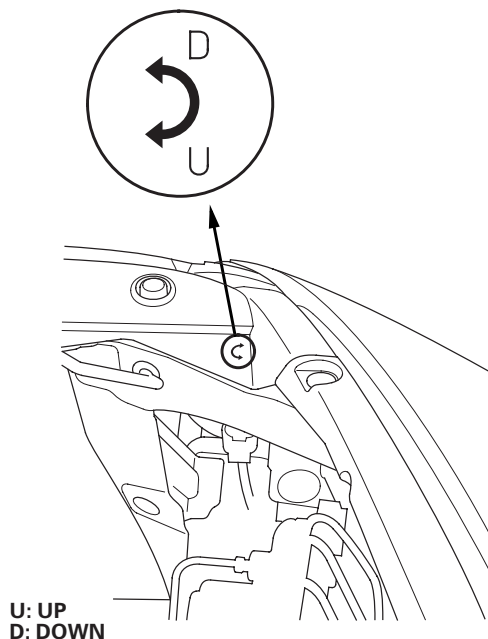


(cont'd)

Exterior Lights

Headlight Adjustment (cont'd)

5. If necessary, open the hood and adjust the headlights to local requirements by turning the adjusters (A).



The illustration is shown from back side of left headlight.

Headlight Replacement

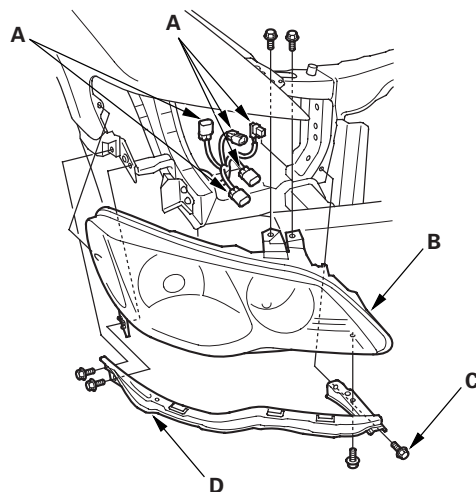
⚠ WARNING

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.

⚠ CAUTION

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.

1. Remove the front bumper (see page 20-146).
2. Remove the connectors (A) from the headlight assembly (B).

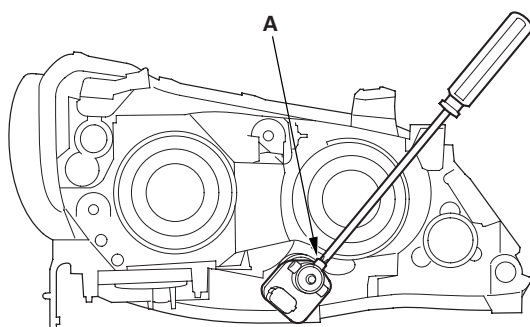
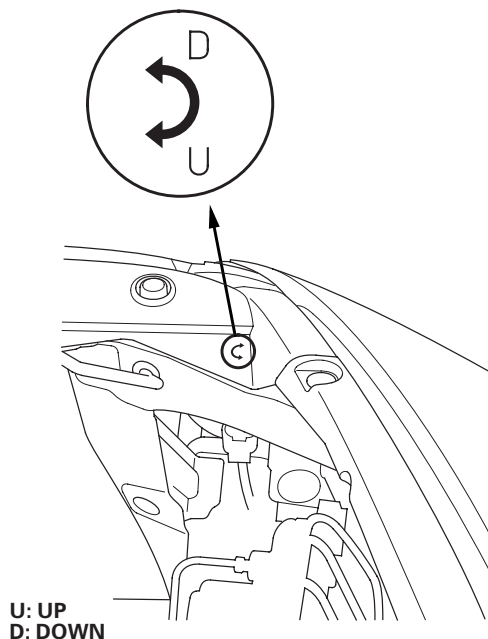


3. Remove the five bolts, then remove the headlight.
4. Remove the bolt (C) and the corner upper beam (D) from the headlight.
5. Install the headlight in the reverse order of removal.
6. After replacement, adjust the headlight to local requirements.

Exterior Lights

Headlight Adjustment (cont'd)

5. If necessary, open the hood and adjust the headlights to local requirements by turning the adjusters (A).



The illustration is shown from back side of left headlight.

Headlight Replacement

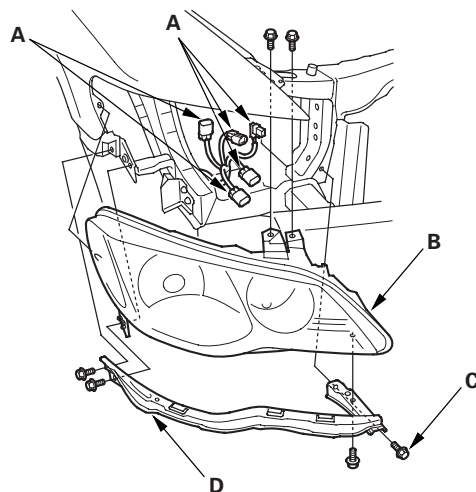
⚠ WARNING

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.

⚠ CAUTION

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.

1. Remove the front bumper (see page 20-146).
2. Remove the connectors (A) from the headlight assembly (B).

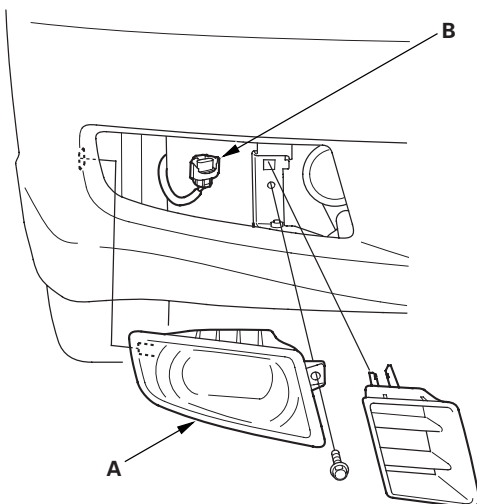


3. Remove the five bolts, then remove the headlight.
4. Remove the bolt (C) and the corner upper beam (D) from the headlight.
5. Install the headlight in the reverse order of removal.
6. After replacement, adjust the headlight to local requirements.

Fog Light Replacement

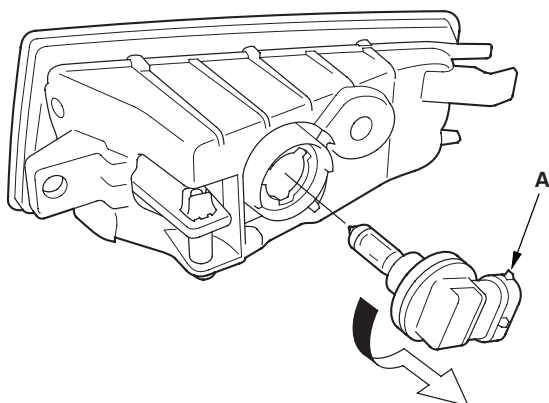
'07-08 models

1. Remove the fog light cover.
2. Remove the mounting screw from the fog light.
3. Remove the fog light (A) from the front bumper.



4. Disconnect the 2P connector (B) from the fog light.
5. Turn the bulb socket (A) 60 °counterclockwise to remove it from the housing.

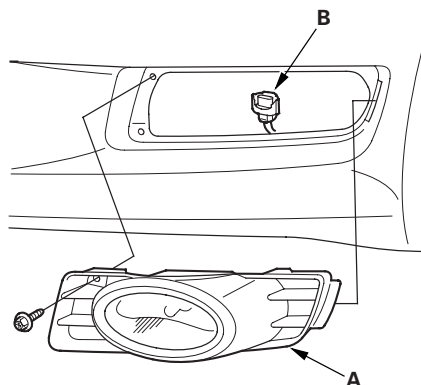
FOG LIGHT: 55 W



6. Install the fog light in the reverse order of removal.
7. After replacement, adjust the fog lights to local requirements (see page 22-176).

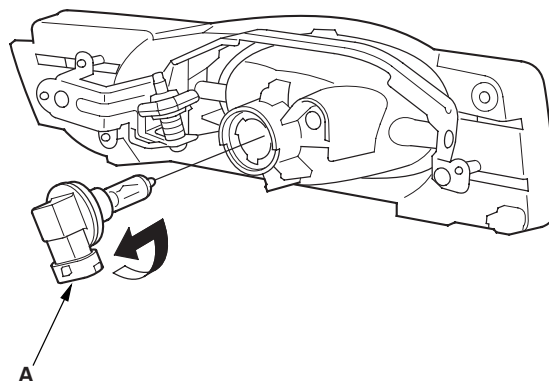
'09 model

1. Remove the mounting screw from the fog light.
2. Remove the fog light (A) from the front bumper.



3. Disconnect the 2P connector (B) from the fog light.
4. Turn the bulb socket (A) 60 °counterclockwise to remove it from the housing.

FOG LIGHT: 55 W



5. Install the fog light in the reverse order of removal.
6. After replacement, adjust the fog lights to local requirements (see page 22-176).

Exterior Lights

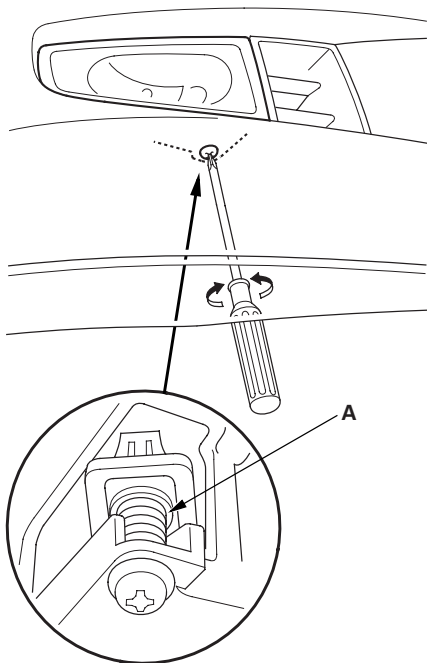
Fog Light Adjustment

Before adjusting the fog lights:

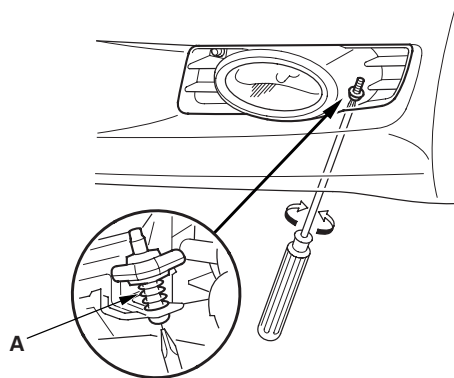
- Park the vehicle on a level surface.
- Make sure the tire pressures are correct.
- The driver or someone who weights the same should sit in the driver's seat.

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

'07-08 models



'09 model



Bulb Replacement

Headlight

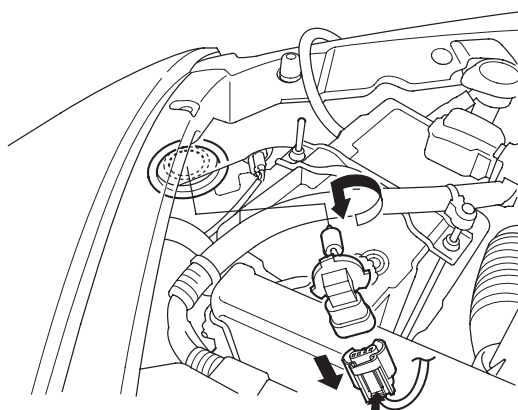
1. For low beam *: Remove the inner fender (see page 20-171).
*: Without HID
2. Disconnect the 2P connector (A) from the headlight.

Headlight (High Beam): 60 W

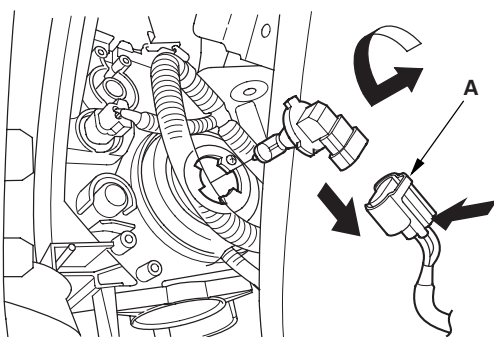
Headlight (Low Beam)*: 51 W

*: Without HID

High



Low

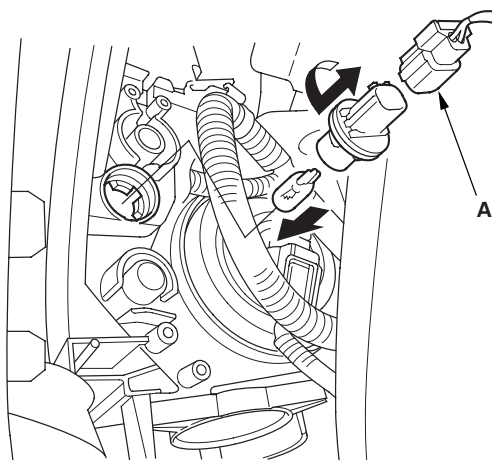


3. Turn the bulb socket 45 ° counterclockwise to remove the bulb.
4. Install a new bulb in the reverse order of removal.

Front Side Marker Light

1. Remove the inner fender (see page 20-171).
2. Disconnect the 2P connector (A) from the front side marker light.

Front Side Marker Light: 2 CP



3. Turn the bulb socket 45 ° counterclockwise to remove the bulb.
4. Install a new bulb in the reverse order of removal.

(cont'd)

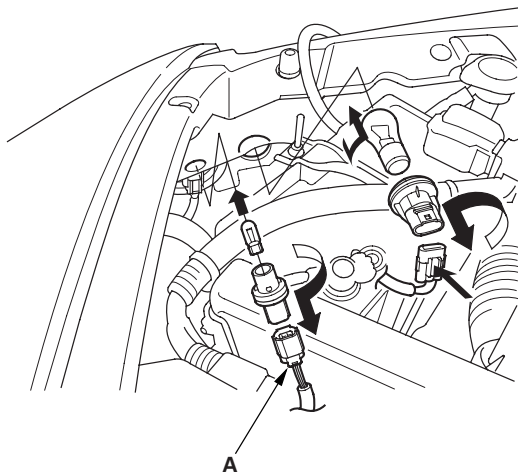
Exterior Lights

Bulb Replacement (cont'd)

Front Parking Light

1. Disconnect the 2P connector (A) from the front parking light.

Front Parking Light: 3 CP

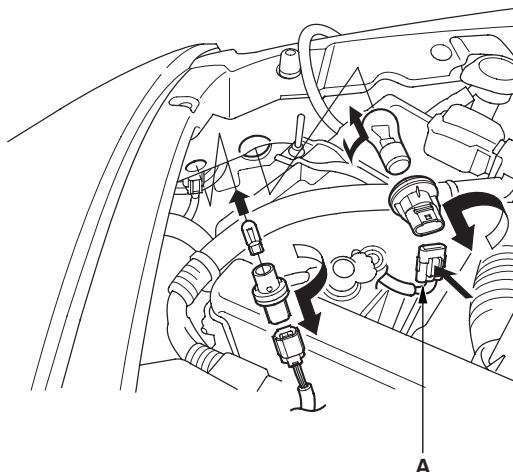


2. Turn the bulb socket 45 ° counterclockwise to remove the bulb.
3. Install a new bulb in the reverse order of removal.

Front Turn Signal Light

1. Disconnect the 3P connector (A) from the front turn signal light.

Front Turn Signal Light: 24/2.2 CP

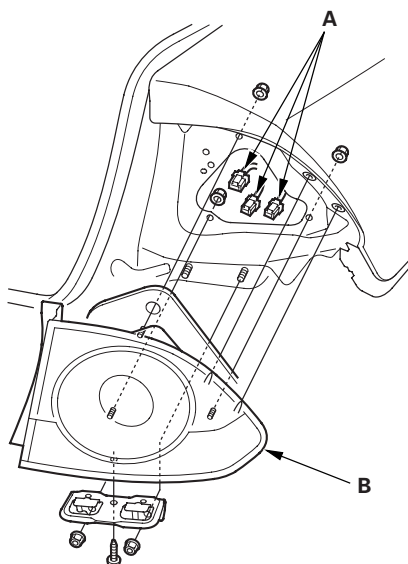


2. Turn the bulb socket 45 ° counterclockwise to remove the bulb.
3. Install a new bulb in the reverse order of removal.

Taillight Replacement

1. Remove the rear bumper (see page 20-149).
2. Disconnect the connectors (A) from the taillights (B).

Brake Lights/Taillights: 21/5 W
Rear Turn Signal Light: 21 W
Rear Side Marker Light: 3 CP

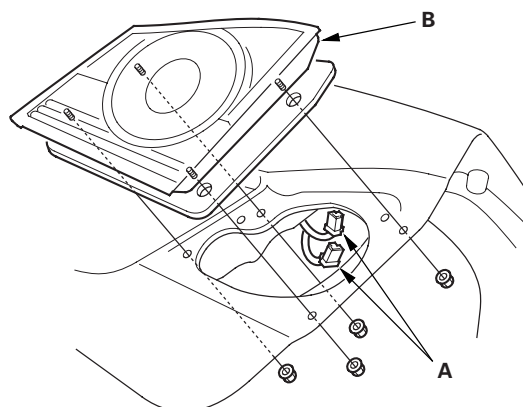


3. Turn the bulb sockets 45 ° counterclockwise to remove the bulbs.
4. Remove the nuts and screws, then remove the taillight.
5. Install the taillight in the reverse order of removal.

Inner Taillight Replacement

1. Remove the trunk lid trim (see page 20-82).
2. Disconnect the connectors (A) from the inner taillight (B).

Taillight: 5 W
Back-up Light: 16 W



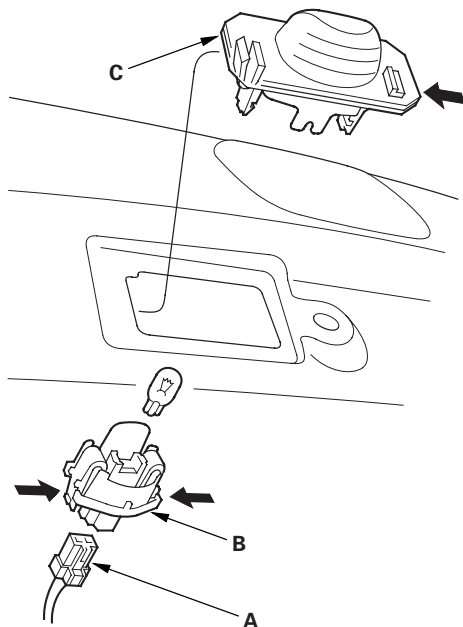
3. Turn the bulb sockets 45 ° counterclockwise to remove the bulbs.
4. Remove the nuts, then remove the taillight.
5. Install the inner taillight in the reverse order of removal.

Exterior Lights

License Plate Light Replacement

1. Open the trunk lid, and remove the rear license trim (see page 20-168).
2. Disconnect the 2P connector (A) from the license plate light.

License Plate Light: 5 W



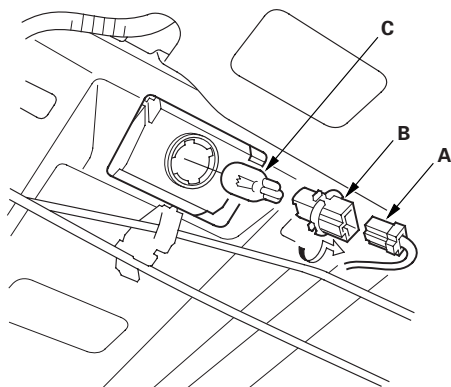
3. Release the bulb socket (B) from the lens (C) by pressing on the tabs.
4. Remove the lens from the trunk lid by pressing on the tabs.
5. Install the license plate light in the reverse order of removal.

High Mount Brake Light Replacement

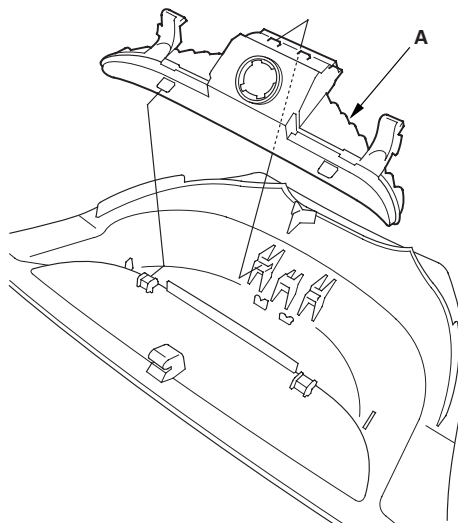
Except TYPE S model

1. Open the trunk lid.
2. Disconnect the 2P connector (A) from the high mount brake light.

High Mount Brake Light: 21 W



3. Turn the bulb socket (B) 45 ° counterclockwise to remove the bulb (C).
4. Remove the rear shelf (see page 20-78).
5. Remove the high mount brake light (A).

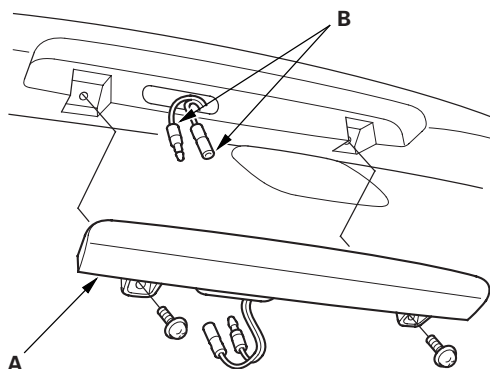


6. Install the high mount brake light in the reverse order of removal.

Brake Pedal Position Switch Test

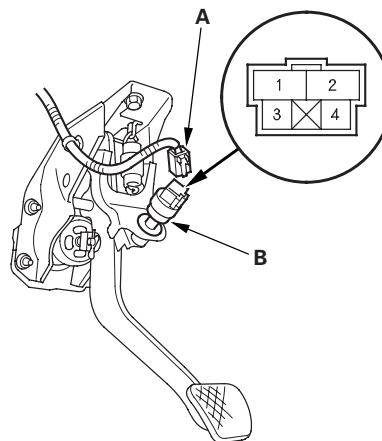
TYPE S model

1. Remove the two screws from the high mount brake light (A).



2. Disconnect the terminals (B) and remove the high mount brake light.
3. Install the high mount brake light in the reverse order of removal.

1. Disconnect the 4P connector (A) from the brake pedal position switch (B).

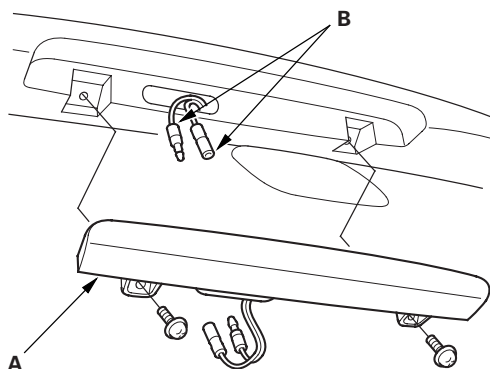


2. Check for continuity between terminals No. 1 and No. 2.
 - There should be continuity when the brake pedal is pressed.
 - There should be no continuity when the brake pedal is released.
3. Check for continuity between terminals No. 3 and No. 4 (with cruise control).
 - There should be no continuity 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).

Brake Pedal Position Switch Test

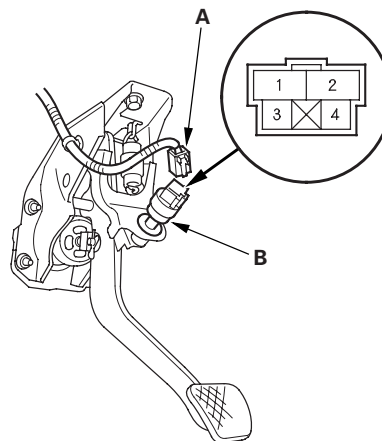
TYPE S model

1. Remove the two screws from the high mount brake light (A).



2. Disconnect the terminals (B) and remove the high mount brake light.
3. Install the high mount brake light in the reverse order of removal.

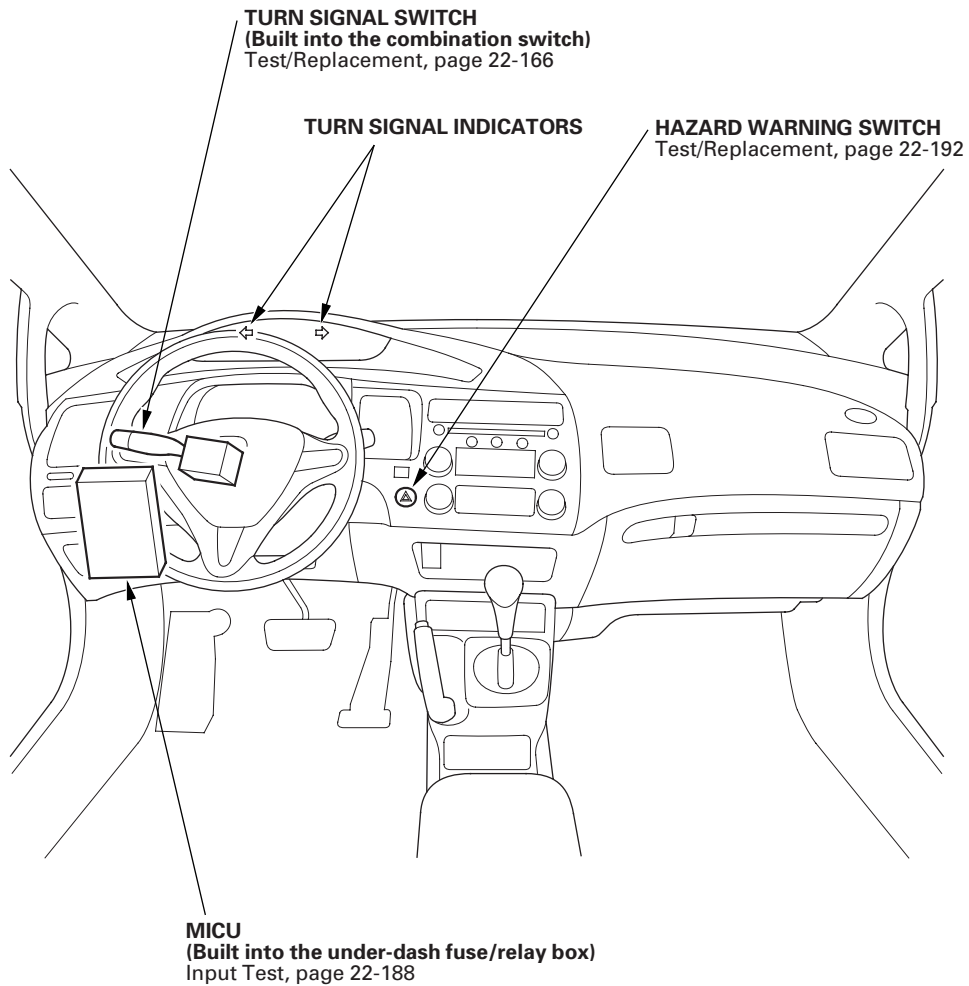
1. Disconnect the 4P connector (A) from the brake pedal position switch (B).



2. Check for continuity between terminals No. 1 and No. 2.
 - 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 terminals No. 3 and No. 4 (with cruise control).
 - 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).

Turn Signal/Hazard Warning Lights

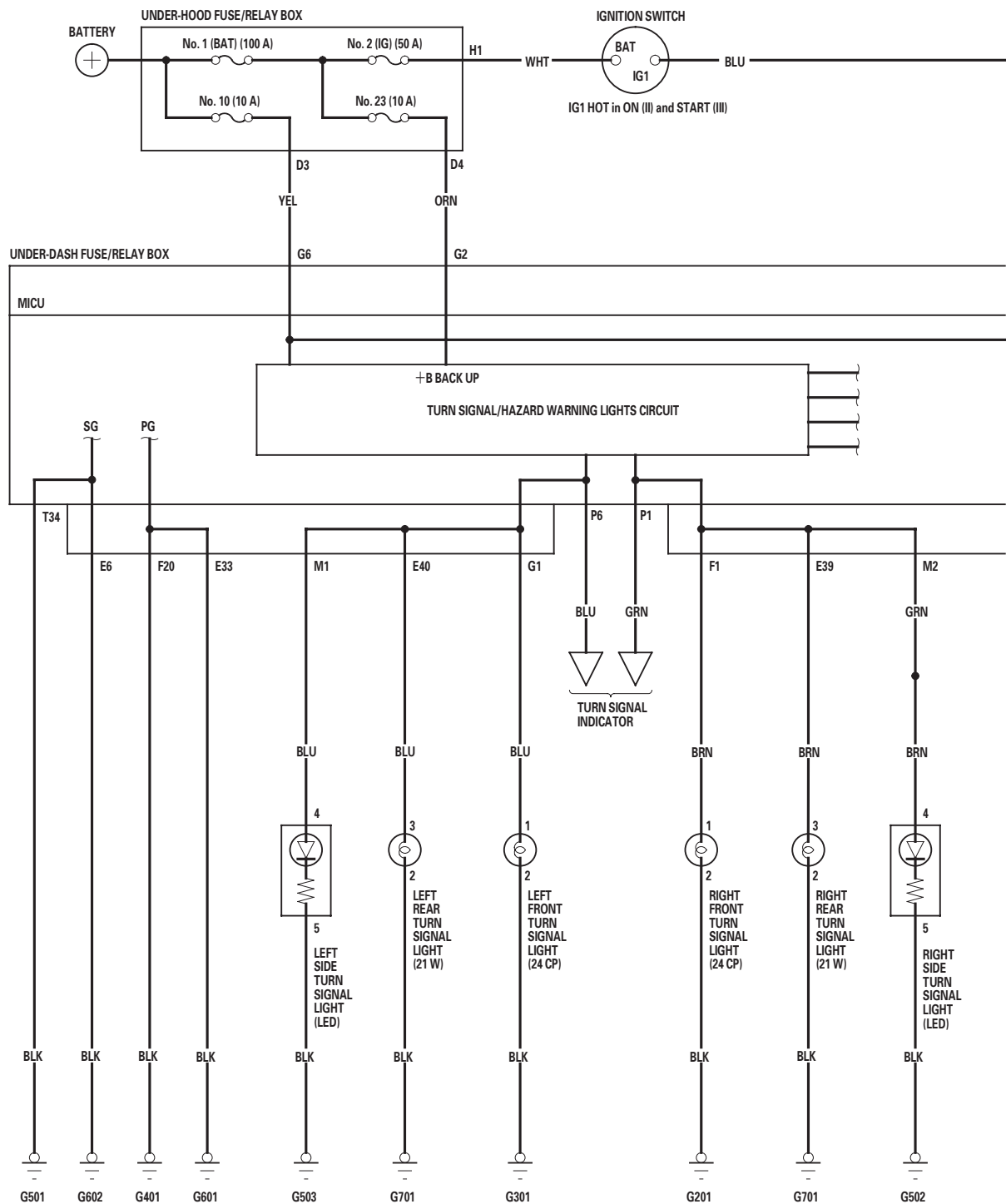
Component Location Index

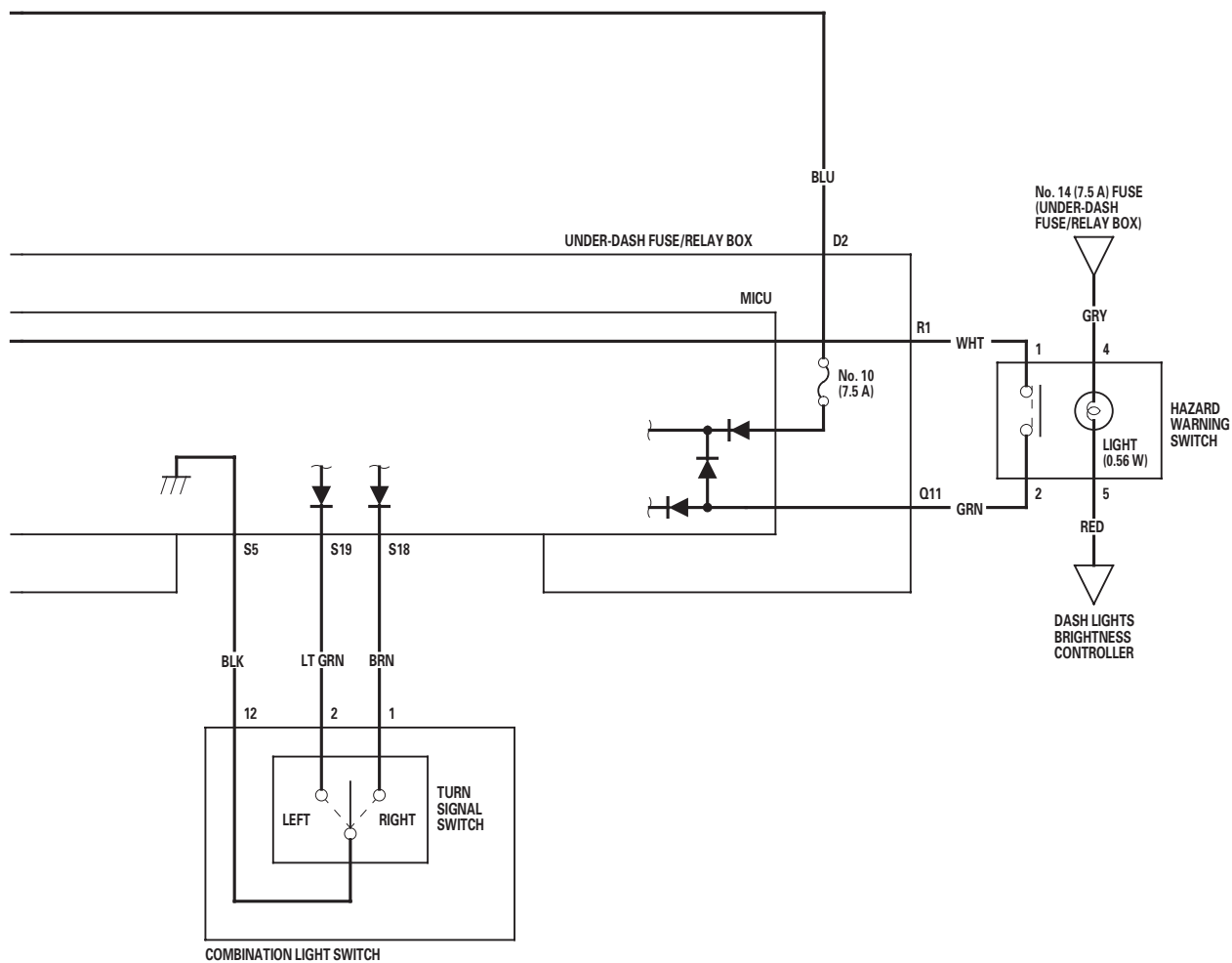




Turn Signal/Hazard Warning Lights

Circuit Diagram





Exterior Lights

DTC Troubleshooting

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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Operate the turn signal switch in left and right positions, and wait for 6 seconds or more.
4. Check for DTCs with the HDS.

Is DTC B1280 indicated?

YES—Go to step 5.

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

5. Select LIGHTING from the BODY ELECTRICAL system select menu, then enter DATA LIST.
6. Check each turn signal switch position value with the DATA LIST menu.

When the turn signal switch is in left position

Data List	Value
Turn Signal Switch (LEFT)	ON
Turn Signal Switch (RIGHT)	OFF

When the turn signal switch is in right position

Data List	Value
Turn Signal Switch (LEFT)	OFF
Turn Signal Switch (RIGHT)	ON

Are all data list values correct?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Go to step 7.

7. Disconnect the combination light switch 12P connector.
8. Check each turn signal switch position value with the DATA LIST menu.

When the turn signal switch is in left position

Data List	Value
Turn Signal Switch (LEFT)	ON
Turn Signal Switch (RIGHT)	OFF

When the turn signal switch is in right position

Data List	Value
Turn Signal Switch (LEFT)	OFF
Turn Signal Switch (RIGHT)	ON

Do both values now showing OFF?

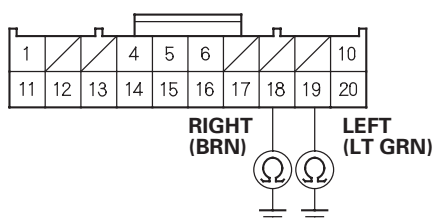
YES—Replace the combination light switch (see page 22-166). ■

NO—Go to step 9.

9. Turn the ignition switch to LOCK (0).
10. Disconnect under-dash fuse/relay box connector S (20P).

11. Check for continuity between body ground and under-dash fuse/relay box connector S (20P) terminals No. 18 and No. 19 individually.

UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



Wire side of female terminals

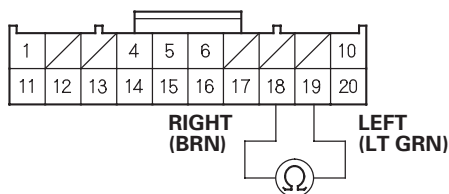
Is there continuity?

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

NO—Go to step 12.

12. Check for continuity between under-dash fuse/relay box connector S (20P) terminals No. 18 and No. 19.

UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



Wire side of female terminals

Is there continuity?

YES—Repair a short between the wires. ■

NO—Replace the combination light switch. ■

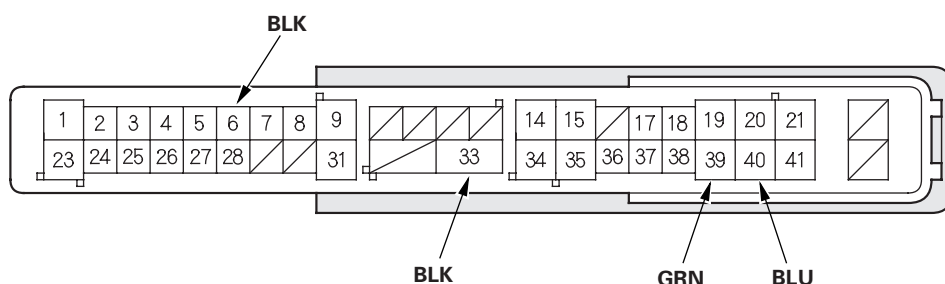
Turn Signal/Hazard Warning Lights

MICU Input Test

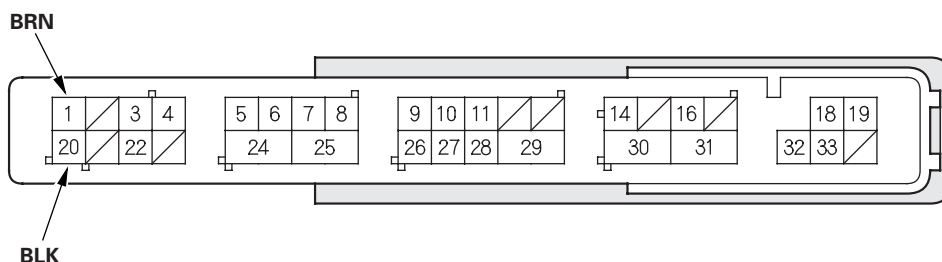
1. Before troubleshooting the turn signal/hazard warning lights system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93).
2. Check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is blown, replace it and go to step 3.
3. Disconnect under-dash fuse/relay box connectors E, F, G, M, P, Q, R, S, and T.

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

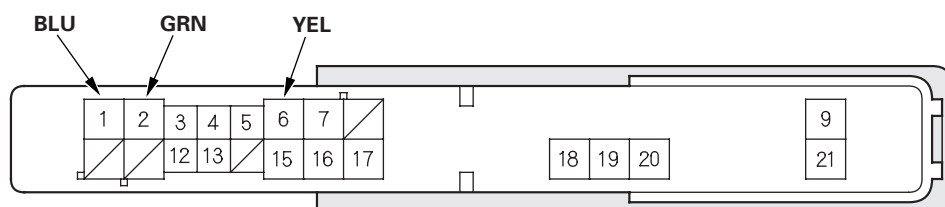
UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



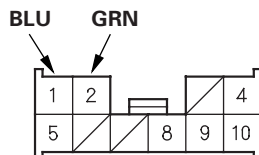
UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



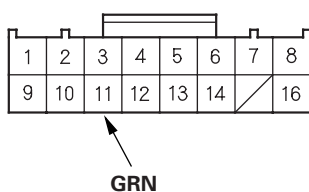
UNDER-DASH FUSE/RELAY BOX CONNECTOR G (21P)



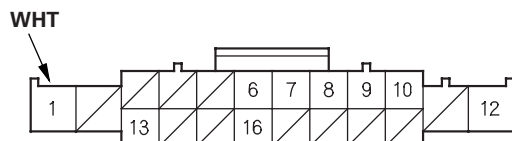
**UNDER-DASH FUSE/RELAY BOX
CONNECTOR M (10P)**



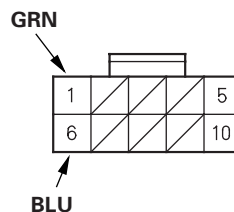
**UNDER-DASH FUSE/RELAY BOX
CONNECTOR Q (16P)**



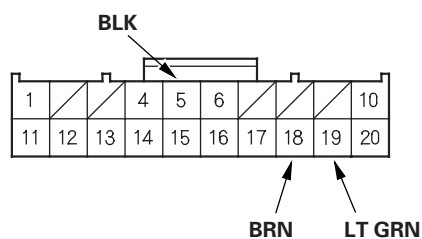
**UNDER-DASH FUSE/RELAY BOX
CONNECTOR R (20P)**



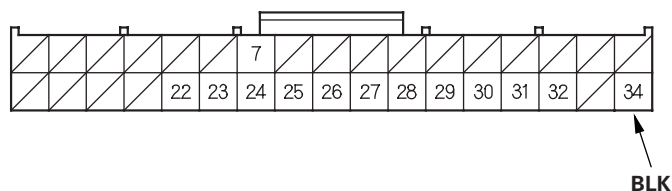
**UNDER-DASH FUSE/RELAY BOX
CONNECTOR P (10P)**



**UNDER-DASH FUSE/RELAY BOX
CONNECTOR S (20P)**



**UNDER-DASH FUSE/RELAY BOX
CONNECTOR T (34P)**



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)

Turn Signal/Hazard Warning Lights

MICU Input Test (cont'd)

5. With the connectors still disconnected, do these input tests at the following 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 desired is not obtained
E39	BRN	Under all conditions	Connect terminals G2 and E39 with a jumper wire: The right rear turn signal light should come on.	• Poor ground (G701) • Blown bulb • An open in the wire
E40	BLU	Under all conditions	Connect terminals G2 and E40 with a jumper wire: The left rear turn signal light should come on.	• Poor ground (G701) • Blown bulb • An open in the wire
F1	BRN	Under all conditions	Connect terminals G2 and F1 with a jumper wire: The right front turn signal light should come on.	• Poor ground (G201) • Blown bulb • An open in the wire
G1	BLU	Under all conditions	Connect terminals G2 and G1 with a jumper wire: The left front turn signal light should come on.	• Poor ground (G301) • Blown bulb • An open in the wire
M1	BLU	Under all conditions	Connect terminals G2 and M1 with a jumper wire: The left side turn signal light should come on.	• Poor ground (G503) • Blown LED • An open in the wire
M2	GRN	Under all conditions	Connect terminals G2 and M2 with a jumper wire: The right side turn signal light should come on.	• Poor ground (G502) • Blown LED • An open in the wire
P1	GRN	Under all conditions	Connect terminals G2 and P1 with a jumper wire: The right turn signal indicator should come on.	• Poor ground (G504) • Faulty gauge control module (speedo) • An open in the wire
P6	BLU	Under all conditions	Connect terminals G2 and P6 with a jumper wire: The left turn signal indicator should come on.	• Poor ground (G504) • Faulty gauge control module (speedo) • An open in the wire



6. Reconnect connectors to the under-dash fuse/relay box, and do these input tests at the following 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.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
G2	ORN	Under all conditions	Measure the voltage between terminal G2 and body ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
G6	YEL	Under all conditions	Measure the voltage between terminal G6 and body ground: There should be battery voltage.	• Blown No. 10 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
E6	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G602) • An open in the wire
E33	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G601) • An open in the wire
F20	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
T34	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G501) • An open in the wire
R1	WHT	Under all conditions	Measure the voltage to ground: There should be battery voltage.	Faulty under-dash fuse/relay box
Q11	GRN	Hazard warning switch ON	Measure the voltage to ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • Faulty hazard warning switch • An open in the wire
S18 · S5	BRN · BLK	Turn signal switch in right position	Measure the voltage between terminals S18 and S5: There should be less than 0.5 V.	• Faulty combination light switch • An open in the wire
		Turn signal switch in left or neutral position	Measure the voltage between terminals S18 and S5: There should be 5 V or more.	• Faulty combination light switch • A short to ground in the wire
S19 · S5	LT GRN · BLK	Turn signal switch in left position	Measure the voltage between terminals S19 and S5: There should be less than 0.5 V.	• Faulty combination light switch • An open in the wire
		Turn signal switch in right or neutral position	Measure the voltage between terminals S19 and S5: There should be 5 V or more.	• Faulty combination light switch • A short to ground in the wire

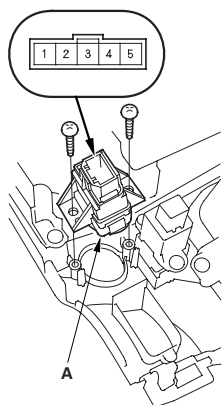
Turn Signal/Hazard Warning Lights

Hazard Warning Switch Test/Replacement

1. Remove the center panel.

- With audio:
 - '06-08 models (see page 23-80)
 - '09 model (see page 23-256)
- With navigation:
 - '06-08 models (see page 23-155)
 - '09 model (see page 23-355)

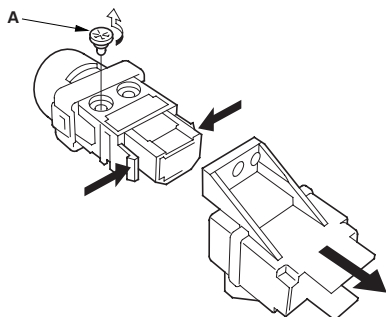
2. Remove the screws and the hazard warning switch (A).



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

Terminal Position	1	2	4		5
OFF			○	○	○
ON	○	○	○	○	○

4. If the continuity is not as specified, replace the bulb (A) or the hazard warning switch.

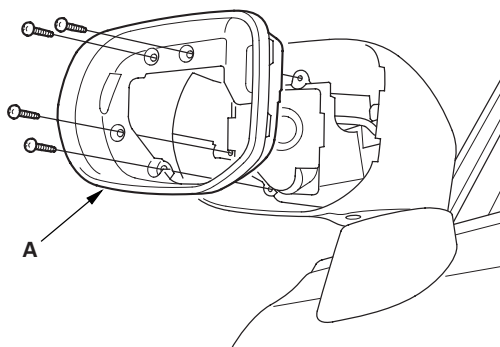


5. Install the hazard warning switch in the reverse order of removal.

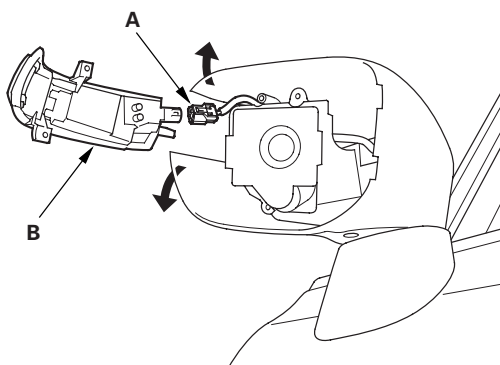
Side Turn Signal Light Replacement

1. Remove the mirror holder (see page 20-34).

2. Remove the four screws and the mirror visor (A).

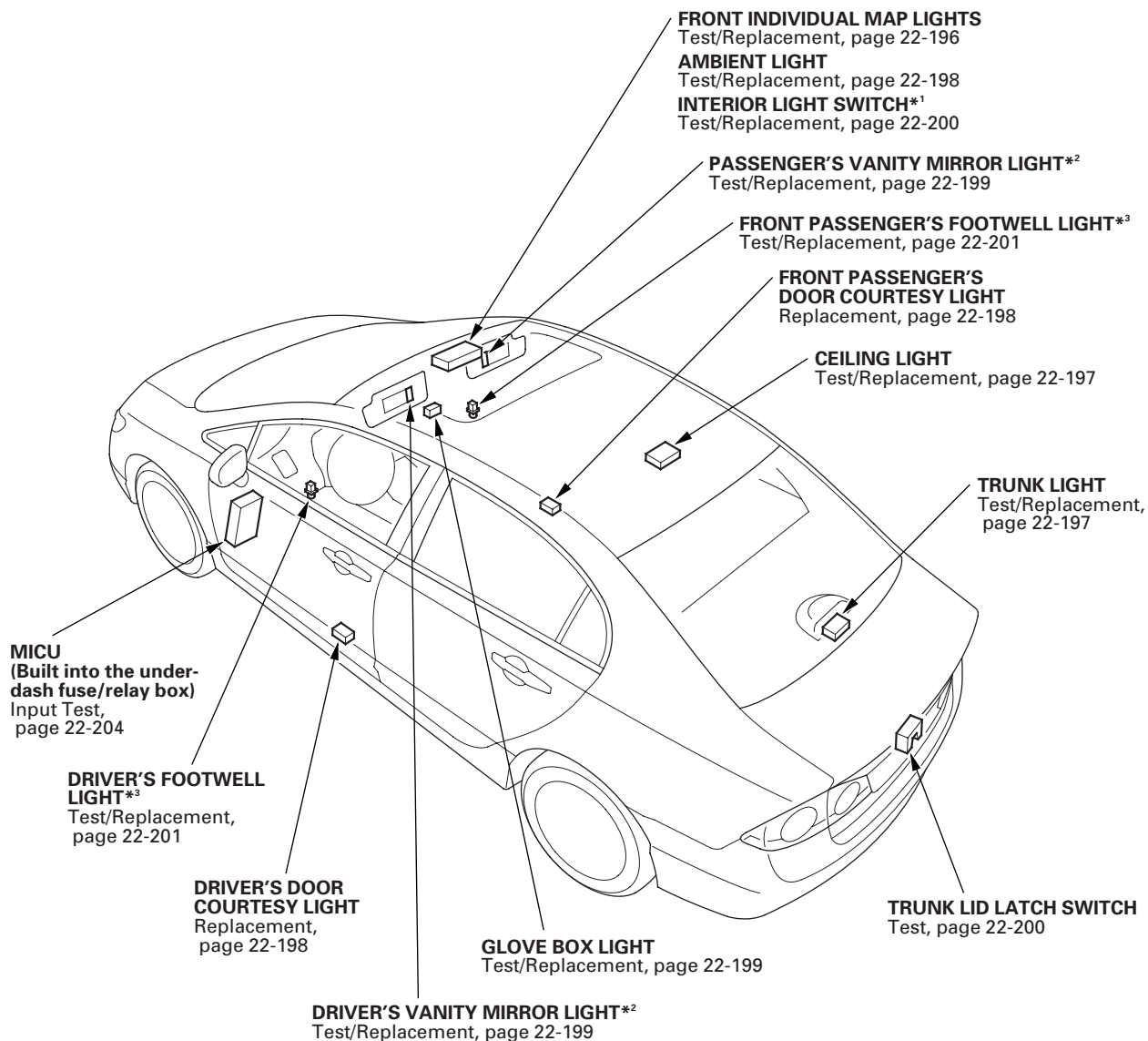


3. Disconnect the 2P connector (A) from the side turn signal light (B), then remove the side turn signal light.



4. Install the side turn signal light in the reverse order of removal.

Component Location Index



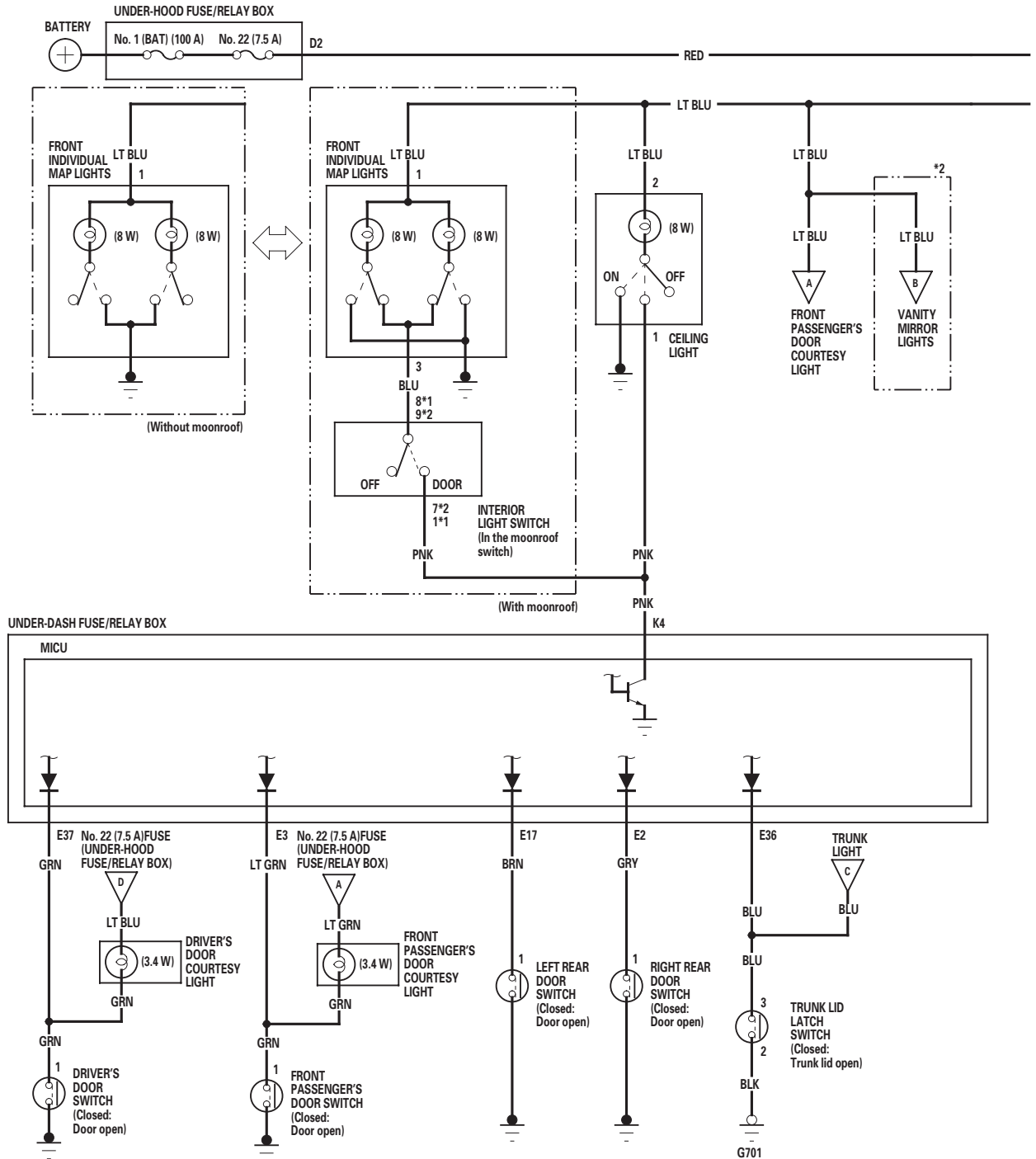
*1: With moonroof

*2: '08-09 models

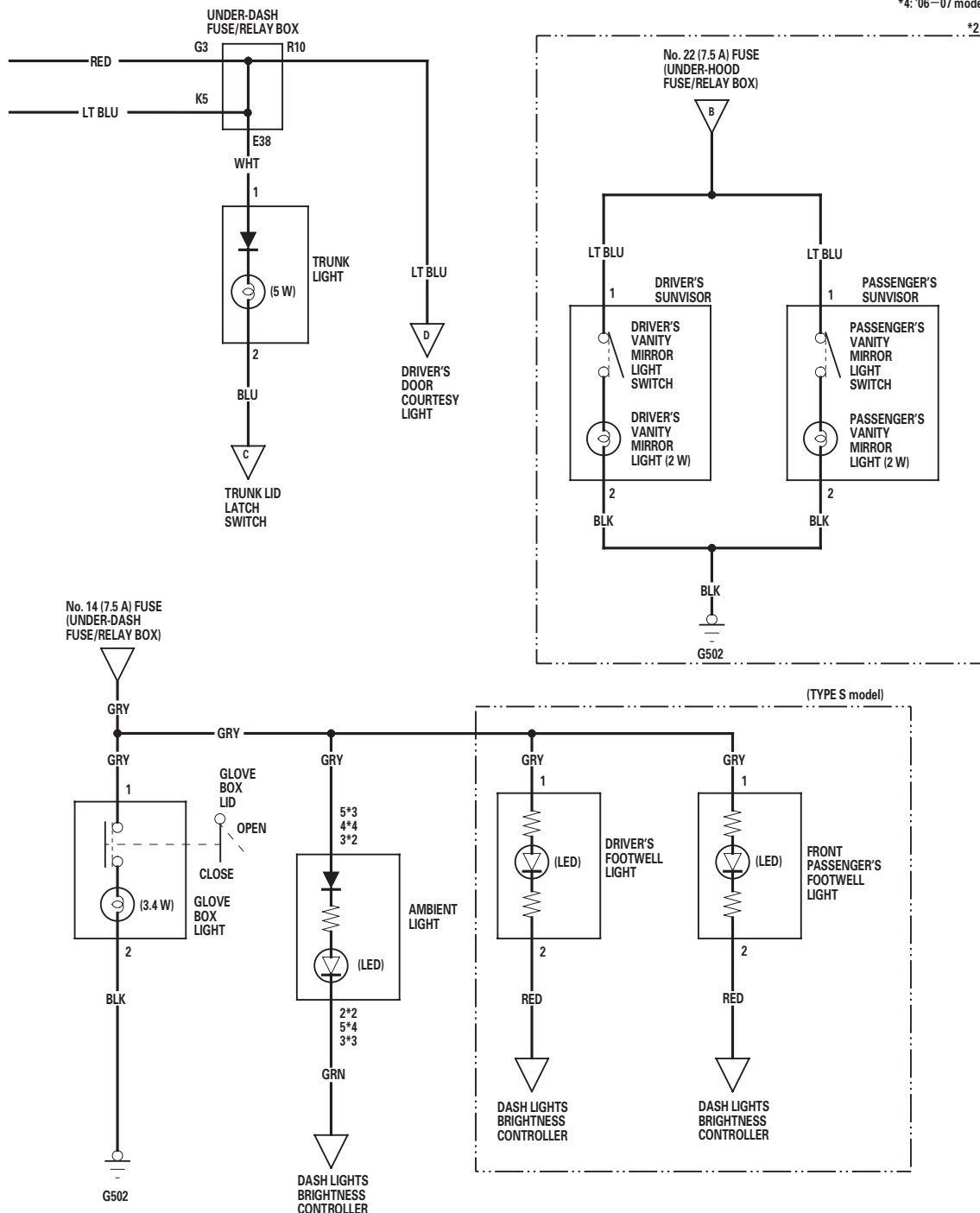
*3: TYPE S model

Interior Lights

Circuit Diagram



- *1: '06–'07 models
- *2: '08–'09 models
- *3: '06–'07 models with moonroof
- *4: '06–'07 models without moonroof



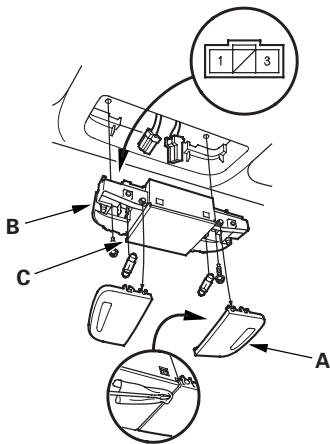
Interior Lights

Front Individual Map Light Test/Replacement

With moonroof

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

Front Individual Map Light: 8 W x 2



3. Remove the screws, then remove the map lights (B) and moonroof switch or navigation microphone (C).
4. Disconnect the 3P connector from the map lights and the 10P connector from the moonroof switch or navigation microphone.
5. Check for continuity between the terminals in each switch position according to the table.

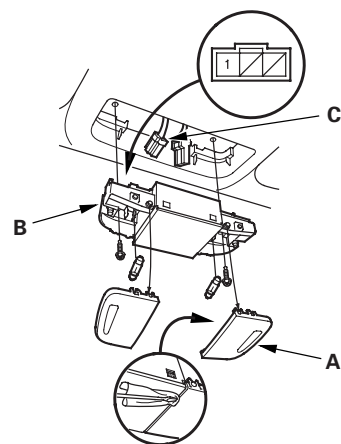
Terminal		1		3	Body ground
Position					
RIGHT	ON	○	⊗		○
	OFF	○	⊗	○	
LEFT	ON	○	⊗		○
	OFF	○	⊗	○	

6. If the continuity is not as specified, check the bulb(s). If the bulb(s) are OK, replace the light assembly.
7. Install the map light in the reverse order of removal.

Without moonroof

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

Front Individual Map Light: 8 W x 2



3. Remove the screws, then remove the map lights (B).
4. Disconnect the 3P connector (C) from the map lights.
5. Check for continuity between the terminals in each switch position according to the table.

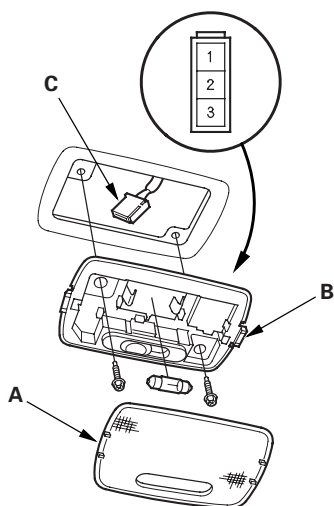
Terminal		1		Body ground
Position				
RIGHT	ON	○	⊗	○
	OFF			
LEFT	ON	○	⊗	○
	OFF			

6. If the continuity is not as specified, check the bulb(s). If the bulb(s) are OK, replace the light assembly.
7. Install the map light in the reverse order of removal.

Ceiling Light Test/Replacement

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

Ceiling Light: 8 W

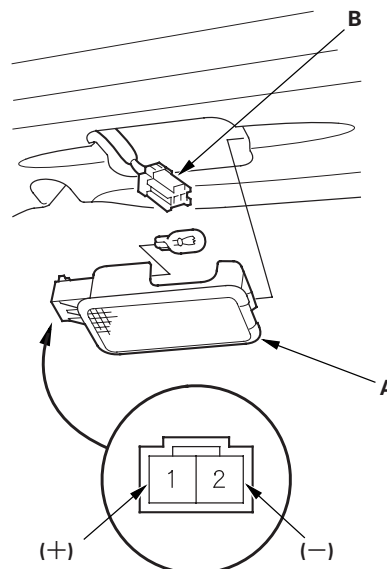


3. Remove the screws, then remove the ceiling light (B).
4. Disconnect the 3P connector (C) from the ceiling light.
5. Check for continuity between the terminals.
 - There should be continuity between terminals No. 1 and No. 2 with the switch in the MIDDLE position.
 - There should be continuity between terminals No. 2 and No. 3 (Body ground) with the switch in the ON position.
 - There should be no continuity between terminals No. 1 and No. 2, and between No. 2 and body ground with the switch in the OFF position.
6. If the continuity is not as specified, check the bulb. If the bulb is OK, replace the light.
7. Install the ceiling light in the reverse order of removal.

Trunk Light Test/Replacement

1. Open the trunk lid.
2. Carefully pry out the trunk light (A).

Trunk Light: 5 W



3. Disconnect the 2P connector (B) from the light.
4. Check for continuity between terminals No. 1 (+) and No. 2 (-). There should be continuity. If there is no continuity, check the bulb. If the bulb is OK, replace the trunk light assembly.
5. Install the trunk light in the reverse order of removal.

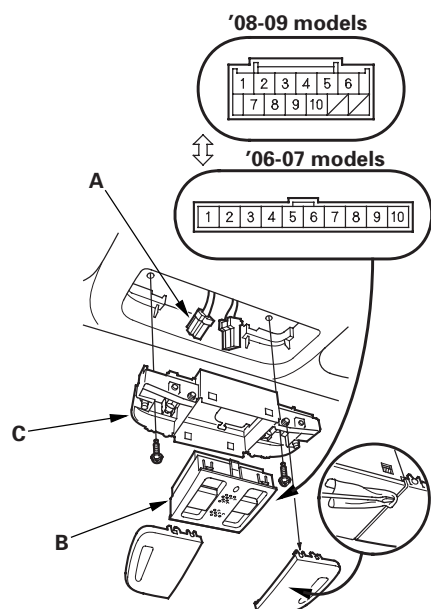
Interior Lights

Ambient Light Test/Replacement

1. Remove the front individual map light.
 - With moonroof (see page 22-196)
 - Without moonroof (see page 22-196)
2. Disconnect the 10P^{*1} (or 12P^{*2}) connector (A) from the ambient light (B), then remove the ambient light from the front individual map light housing (C).

* 1: '06-07 models

* 2: '08-09 models

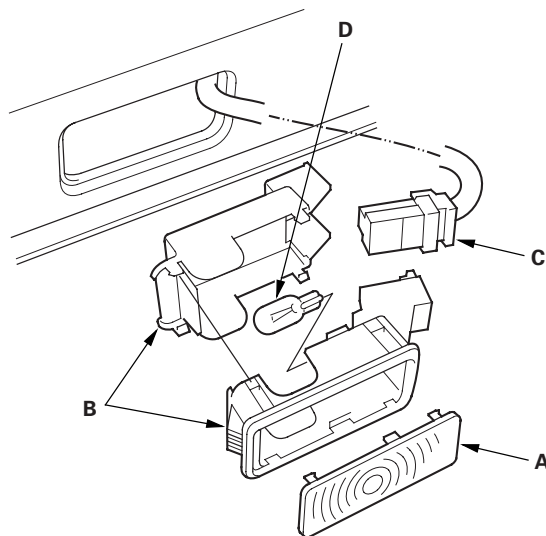


3. Connect battery power to the terminal No. 5 and ground to the No. 3 terminal. The ambient light should turn on. If the light does not turn on, replace the ambient light.
4. Install the ambient light in the reverse order of removal.

Courtesy Light Replacement

1. Carefully pry off the lens (A) with a small screwdriver.

Courtesy light: 3.4 W

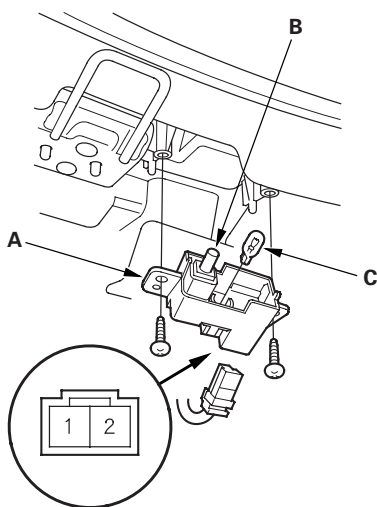


2. Pry out the housing (B) from the door panel, then disconnect the 2P connector (C).
3. Separate the housing, then remove the bulb (D) from the socket.
4. Install the courtesy light in the reverse order of removal.

Glove Box Light Test/Replacement

1. Open the glove box.
2. Remove the screws, then disconnect the 2P connector from the glove box light (A).

Glove Box Light: 3.4 W



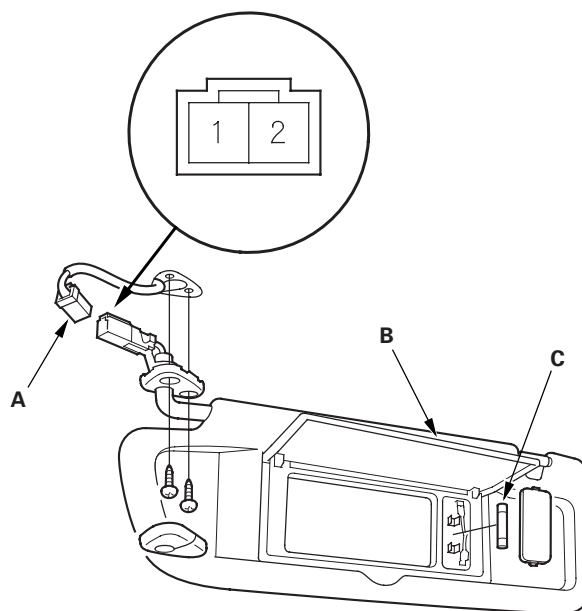
3. Check for continuity between terminals No. 1 and No. 2.
 - There should be continuity with the switch (B) released.
 - There should be no continuity with the switch (B) pushed.
4. If the continuity is not as specified, check the bulb (C). If the bulb is OK, replace the light.
5. Install the glove box light in the reverse order of removal.

Vanity Mirror Light Test/Replacement

'08-09 models

1. Open the sunvisor.
2. Remove the sunvisor (see page 20-84).
3. Disconnect the 2P connector (A) from the vanity mirror light.

Vanity Mirror Light: 2 W



4. Check for continuity between terminals No. 1 and No. 2.
 - 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, replace the bulb (C) or the sunvisor.
6. Install the vanity mirror light in the reverse order of removal.

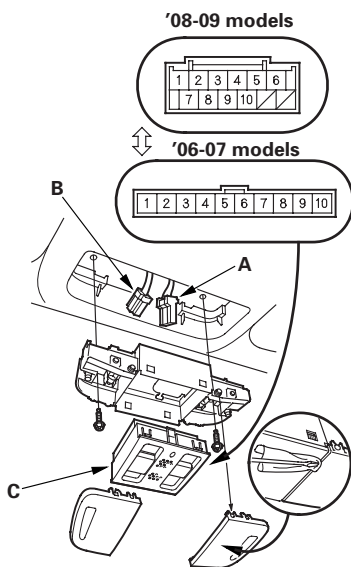
Interior Lights

Interior Light Switch Test/ Replacement

With moonroof

NOTE: The interior light switch is built into the moonroof switch, and it switches the front individual map light OFF and DOOR positions.

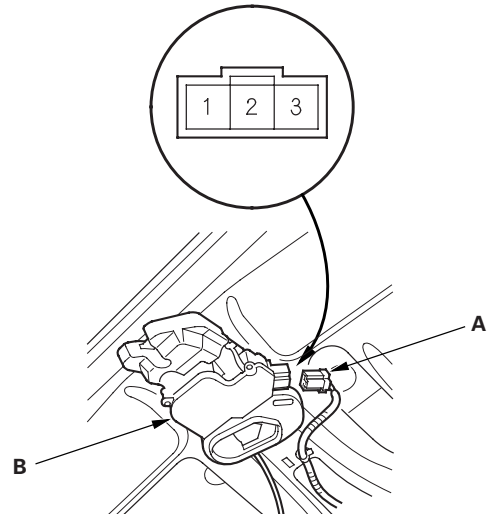
1. Remove the front individual map lights (see page 22-196).
2. Disconnect the moonroof switch 10P^{*1} (12P^{*2}) connector (A) and map light 3P connector (B).
 - * 1: '06-07 models
 - * 2: '08-09 models



3. Remove the moonroof switch (C).
4. Check for continuity between moonroof switch 10P^{*1} (12P^{*2}) connector check for continuity between terminals No. 1^{*1} (No. 7^{*2}) and No. 8^{*1} (No. 9^{*2}).
 - * 1: '06-07 models
 - * 2: '08-09 models
 - There should be continuity when the interior light switch is in the DOOR position.
 - There should be no continuity when the interior light switch is in the OFF position.
5. If the continuity check is not as specified, replace the switch.
6. Install the interior light switch in the reverse order of removal.

Trunk Lid Latch Switch Test

1. Open the trunk lid.
2. Disconnect the 3P connector (A) from the trunk lid latch assembly (B).



3. Check for continuity between terminals No. 2 and No. 3.
 - There should be continuity with the trunk lid open.
 - There should be no continuity with the trunk lid closed.
4. If the continuity is not as specified, replace the trunk lid latch assembly.

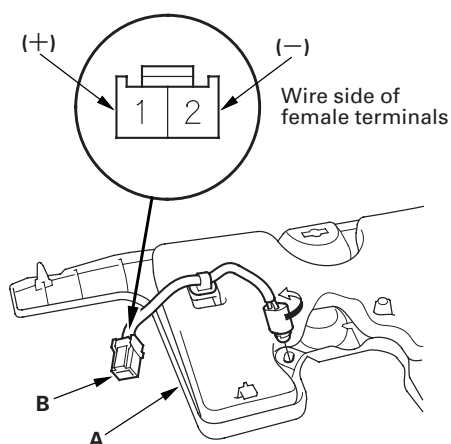
Footwell Light Test/Replacement

TYPE S model

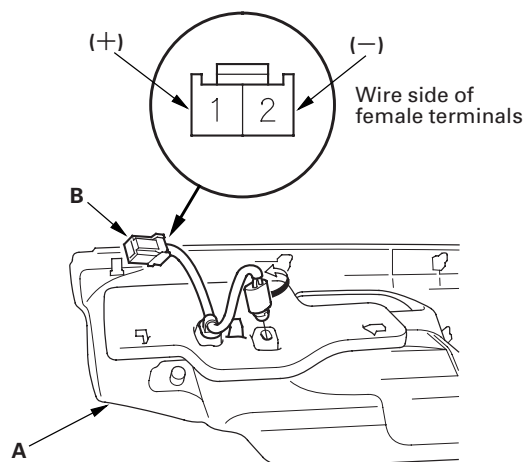
1. Remove the dashboard undercover (A).

- Driver's dashboard undercover (see page 20-103)
- Passenger's dashboard undercover (see page 20-104)

Driver's Footwell Light



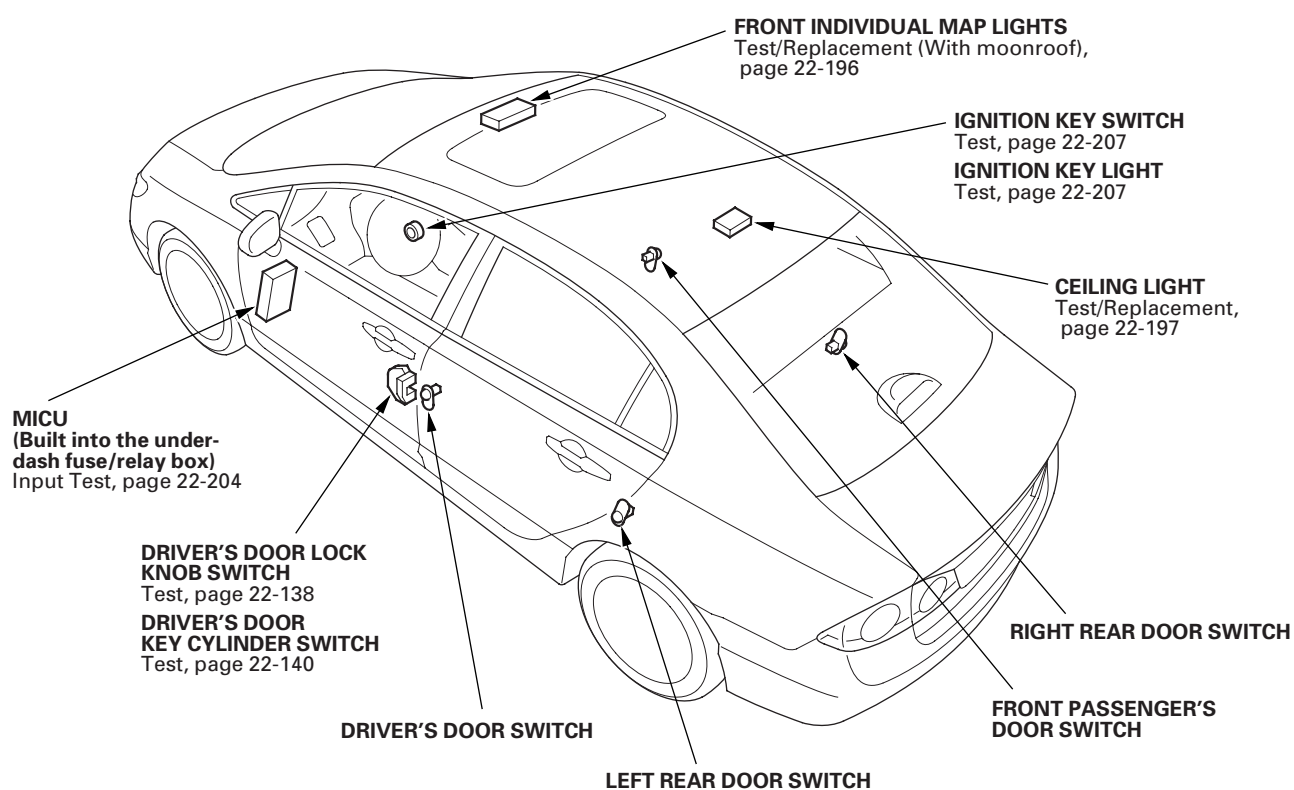
Front Passenger's Footwell Light



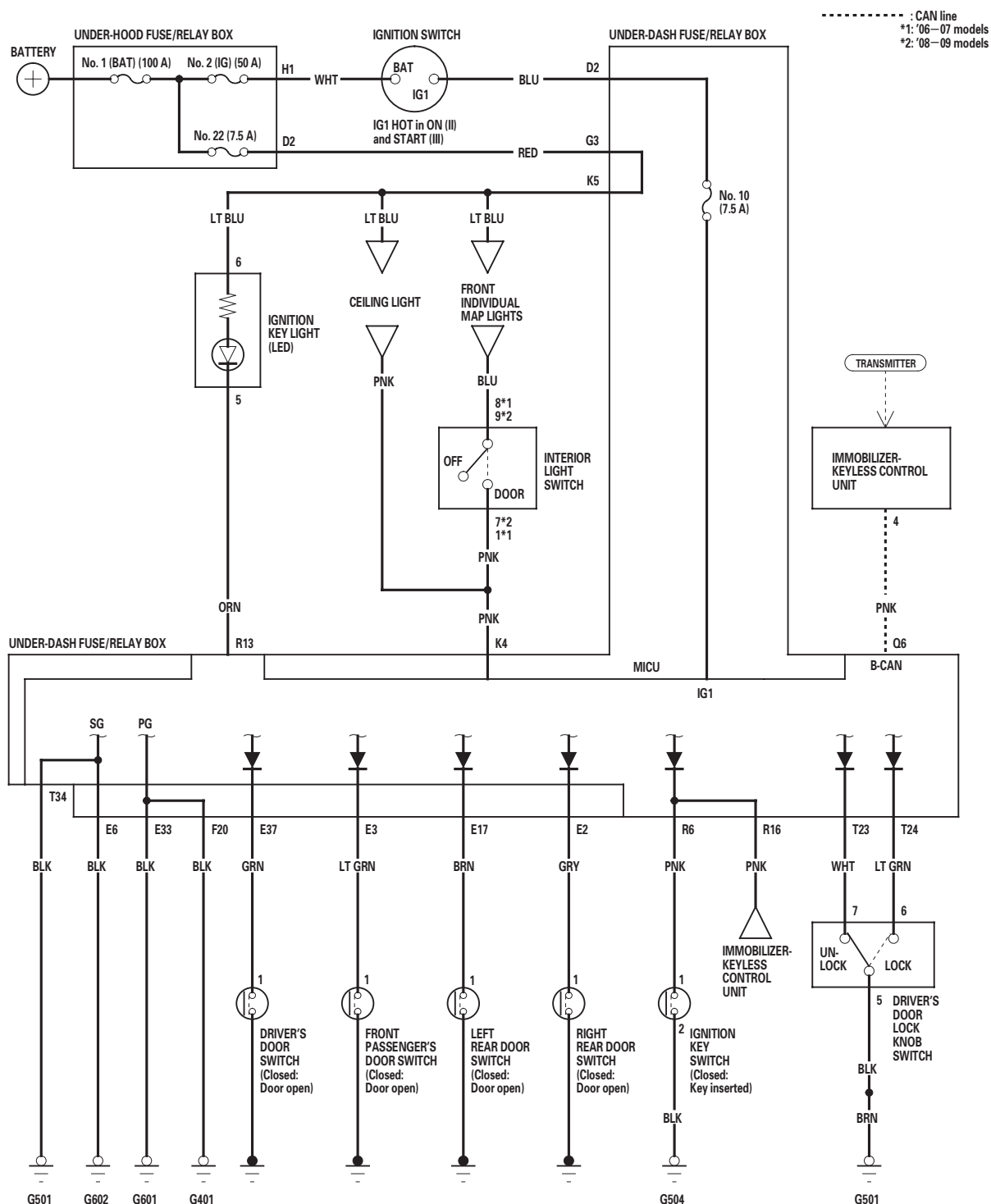
2. The LED should come on when power is connected to footwell light illumination 2P connector (B) terminal No. 1 and ground is connected to terminal No. 2.
3. If the LED does not come on, replace the footwell light.
4. Install the footwell light in the reverse order of removal.

Entry Lights Control System

Component Location Index



Circuit Diagram



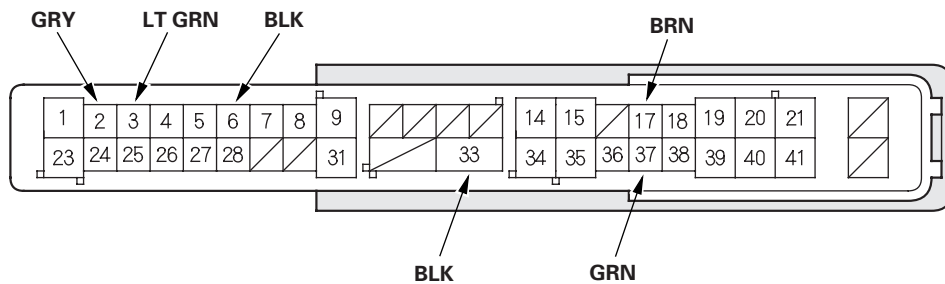
Entry Lights Control System

MICU Input Test

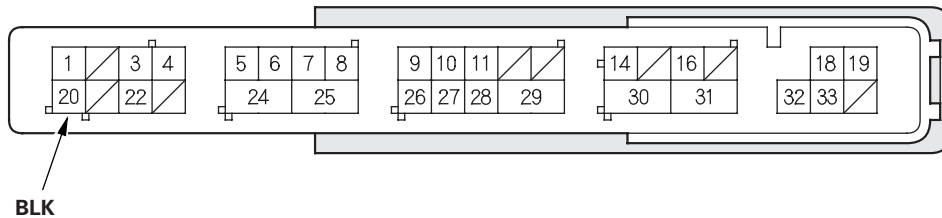
1. Before testing the entry lights control system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93).
2. Check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If any fuse is blown, replace it and go to step 3.
3. Disconnect under-dash fuse/relay box connectors E, F, K, R, and T.

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

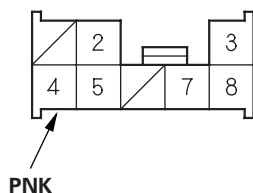
UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



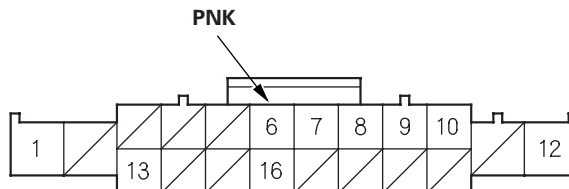
UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



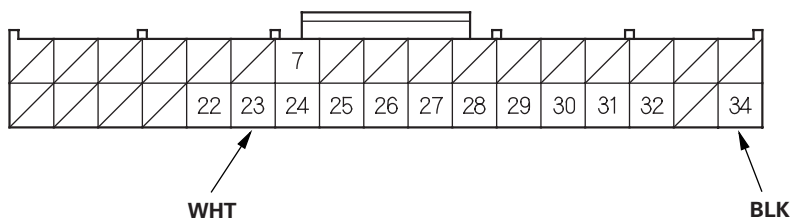
**UNDER-DASH FUSE/RELAY BOX
CONNECTOR K (8P)**



**UNDER-DASH FUSE/RELAY BOX
CONNECTOR R (20P)**



**UNDER-DASH FUSE/RELAY BOX
CONNECTOR T (34P)**



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, do this input test at the following 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 desired result is not obtained
K4	PNK	With the ceiling light switch in the middle position With moonroof: with the interior light switch in DOOR position	Attach to ground: The ceiling light and front individual map lights should come on.	• Blown No. 22 (7.5 A) fuse in the under-hood fuse/relay box • Blown bulb(s) • Faulty ceiling light • Faulty front individual map light • Faulty interior light switch (with moonroof) • An open in the wire

(cont'd)

Entry Lights Control System

MICU Input Test (cont'd)

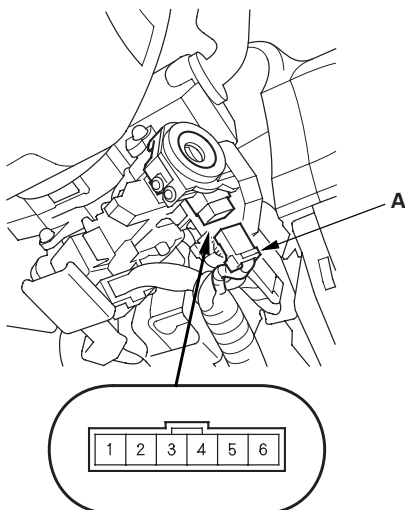
6. Reconnect the connectors to the under-dash fuse/relay box, and do these input tests at the following connectors.

- 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.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
E6	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G602) • An open in the wire
E33	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G601) • An open in the wire
F20	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
T34	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G501) • An open in the wire
E37	GRN	Driver's door open	Measure the voltage to ground: There should be less than 1 V.	• Faulty driver's door switch • 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 • A short to ground in the wire
E3	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 • 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 • A short to ground in the wire
E2	GRY	Right rear door open	Measure the voltage to ground: There should be less than 1 V.	• Faulty right rear door switch • 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 • A short to ground in the wire
E17	BRN	Left rear door open	Measure the voltage to ground: There should be less than 1 V.	• Faulty left rear door switch • 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 • A short to ground in the wire
R6	PNK	Ignition key inserted into the ignition switch	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G504) • Faulty ignition key switch • An open in the wire
		Ignition switch OFF and ignition key removed from the ignition switch	Measure the voltage to ground: There should be more than 5 V.	• Faulty ignition key switch • A short to ground in the wire
T23	WHT	Driver door lock knob switch unlocked	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty driver door lock knob switch • An open in the wire
		Driver door lock knob switch locked	Measure the voltage to ground: There should be more than 5 V.	• Faulty driver door lock knob switch • A short to ground in the wire

Ignition Key Switch Test

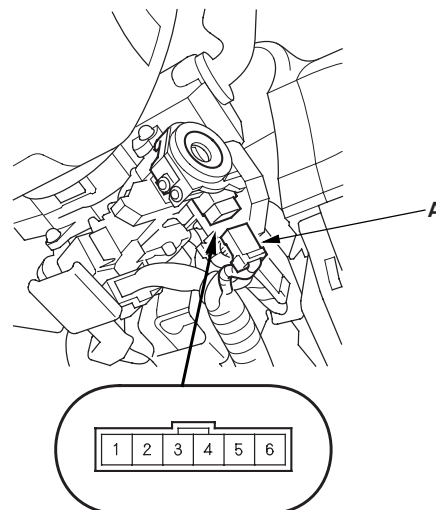
1. Remove the steering column upper and lower covers (see page 17-9).
2. Disconnect the 6P connector (A) from the ignition key switch.



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

Ignition Key Light Test

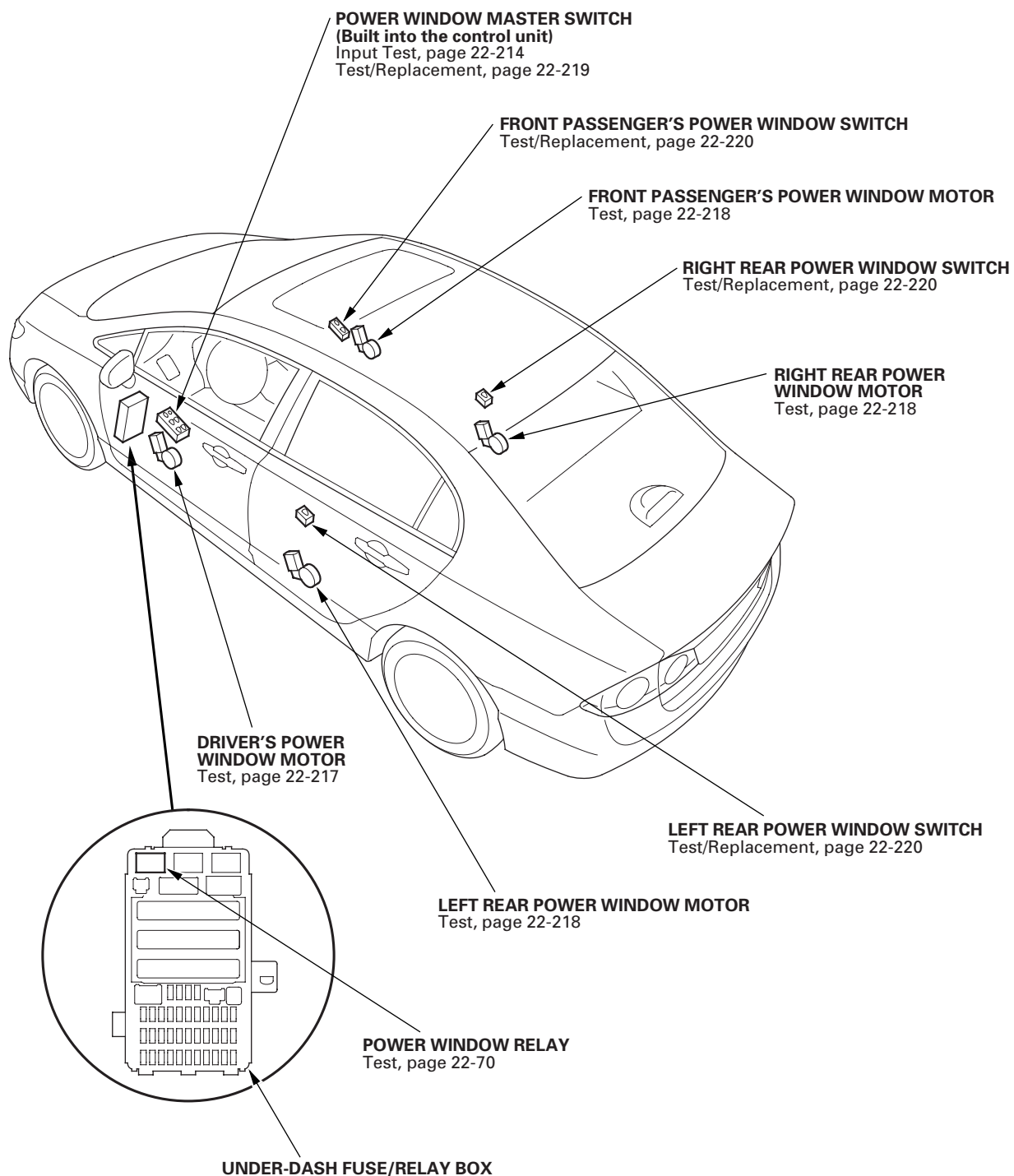
1. Remove the steering column upper and lower covers (see page 17-9).
2. Disconnect the 6P connector (A) from the ignition key switch.



3. The LED should come on when power is connected to terminal No. 6 and ground is connected to terminal No. 5.
4. If the LED does not come on, replace the steering lock assembly.

Power Windows

Component Location Index

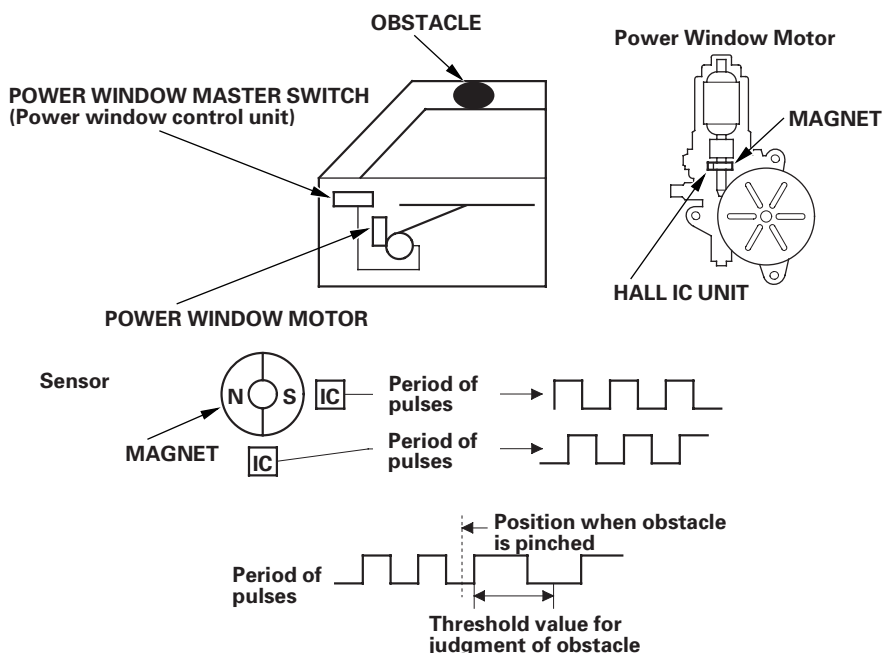


System Description

Auto Reverse Operation

The system is composed of the power window master switch and the driver's power window motor.

The driver's power window motor incorporates a Hall IC unit (pulser) which generates pulses during the motor's operation and sends the pulses to the driver's power window control unit. As soon as the power window control unit detects a change in the pulse frequency from the Hall IC unit, the power window control unit makes the driver's power window motor stop and reverse. If the window is more than halfway closed, it will reverse to half open position. If the window is less than halfway closed, it will stop and reverse about 50 mm (2 in.). This prevents pinching your hand or fingers during auto-up operation. The auto reverse operation is not active when the switch is held in the up position.



Power Windows

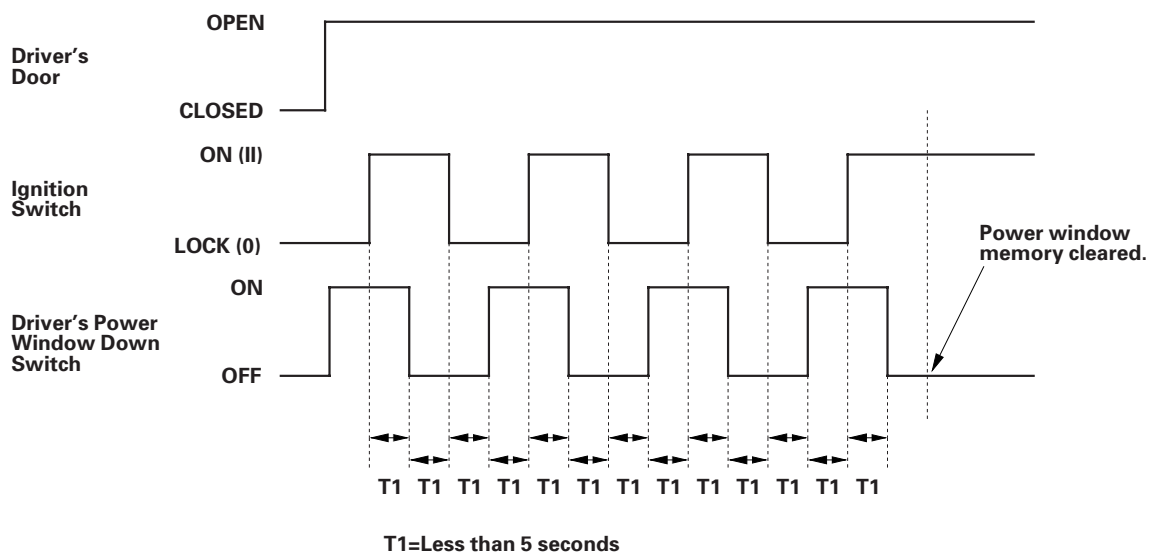
Resetting the Power Window Control Unit

Resetting the driver's power window is required when any of the following have occurred:

- Power window regulator replacement or repair
- Power window motor replacement or repair
- Window run channel replacement or repair
- Driver's door glass replacement or repair
- Power is removed from the power window control unit while the power window timer is ON.

1. Turn the ignition switch to ON (II).
2. Move the driver's power window all the way down by using the driver's power window DOWN switch.
3. Open the driver's door.

NOTE: Steps 4—7 must be done within 5 seconds of each other.



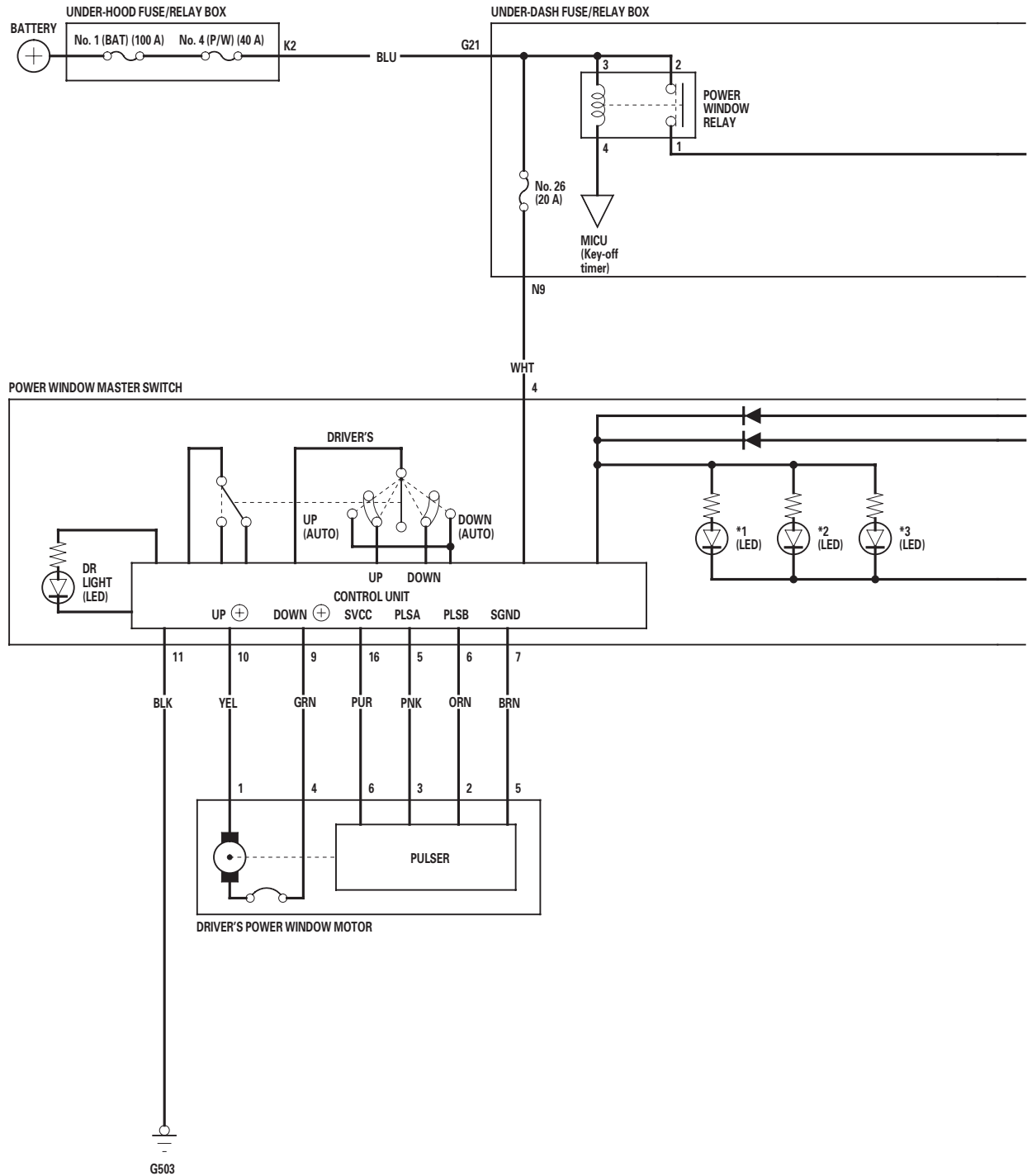


4. Turn the ignition switch to LOCK (0).
5. Push and hold the driver's power window DOWN switch.
6. Turn the ignition switch to ON (II).
7. Release the driver's power window DOWN switch.
8. Repeat step 4—7 three more times.
9. Wait 1 second.
10. Confirm that AUTO UP and AUTO DOWN do not work. If AUTO UP and DOWN work, go back to step 1. If they do not, go to step 11.
11. Move the driver's power window all the way down by using the driver's power window DOWN switch.
12. Pull up and hold the driver's window UP switch until the window reaches the fully closed position, then continue to hold the switch for 1 second.
13. Confirm that the power window control unit is reset by using the driver's power window AUTO UP and AUTO DOWN functions.

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, refer to the power window master switch input test (see page 22-214).

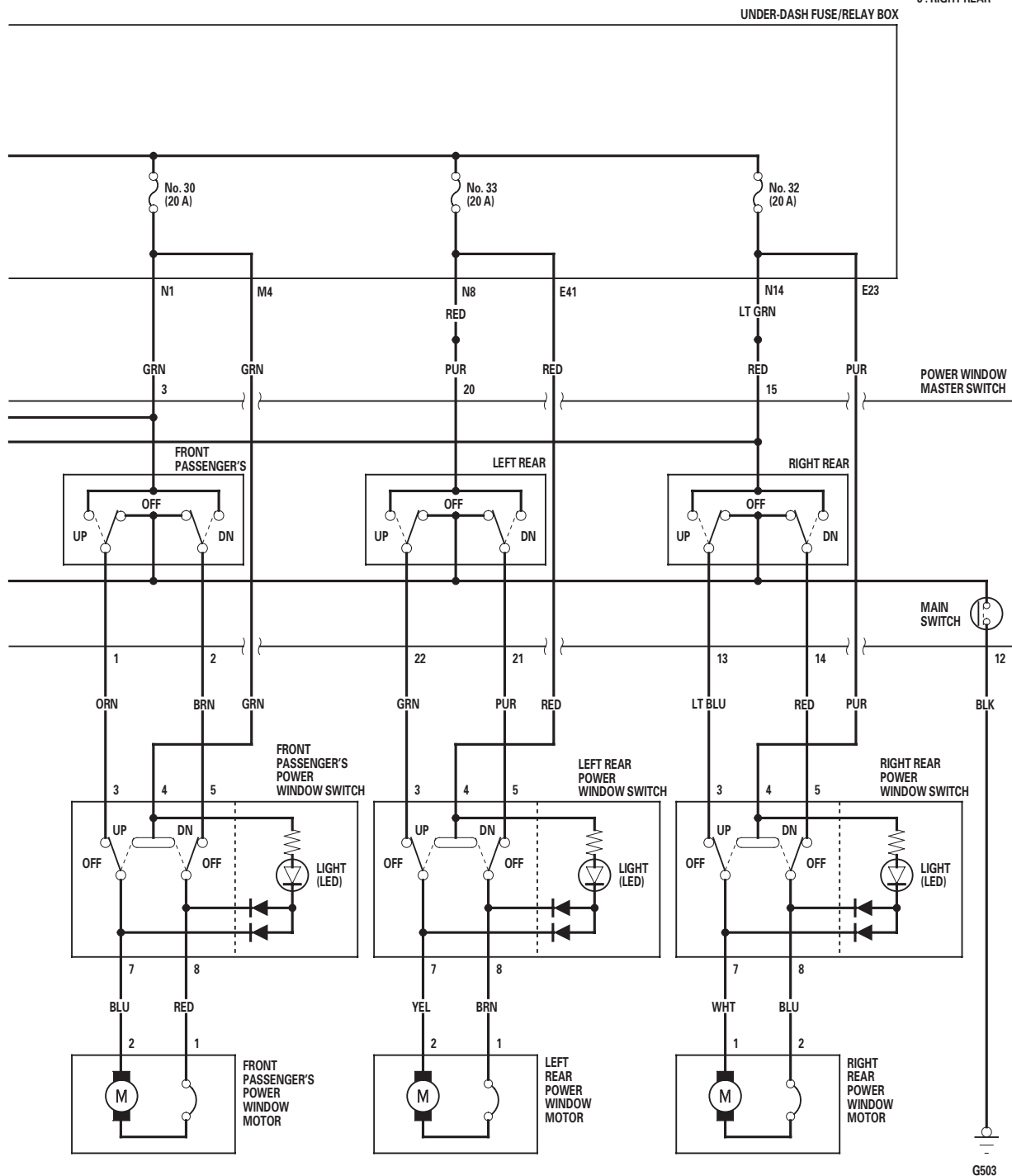
Power Windows

Circuit Diagram





*1 : FRONT PASSENGER
*2 : LEFT REAR
*3 : RIGHT REAR

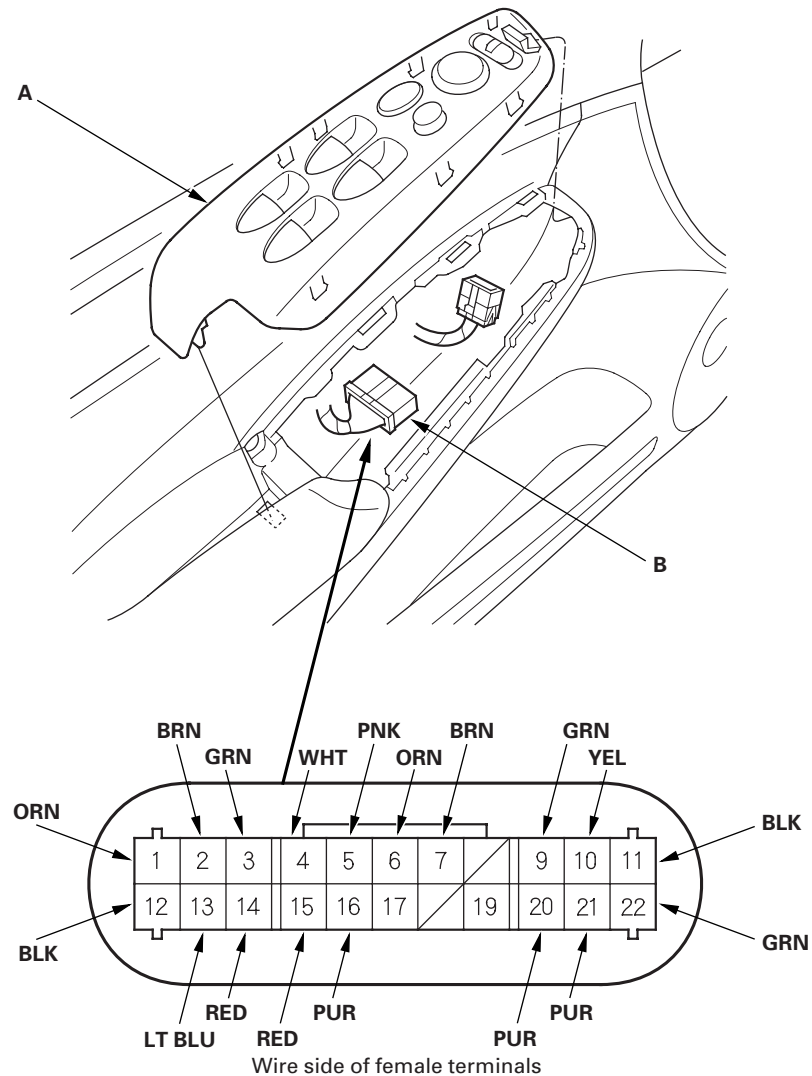


Power Windows

Power Window Master Switch Input Test

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

1. Remove the power window master switch (A).



2. Disconnect the 22P connector (B) from the power window master switch.
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 power window master switch still disconnected, do these input tests at the following 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 desired result is not obtained
9	GRN	Connect terminals No. 4 and No. 9, and terminals No. 10 and No. 11 momentarily with jumper wires	Check driver's power window motor operation: The window should go down.	• Faulty driver's power window motor • An open in the wire
10	YEL	Connect terminals No. 4 and No. 10, and terminals No. 9 and No. 11 momentarily with jumper wires	Check driver's power window motor operation: The window should go up.	
1	ORN	Connect terminals No. 3 and No. 2, and terminals No. 1 and No. 12 momentarily with jumper wires	Check front passenger's power window motor operation: The window should go down.	• Faulty front passenger's power window motor • Faulty front passenger's power window switch • An open in the wire
2	BRN	Connect terminals No. 3 and No. 1, and terminals No. 2 and No. 12 momentarily with jumper wires	Check front passenger's power window motor operation: The window should go up.	
13	LT BLU	Connect terminals No. 15 and No. 14, and terminals No. 13 and No. 12 momentarily with jumper wires	Check right rear power window motor operation: The window should go down.	• Faulty right rear power window motor • Faulty right rear power window switch • An open in the wire
14	RED	Connect terminals No. 15 and No. 13, and terminals No. 14 and No. 12 momentarily with jumper wires	Check right rear power window motor operation: The window should go up.	
21	PUR	Connect terminals No. 20 and No. 21, and terminals No. 22 and No. 12 momentarily with jumper wires	Check left rear power window motor operation: The window should go down.	• Faulty left rear power window motor • Faulty left rear power window switch • An open in the wire
22	GRN	Connect terminals No. 20 and No. 22, and terminals No. 21 and No. 12 momentarily with jumper wires	Check left rear power window motor operation: The window should go up.	

(cont'd)

Power Windows

Power Window Master Switch Input Test (cont'd)

5. Reconnect the 22P connector to the power window master switch. Turn the ignition switch to ON (II), and do these input tests at the following connector.

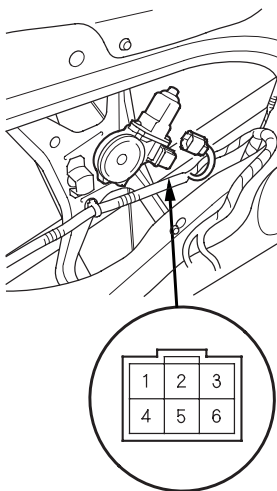
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the control unit must be faulty; replace the power window master switch.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
3	GRN	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 30 (20 A) fuse in the under-dash fuse/relay box • Faulty power window relay • Faulty MICU • An open in the wire
4	WHT	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 26 (20 A) fuse in the under-dash fuse/relay box • An open in the wire
15	RED	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 32 (20 A) fuse in the under-dash fuse/relay box • Faulty power window relay • Faulty MICU • An open in the wire
20	PUR	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 33 (20 A) fuse in the under-dash fuse/relay box • Faulty power window relay • Faulty MICU • 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 (G503) • An open in the wire
11	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G503) • An open in the wire
12	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G503) • An open in the wire
16	PUR	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Faulty power window master switch • A short to ground in the wire
5	PNK	Ignition switch ON (II), and driver's power window switch moving up or down	Measure the voltage between terminals No. 5 and No. 7: There should be 0 V—about 5 V—0 V— about 5 V repeatedly (a digital voltmeter should read about 2.5 V while the window moves).	• Faulty power window master switch • Faulty driver's power window motor • An open in the wire • A short to ground in the wire
6	ORN	Ignition switch ON (II), and driver's power window switch moving up or down	Measure the voltage between terminals No. 6 and No. 7: There should be 0 V—about 5 V—0 V— about 5 V repeatedly (a digital voltmeter should read about 2.5 V while the window moves).	

6. Reset the power window control unit (see page 22-210).

Driver's Power Window Motor Test

1. Remove the door panel (see page 20-7).
2. Disconnect the 6P connector from the driver's power window motor.



Motor Test

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

Terminal	1	4
Direction		
UP	⊕	⊖
DOWN	⊖	⊕

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

Pulser Test

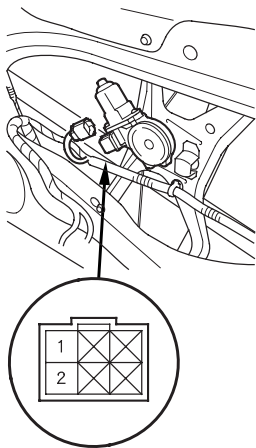
5. Reconnect the 6P connector to the driver's power window motor.
6. Turn the ignition switch to ON (II).
7. Measure the voltage between the terminals.
 - There should be battery voltage between terminals No. 6 (+) and No. 5 (−).
 - Connect an analog voltmeter between terminals No. 3 (+) and No. 5 (−), and run the power window motor down or up. The voltmeter needle should move back and forth alternately between 0 V and about 5 V (a digital voltmeter reads about 2.5 V).
 - Connect an analog voltmeter between terminals No. 2 (+) and No. 5 (−), and run the power window motor down or up. The voltmeter needle should move back and forth alternately between 0 V and about 5 V (a digital voltmeter reads about 2.5 V).
8. If the voltage is not as specified, do the power window master switch input test at the appropriate terminals: No. 5, 6, 7, and 16 (see page 22-214).
9. If the switch is OK, replace the power window motor.
10. Reset the power window control unit (see page 22-210).

Power Windows

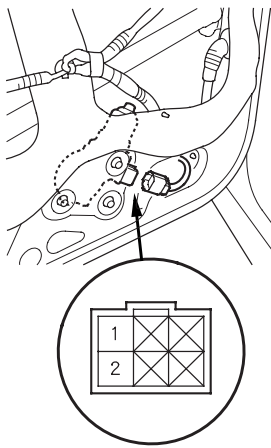
Passenger's Power Window Motor Test

1. Remove the door panel.
 - Front door panel (see page 20-7)
 - Rear door panel (see page 20-17)
2. Disconnect the 2P connector from the power window motor.

Front passenger's



Rear



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

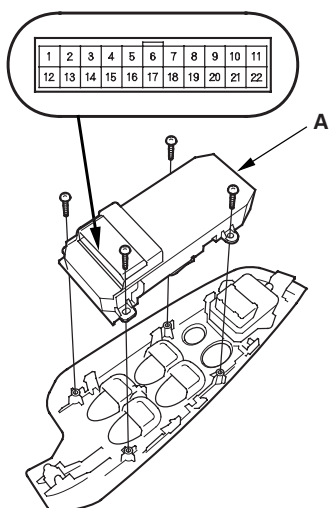
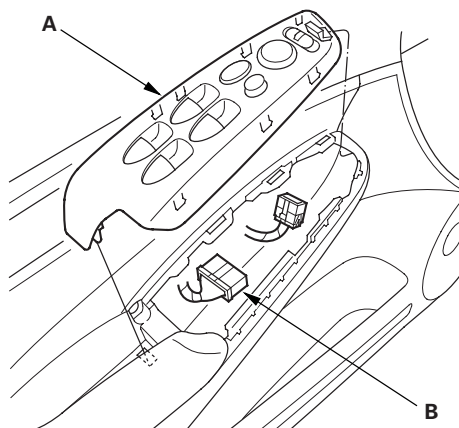
Terminal	2 [1]	1 [2]
Direction		
UP	⊕	⊖
DOWN	⊖	⊕

[1] : Right rear power window motor

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

Power Window Master Switch Test/Replacement

1. Carefully pry out the power window master switch (A).



2. Disconnect the 22P connector (B) from the power window master switch.
3. Check for continuity between the terminals in each switch position according to the tables.

Driver's Switch

The driver's switch is combined with the control unit, so you cannot isolate the switch to test it. Instead, run the power window master switch input test procedures (see page 22-214). If the tests are normal, the driver's switch must be faulty. Replace the switch.

Front Passenger's Switch

Terminal		1	2	3	12
Position	Main Switch				
OFF	ON	○	○	○	○
	OFF	○	○		
UP	ON	○	○	○	○
	OFF	○		○	
DOWN	ON	○	○	○	○
	OFF		○	○	

Left Rear Switch

Terminal		20	21	22	12
Position	Main Switch				
OFF	ON		○	○	○
	OFF		○	○	
UP	ON	○	○	○	○
	OFF	○		○	
DOWN	ON	○	○	○	○
	OFF	○	○		

Right Rear Switch

Terminal		13	14	15	12
Position	Main Switch				
OFF	ON	○	○	○	○
	OFF	○	○		
UP	ON	○	○	○	○
	OFF	○		○	
DOWN	ON	○	○	○	○
	OFF		○	○	

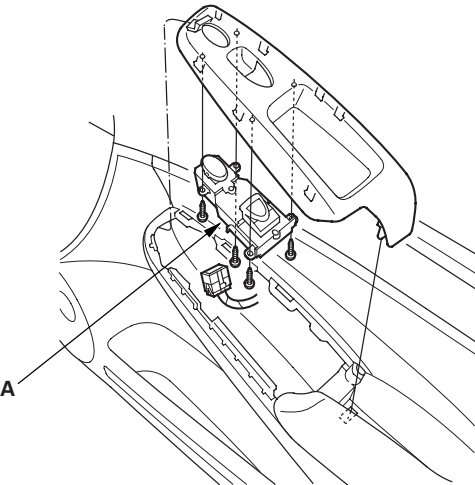
4. If the continuity is not as specified, remove the screws and replace the switch.
5. Install the power window master switch in the reverse order of removal.

Power Windows

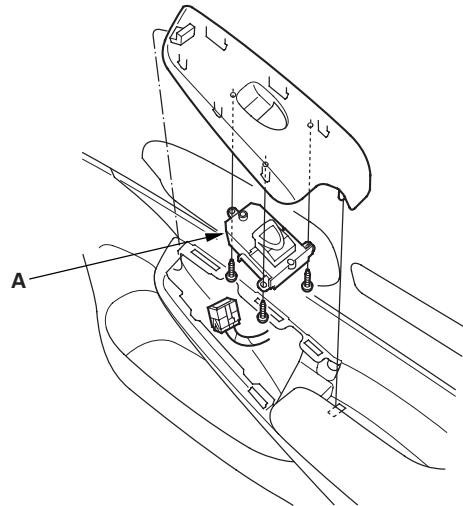
Passenger's Power Window Switch Test/Replacement

1. Remove the passenger's power window switch (A).

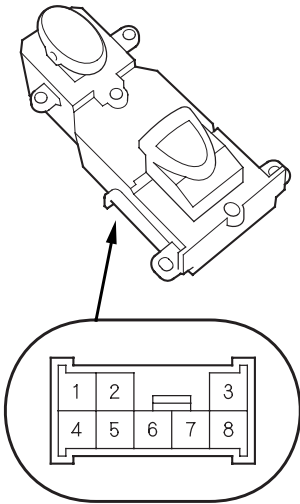
Front passenger's



Rear



NOTE: The illustration shows the front passenger's door.

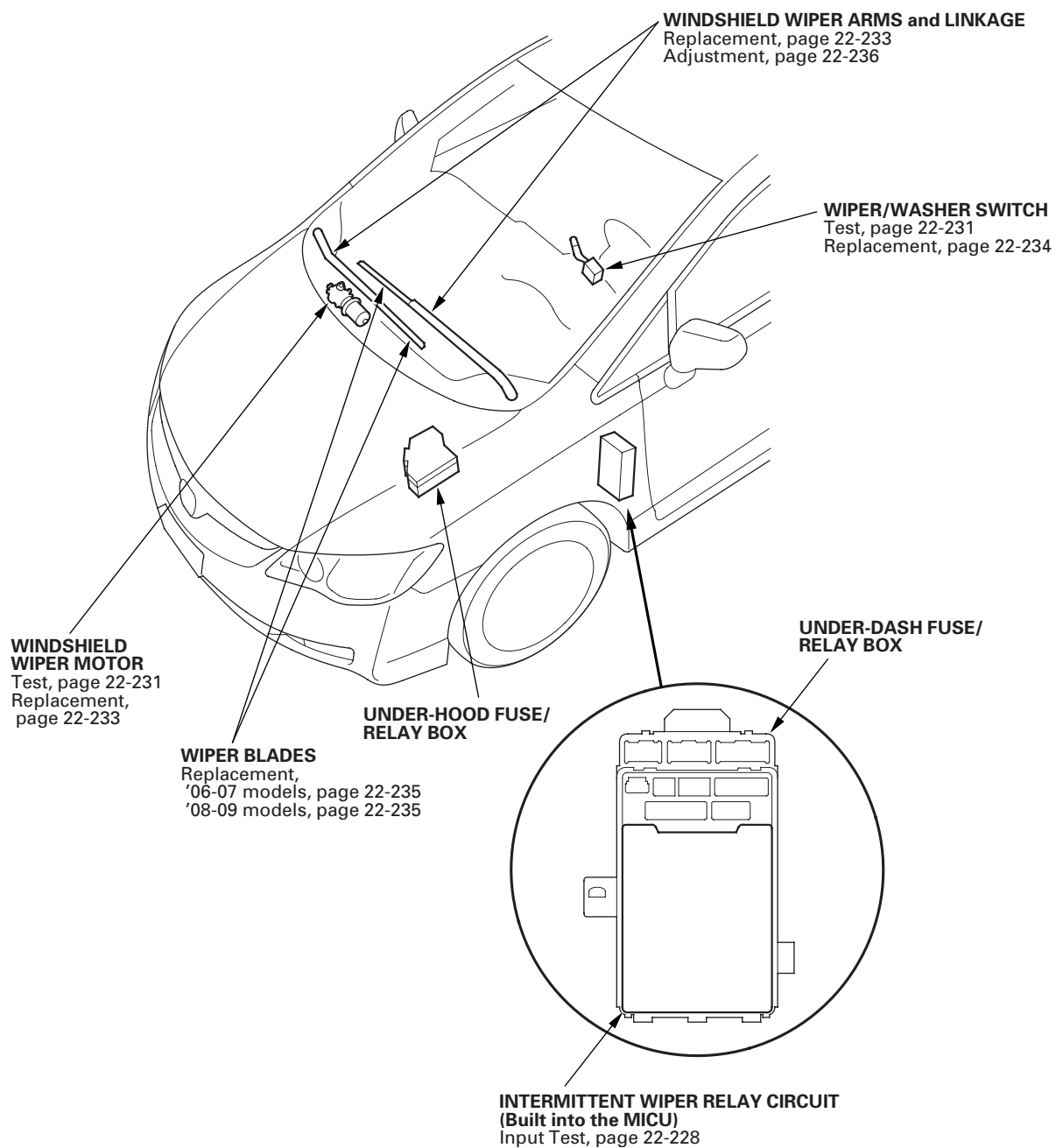


2. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	3	4	5	7	8
OFF					
UP					
DOWN					

3. Connect battery power to terminal No. 4 and ground terminal No. 7 (or No. 8). The switch light should come on.
4. If the continuity or switch light tests is not as specified, remove the screws and replace the switch.
5. Install the passenger's power window switch in the reverse order of removal.

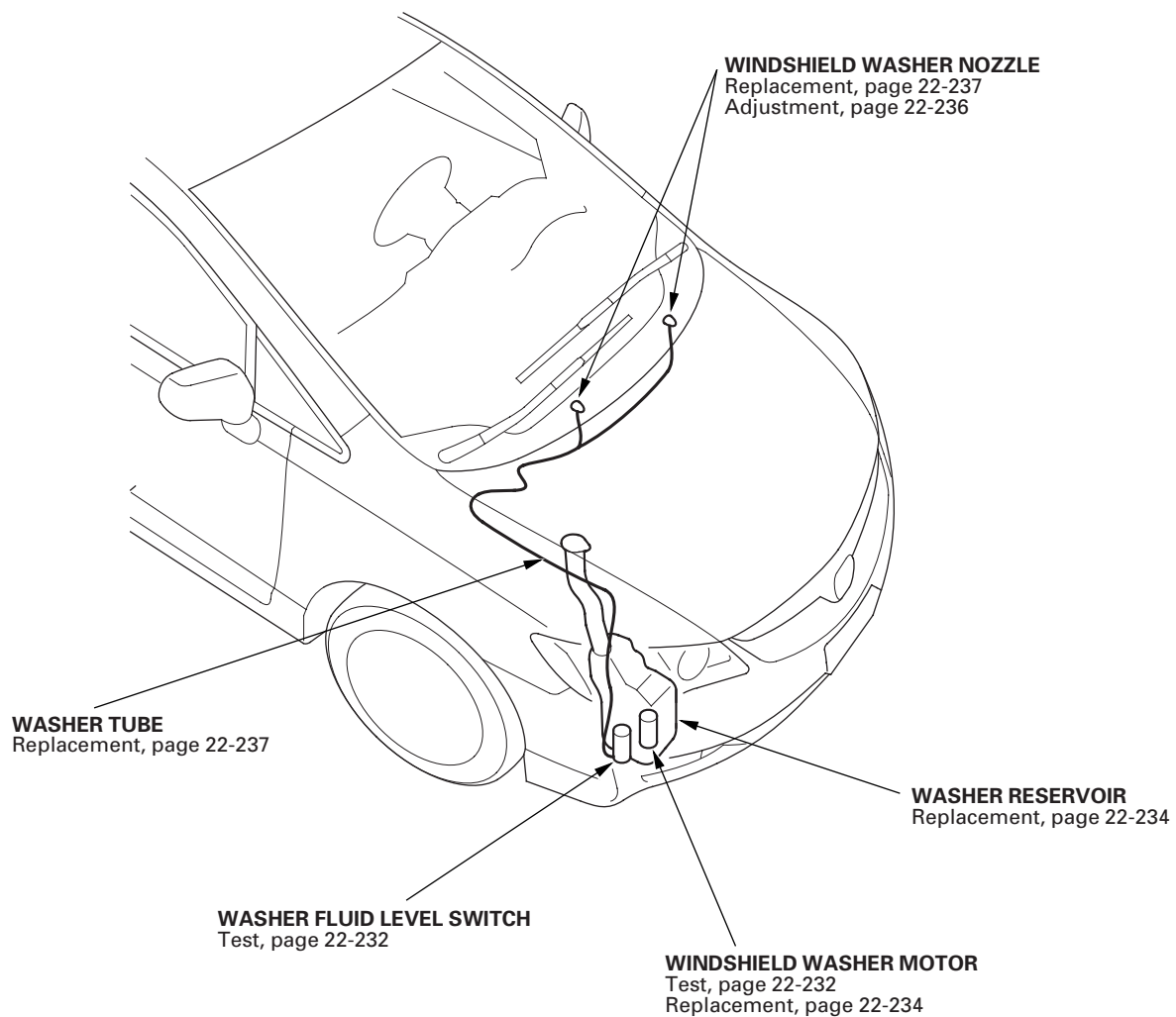
Component Location Index



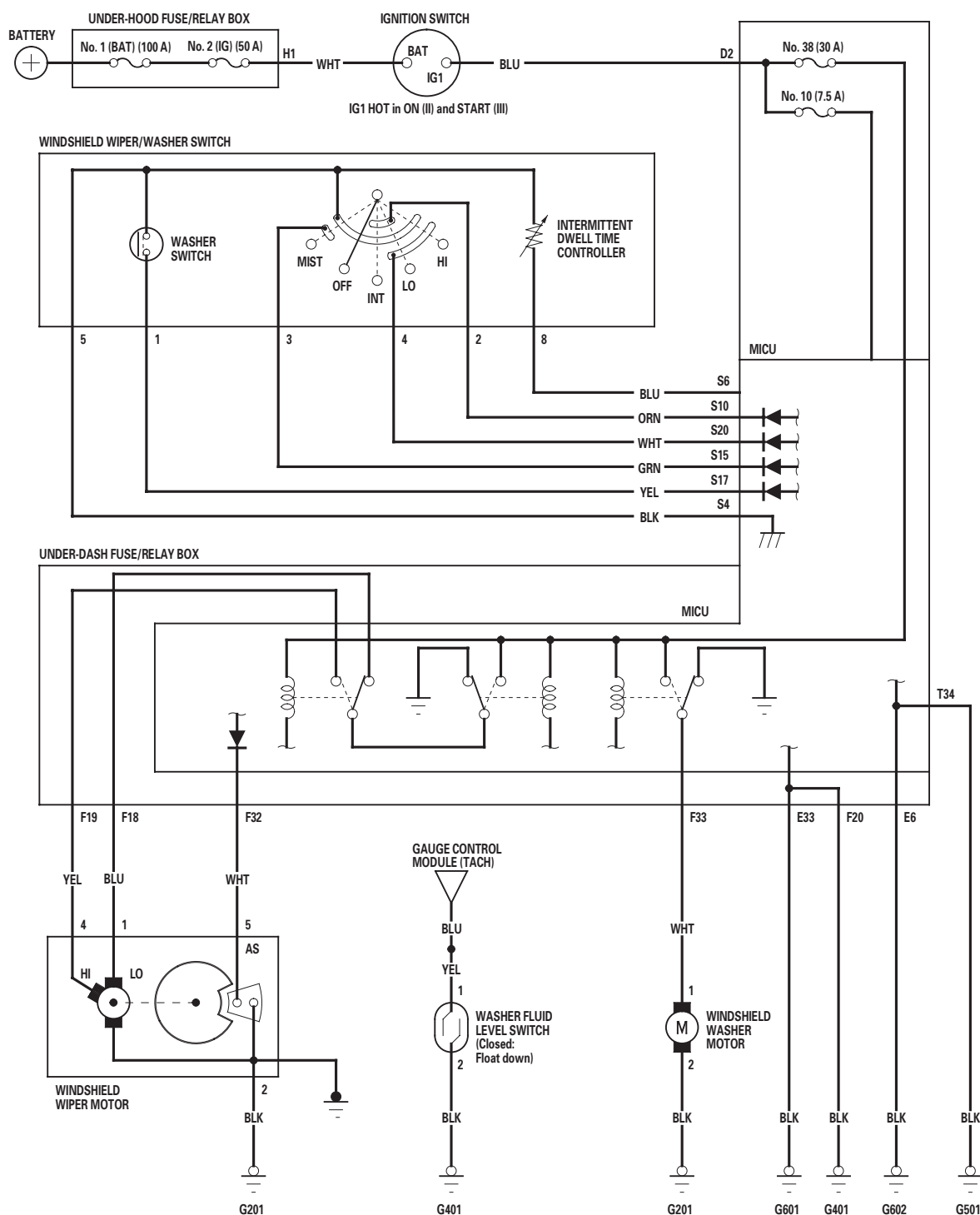
(cont'd)

Wipers/Washers

Component Location Index (cont'd)



Circuit Diagram



Wipers/Washers

DTC Troubleshooting

DTC B1077: Windshield Wiper (As) 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Turn the wiper switch to LOW or HIGH for 15 seconds or more, then turn the switch OFF.

Do the windshield wiper run?

YES—Go to step 4.

NO—Go to step 12.

4. Check for DTCs with the HDS.

Is DTC B1077 indicated?

YES—Go to step 5.

NO—Intermittent failure. The windshield wiper system is OK at this time. Check for loose or poor connections. ■

5. Turn the ignition switch to LOCK (0).
6. Do the wiper motor test (see page 22-231).

Does the wiper motor run normally and does it pulse?

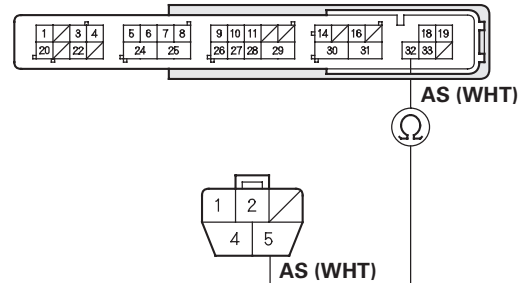
YES—Go to step 7.

NO—Replace the windshield wiper motor (see page 22-233) and recheck. ■

7. Disconnect under-dash fuse/relay box connector F (34P) and windshield wiper motor 5P connector.

8. Check for continuity between windshield wiper motor 5P connector terminal No. 5 and under-dash fuse/relay box connector F (34P) terminal No. 32.

UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P) Wire side of female terminals



WINDSHIELD WIPER MOTOR 5P CONNECTOR Wire side of female terminals

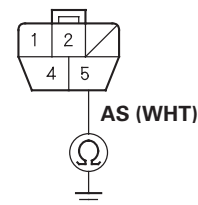
Is there continuity?

YES—Go to step 9.

NO—Repair an open in the WHT wire. ■

9. Check for continuity between windshield wiper motor 5P connector terminal No. 5 and body ground.

WINDSHIELD WIPER MOTOR 5P CONNECTOR



Wire side of female terminals

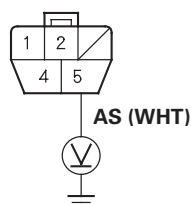
Is there continuity?

YES—Repair a short in the WHT wire. ■

NO—Go to step 10.

10. Turn the ignition switch to ON (II).
11. Measure the voltage between windshield wiper motor 5P connector terminal No. 5 and body ground.

WINDSHIELD WIPER MOTOR 5P CONNECTOR



Wire side of female terminals

Is there voltage?

YES—Repair a short to power in the WHT wire. ■

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

12. Turn the ignition switch to LOCK (0).
13. Check the No. 38 (30 A) fuse in the under-dash fuse/relay box.

Is the fuse OK?

YES—Go to step 14.

NO—Replace the fuse and recheck the system. ■

14. Do the wiper motor test (see page 22-231).

Does the wiper motor run normally?

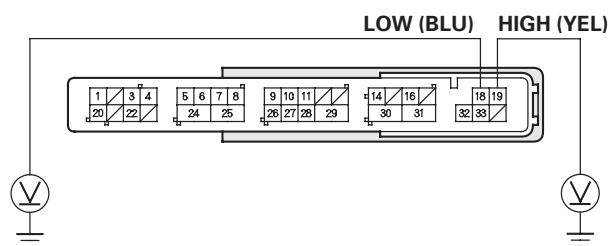
YES—Go to step 15.

NO—Replace the windshield wiper motor (see page 22-233) and recheck. ■

15. Reconnect the windshield wiper motor 5P connector.

16. Measure the voltage between under-dash fuse/relay box connector F (34P) terminals No. 18 (LOW) and No. 19 (HIGH) and body ground with the wiper switch in corresponding position.

UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



Wire side of female terminals

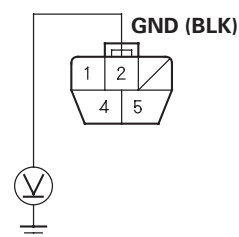
Is there battery voltage?

YES—Go to step 17.

NO—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

17. Measure the voltage between windshield wiper motor 5P connector terminal No. 2 and body ground.

WINDSHIELD WIPER MOTOR 5P CONNECTOR



Wire side of female terminals

Is there less than 0.5 V?

YES—Repair an open in the BLU (LOW) or YEL (HIGH) wire. ■

NO—Repair an open in the BLK wire or poor ground (G201). ■

Wipers/Washers

DTC Troubleshooting (cont'd)

DTC B1281: Windshield Wiper Switch MIST Position Circuit Malfunction

DTC B1282: Windshield Wiper Switch INT 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Turn the wiper switch to the MIST, INT, LOW, HIGH, and OFF positions, and wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1281, B1282, B1283, or B1284 indicated?

YES—Go to step 5.

NO—Intermittent failure, the wiper system is OK at this time. Check for loose or poor connections. ■

5. Select WIPERS from the BODY ELECTRICAL menu, and enter DATA LIST.
6. Check each wiper switch position value with the DATA LIST menu.

When the wiper switch is turned OFF

Data List	Value
Wiper switch (LOW)	OFF
Wiper switch (HIGH)	OFF
Wiper switch (MIST)	OFF
Wiper switch (INT)	OFF

Are all data list values correct?

YES—Go to step 7.

NO—Go to step 10.

7. Turn the ignition switch to LOCK (0).
8. Disconnect under-dash fuse/relay box connector S (20P).
9. Check for continuity between under-dash fuse/relay box connector S (20P) terminals as shown:

From terminal	To terminal
10	6, 15, 20
15	6, 20

Is there continuity?

YES—Repair a short between the wires. ■

NO—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

10. Turn the ignition switch to LOCK (0).
11. Disconnect the 8P connector from the wiper switch.
12. Turn the ignition switch to ON (II).
13. Check each wiper switch position value with the DATA LIST menu.

When the wiper switch is turned OFF

Data List	Value
Wiper switch (LOW)	OFF
Wiper switch (HIGH)	OFF
Wiper switch (MIST)	OFF
Wiper switch (INT)	OFF

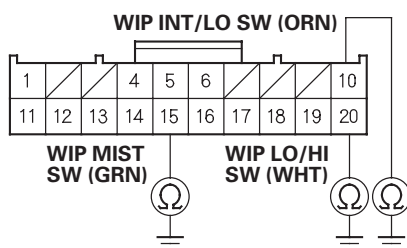
Are all data list values correct?

YES—Replace the wiper/washer switch (see page 22-234). ■

NO—Go to step 14.

14. Turn the ignition switch to LOCK (0).
15. Disconnect under-dash fuse/relay box connector S (20P).
16. Check for continuity between body ground and under-dash fuse/relay box connector S (20P) terminals No. 10, No. 15, and No. 20 individually.

UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



Wire side of female terminals

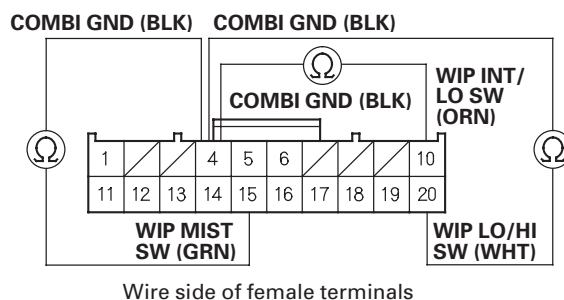
Is there continuity?

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

NO—Go to step 17.

17. Check for continuity between under-dash fuse/relay box connector S (20P) terminal No. 4 and terminals No. 10, No. 15, and No. 20 individually.

UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



Wire side of female terminals

Is there continuity?

YES—Repair a short between the wires. ■

NO—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

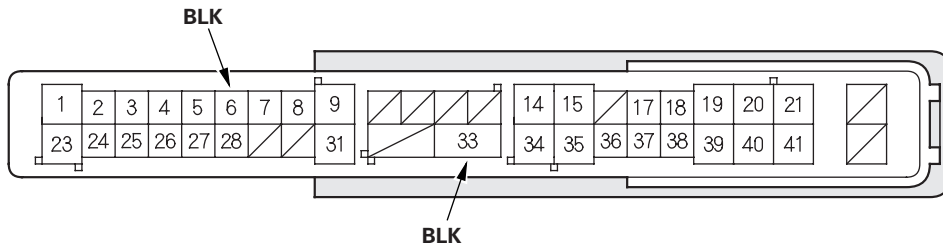
Wipers/Washers

MICU Input Test

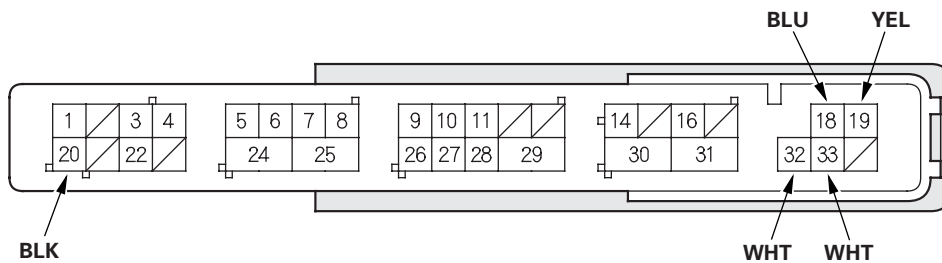
1. Before testing the wiper/washer system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93), and check the No. 10 (7.5 A) and No. 38 (30 A) fuses in the under-dash fuse/relay box.
2. Disconnect the under-dash fuse/relay box connectors E, F, S, and T.

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

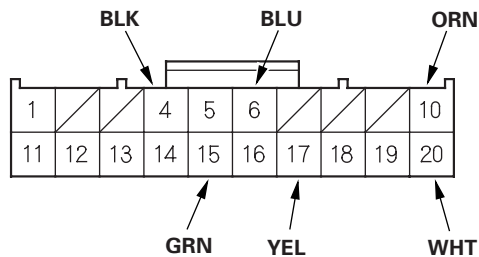
UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



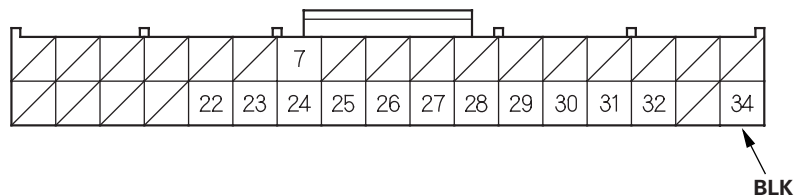
UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR T (34P)





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, do these input tests at the following 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 desired result is not obtained
F18	BLU	Under all conditions	Connect battery power to terminal F18: The windshield wiper motor should run at low speed.	• Poor ground (G201) • Faulty windshield wiper motor • An open in the wire
F19	YEL	Under all conditions	Connect battery power to terminal F19: The windshield wiper motor should run at high speed.	• Poor ground (G201) • Faulty windshield wiper motor • An open in the wire
F32	WHT	Disconnect the windshield wiper motor 5P connector	Check for continuity between terminal F32 and wiper motor 5P connector terminal No. 5: There should be continuity.	An open in the wire
F33	WHT	Under all conditions	Connect battery power to terminal F33: The windshield washer motor should run.	• Poor ground (G201) • Faulty windshield washer motor • An open in the wire
S6 · S4	BLU · BLK	Windshield wiper/washer switch (intermittent dwell timer) turned	Measure the resistance between terminals S6 and S4: There resistance should vary from about 0 to 1 k Ω .	• Faulty windshield wiper/washer switch • An open in the wire • A short to ground in the wire

(cont'd)

Wipers/Washers

MICU Input Test (cont'd)

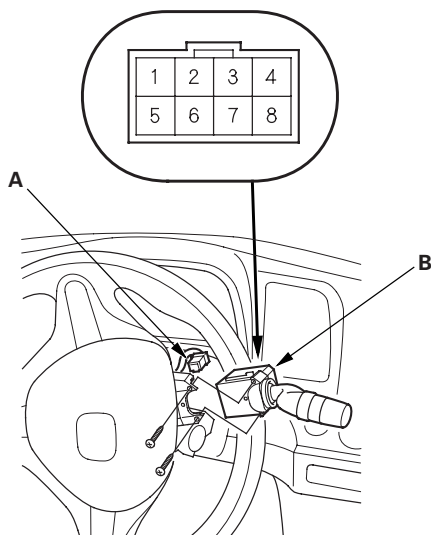
5. Reconnect the connectors to the under-dash fuse/relay box, and do these input tests at the following connectors.

- 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.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
E6	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G602) • An open in the wire
E33	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G601) • An open in the wire
F20	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G401) • An open in the wire
T34	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G501) • An open in the wire
S10 · S4	ORN · BLK	Ignition switch ON (II), windshield wiper/washer switch (INT) ON	Measure the voltage between terminals S10 and S4, and terminals S20 and S4: There should be less than 1 V.	• Faulty windshield wiper/washer switch • An open in the wire
		Ignition switch ON (II), windshield wiper/washer switch OFF	Measure the voltage between terminals S10 and S4, and terminals S20 and S4: There should be more than 5 V.	• Faulty windshield wiper/washer switch • A short to ground in the wire
S15 · S4	GRN · BLK	Ignition switch ON (II), windshield wiper/washer switch (MIST) ON	Measure the voltage between terminals S15 and S4: There should be less than 1 V.	• Faulty windshield wiper/washer switch • An open in the wire
		Ignition switch ON (II), windshield wiper/washer switch (MIST) OFF	Measure the voltage between terminals S15 and S4: There should be more than 5 V.	• Faulty windshield wiper/washer switch • A short to ground in the wire
S17 · S4	YEL · BLK	Ignition switch ON (II), windshield washer switch ON	Measure the voltage between terminals S17 and S4: There should be less than 1 V.	• Faulty windshield wiper/washer switch • An open in the wire
		Ignition switch ON (II), windshield washer switch OFF	Measure the voltage between terminals S17 and S4: There should be more than 5 V.	• Faulty windshield wiper/washer switch • A short to ground in the wire
S20 · S4	WHT · BLK	Ignition switch ON (II), windshield wiper/washer switch (LOW) ON	Measure the voltage between terminals S20 and S4: There should be less than 1 V.	• Faulty windshield wiper/washer switch • An open in the wire
		Ignition switch ON (II), windshield wiper/washer switch OFF	Measure the voltage between terminals S20 and S4: There should be more than 5 V.	• Faulty windshield wiper/washer switch • A short to ground in the wire
		Ignition switch ON (II), windshield wiper/washer switch (HIGH) ON	Measure the voltage between terminals S20 and S4: There should be less than 1 V.	• Faulty windshield wiper/washer switch • An open in the wire
		Ignition switch ON (II), windshield wiper/washer switch OFF	Measure the voltage between terminals S20 and S4: There should be more than 5 V.	• Faulty windshield wiper/washer switch • A short to ground in the wire

Wiper/Washer Switch Test

1. Remove the wiper/washer switch (see page 22-234).
2. Disconnect the dashboard wire harness 8P connector (A) from the wiper/washer switch (B).



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

Terminal Position	1	2	3	4	5	8
OFF						
INT		○	—	○		
LO		○	—	○	○	
HI				○	○	
Mist ON			○	—	○	
Washer ON	○	—	—	—	○	
Intermittent dwell timer turned					○	—

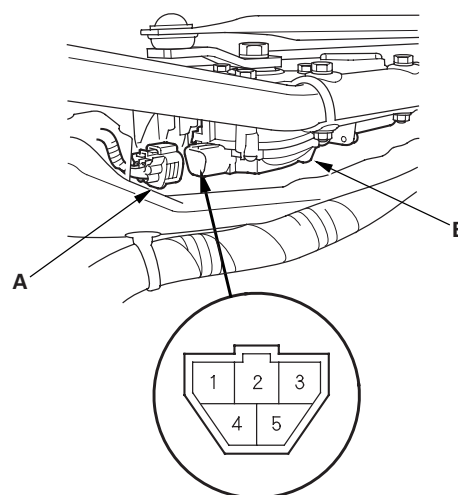
4. If the continuity is not as specified, replace the switch.

Wiper Motor Test

1. Remove the wiper arms (see page 22-233).

NOTE: Carefully remove the wiper arms so that they do not touch the hood.

2. Remove the hood seal and cowl cover.
3. Disconnect the 5P connector (A) from the wiper motor (B).



4. Test the motor by connecting battery power and ground according to the table. If the motor does not run or fails to run smoothly, replace the motor.

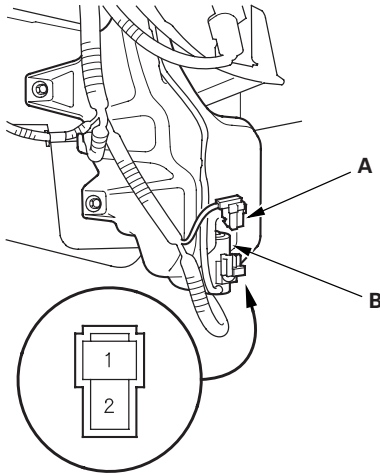
Terminal Position	1	2	3
LOW SPEED	⊕	⊖	
HIGH SPEED		⊖	⊕

5. Connect the battery power to terminal No. 1, and body ground to terminal No. 2 of the 5P connector. Then connect an analog voltmeter between terminal No. 1 (+) and terminal No. 5 (—). When the park switch makes contact, the pointer should swing. If not, replace the motor.

Wipers/Washers

Washer Motor Test

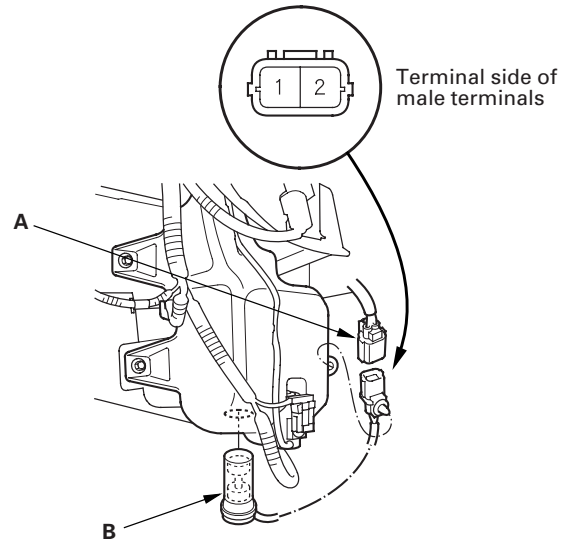
1. Remove the right inner fender (see page 20-171).
2. Disconnect the 2P connector (A) from the washer motor (B).



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

Washer Fluid Level Switch Test

1. Remove the right inner fender (see page 20-171).
2. Disconnect the 2P connector (A) from the washer fluid level switch (B).



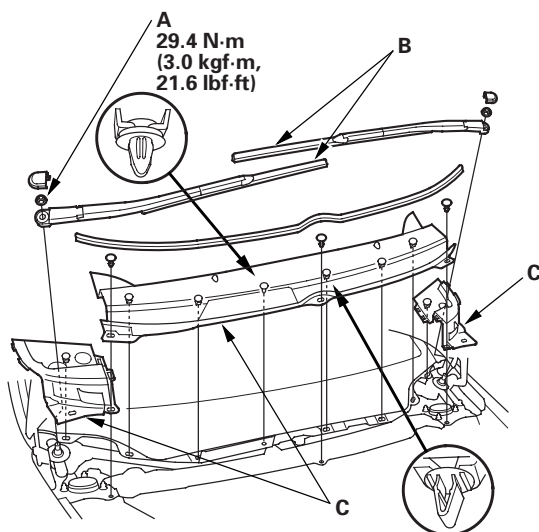
3. Remove the washer fluid level switch from the washer reservoir.

NOTE: Fluid may flow out of the opening.

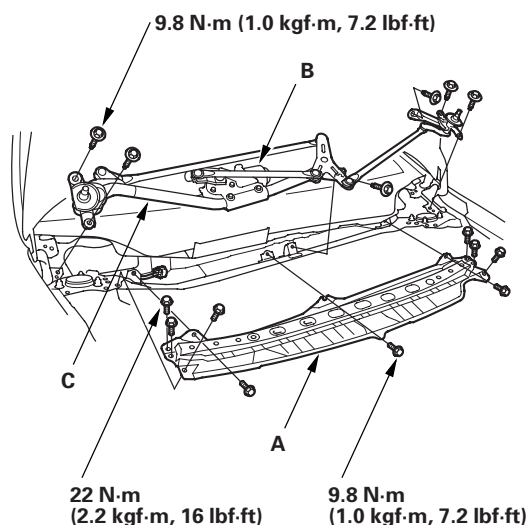
4. Check for continuity between terminals No. 1 and No. 2 in each float position.
 - There should be continuity when the float is down.
 - There should be no continuity when the float is up.
5. If the continuity is not as specified, replace the switch.

Wiper Motor Replacement

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

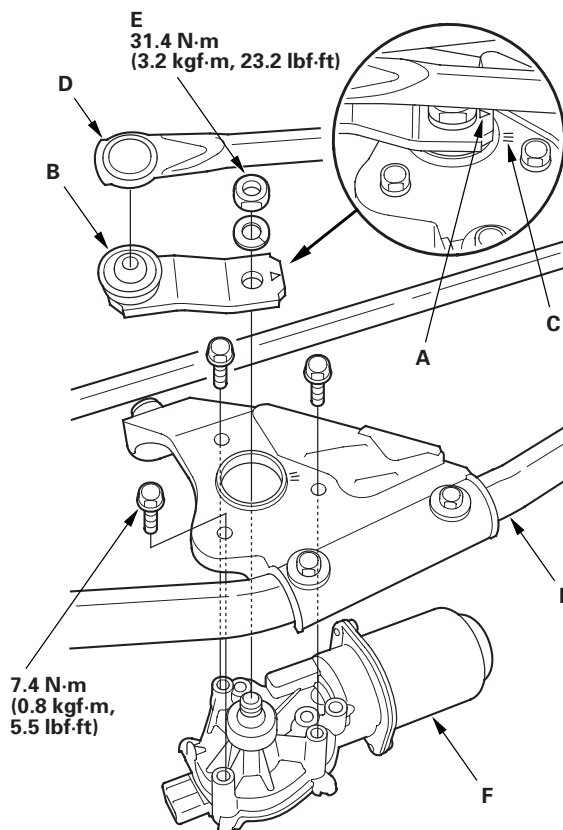


2. Remove the cowl covers (C).
3. Remove the bolts and the under-cowl panel (A).



4. Disconnect the 5P connector from the wiper motor (B), then remove the six bolts and wiper linkage assembly (C).

5. Make sure the mark (A) on the link (B) is aligned with the mark (C) on the windshield wiper linkage (D).

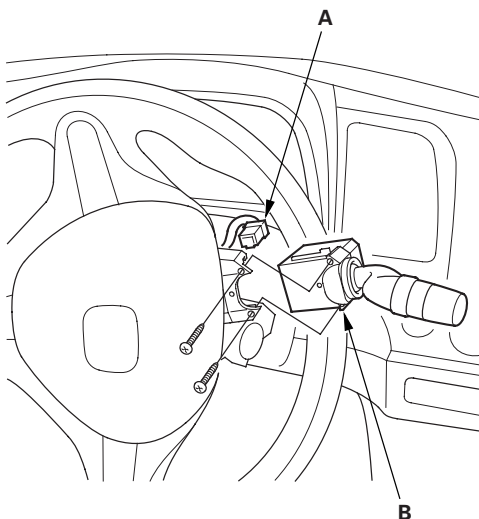


6. Remove the nut (E), and separate the link and windshield wiper linkage.
7. Remove the three bolts, and separate the windshield wiper linkage from the wiper motor (F).
8. Install the wiper motor in the reverse order of removal, and note these items:
 - Align the marks of the link and the linkage to 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 wiper shafts to the park position.
 - If necessary, replace any damaged clips.
9. After installation, adjust the wiper arms (see page 22-236).

Wipers/Washers

Wiper/Washer Switch Replacement

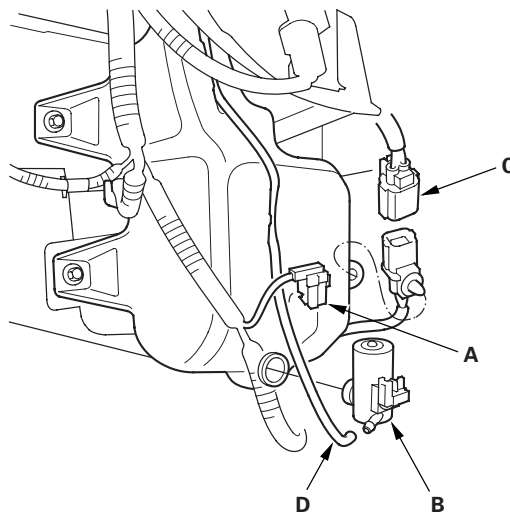
1. Remove the driver's dashboard lower cover (see page 20-102).
2. Remove the steering column covers (see page 17-9).
3. Disconnect the dashboard wire harness 8P connector (A) from the wiper/washer switch (B).



4. Remove the two screws, then slide out the wiper/washer switch.
5. Install the wiper/washer switch in the reverse order of removal.

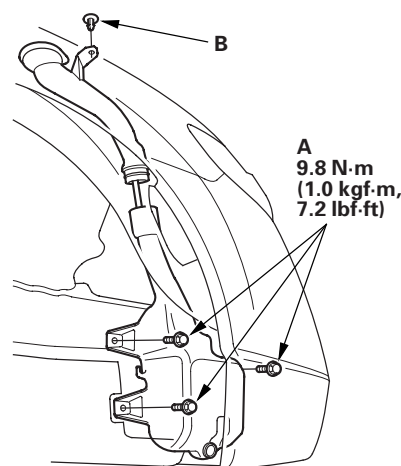
Washer Reservoir Replacement

1. Remove the right inner fender (see page 20-171).
2. Disconnect the 2P connector(s) (A) from the windshield washer motor (B) and the washer fluid level switch (C).



3. Disconnect the windshield washer tube (D).
4. Remove the bolts (A) and the clip (B), then remove the washer reservoir.

Washer reservoir capacity: 4.5 L (4.8 US qt)

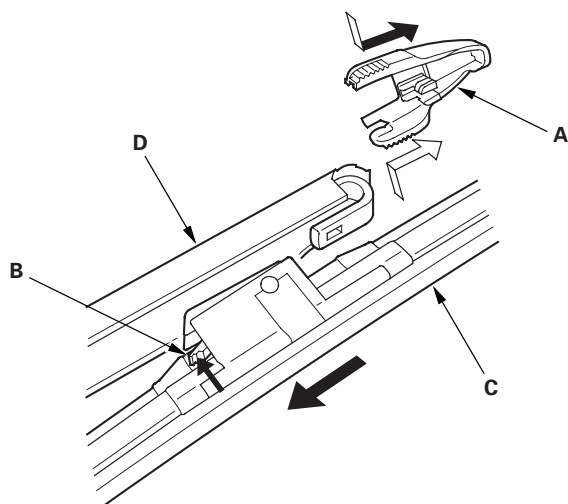


5. Install the washer reservoir in the reverse order of removal.

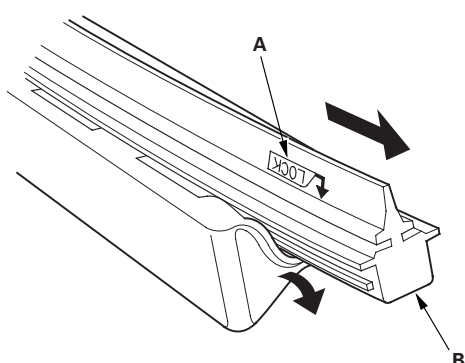
Wiper Blade Replacement

'06-07 models

1. Lift the wiper arm off the windshield, raising the driver's side first, then the passenger's side.
2. Remove the cover (A), by squeezing the two tabs and pulling it straight out.



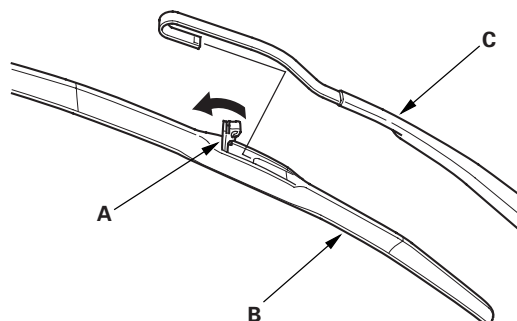
3. Press and hold the tab (B), and slide the wiper blade (C) toward the tab until it releases from the wiper arm (D).
4. Find the side of the blade labeled "LOCK" (A), then pull back the end of the blade and slide out the old rubber (B).



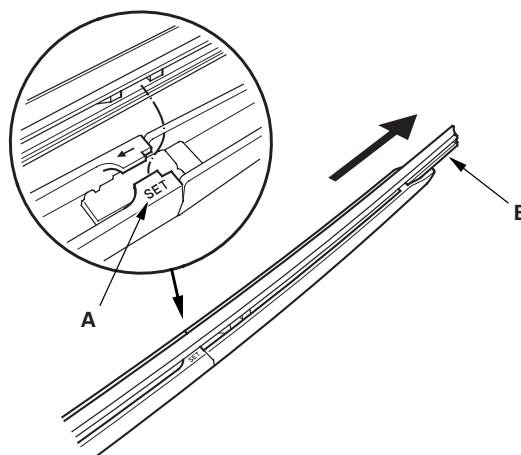
5. Install a new rubber in the reverse order of removal.
6. Install the wiper blades onto the windshield wiper arms in the reverse order of removal.
7. Test by turning on the wipers. If the blades slip, turn off the wipers and seat the attachments more firmly.

'08-09 models

1. Lift the wiper arm off the windshield, raising the driver's side first, then the passenger's side.
2. Pull up the tab (A), and slide the wiper blade (B) until it releases from the wiper arm (C).



3. Find the blade labeled "SET" (A), then release the blade from it.



4. Pull back the end of the blade and slide out the old rubber (B).
5. Install a new rubber in the reverse order of removal.
6. Install the wiper blades onto the windshield wiper arms in the reverse order of removal.
7. Test by turning on the wipers. If the blades slip, turn off the wipers and seat the attachments more firmly.

Wipers/Washers

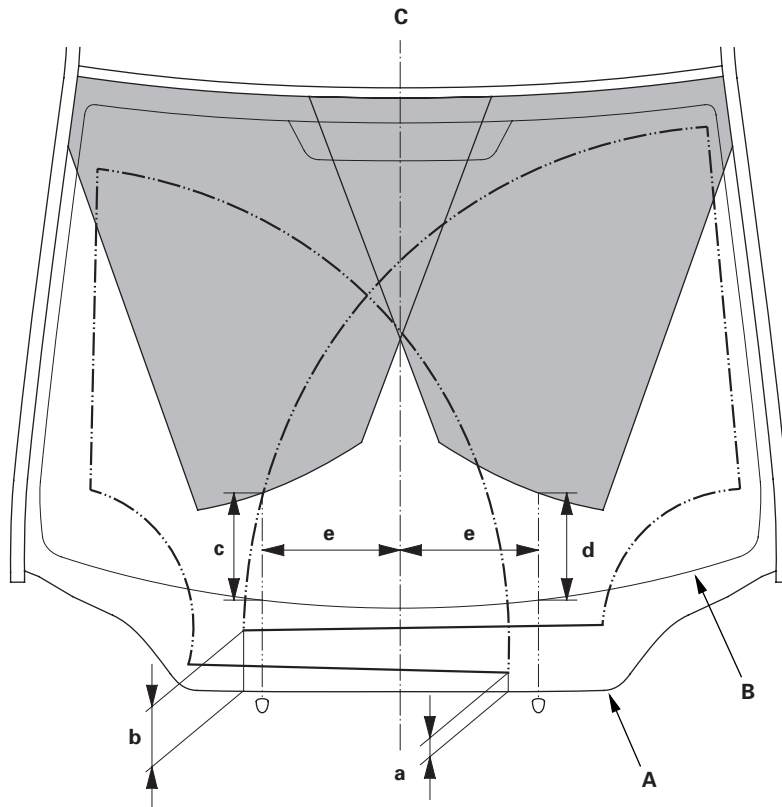
Wiper Arm/Nozzle Adjustment

Wiper arms stop position

1. When the wiper arms stop at the automatic stop position, confirm that they are at the standard position.
 - a: Position at about 23 mm (0.9 in.) from the top of cowl cover (A)
 - b: Position at about 96 mm (3.8 in.) [114 mm (4.5 in.)] from the top of cowl cover (A)
[] : '08-09 models

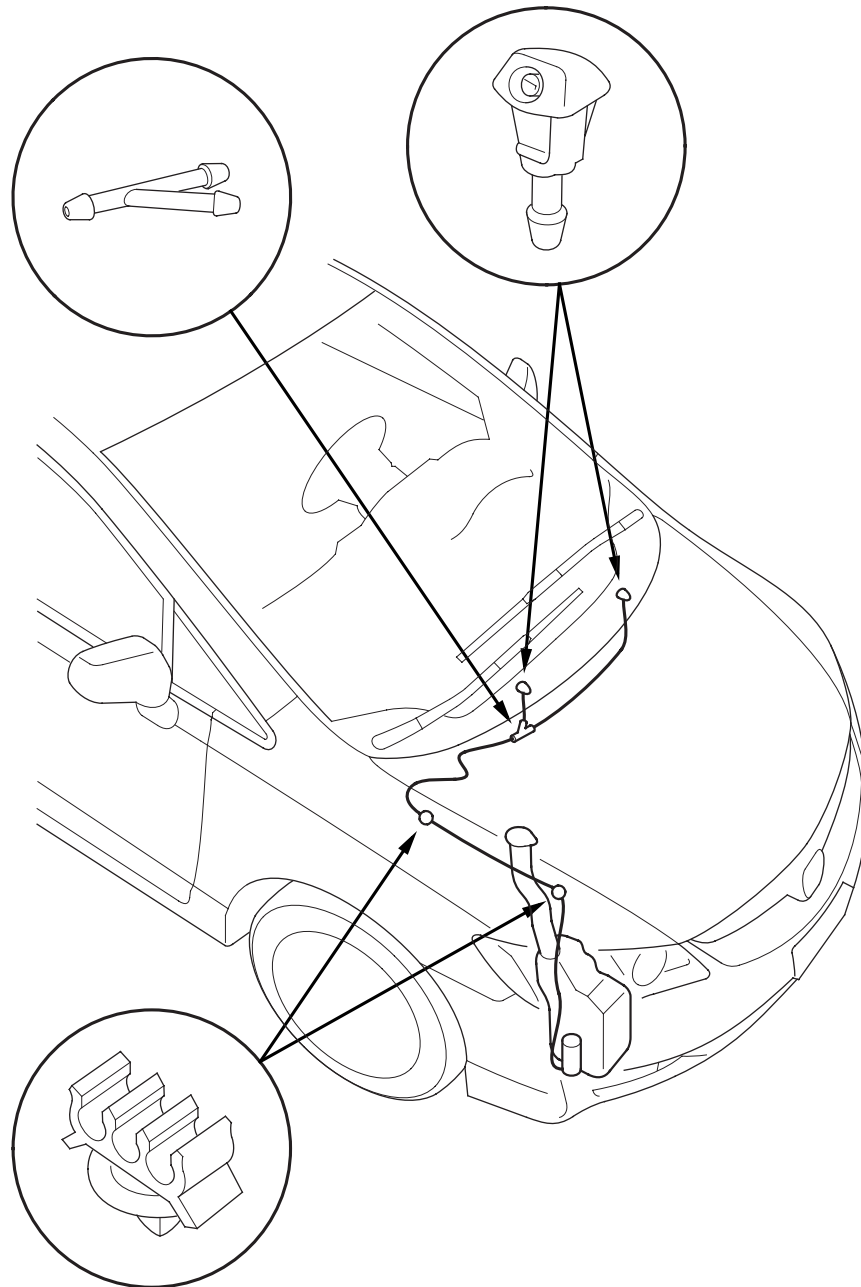
Washer nozzle position

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 192 mm (7.6 in.) from the top of the black ceramic area (B) at the lower windshield
 - d: Position at about 192 mm (7.6 in.) from the top of the black ceramic area (B) at the lower windshield
 - e: Position at about 250 mm (9.8 in.) from the windshield center line (C)



Washer Tube Replacement

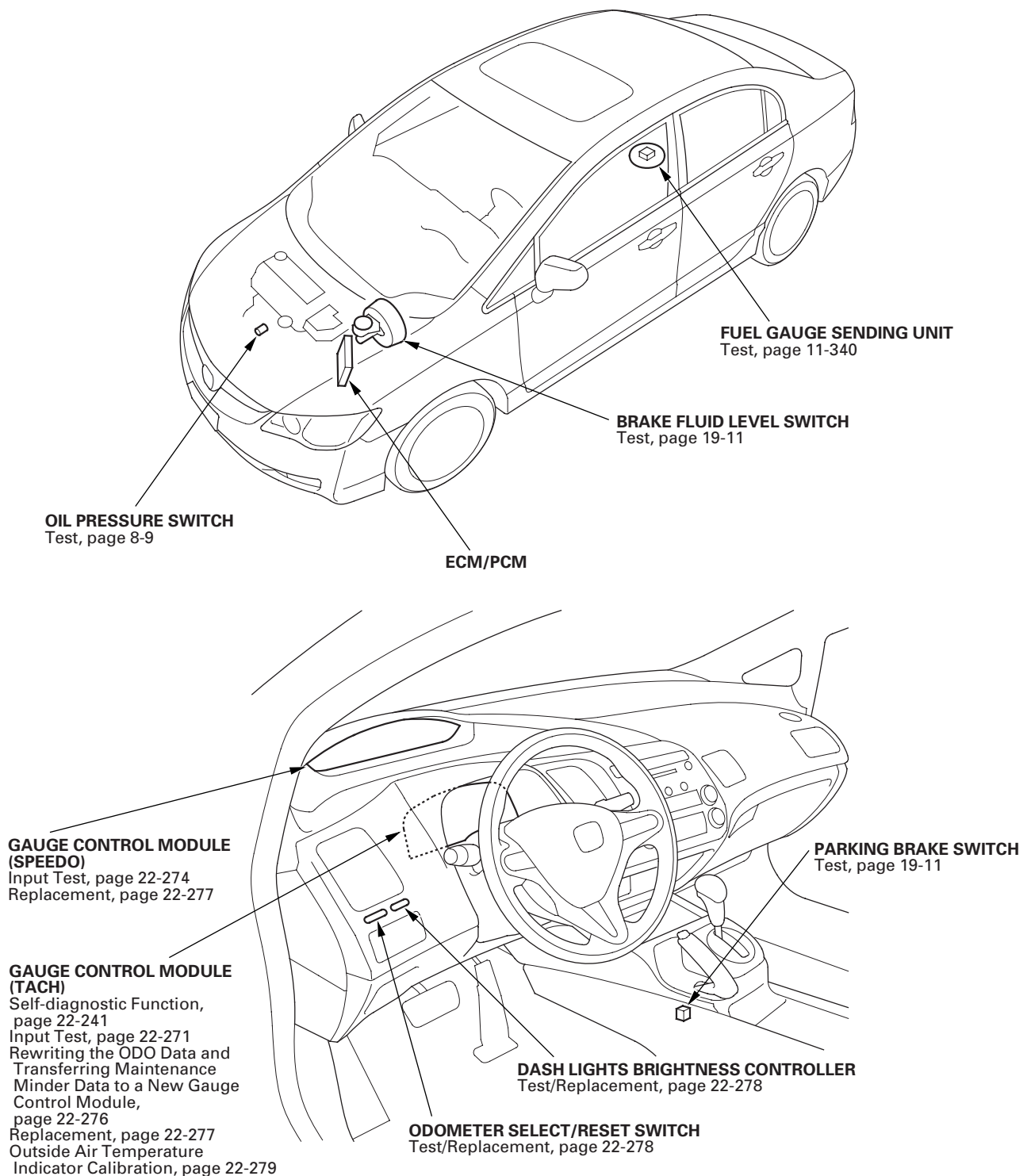
1. Remove the right inner fender (see page 20-171).
2. Remove the washer nozzles and clips, then remove the tubes.

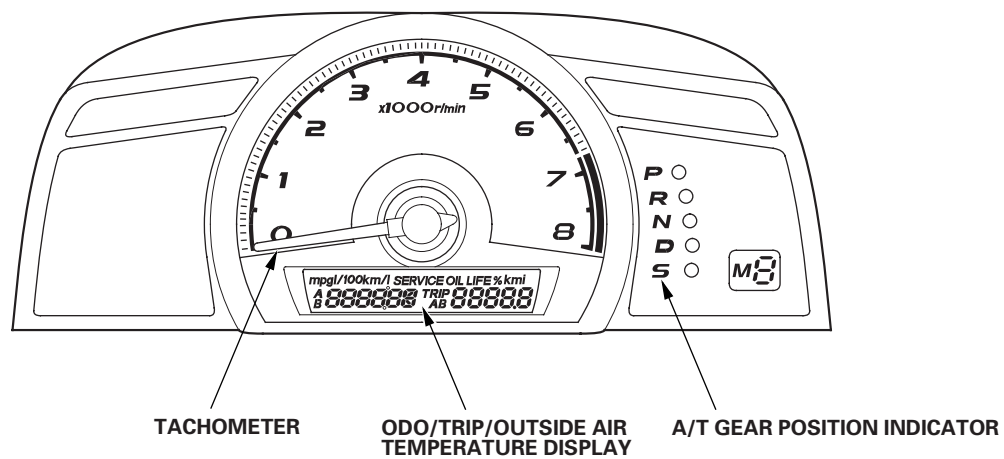
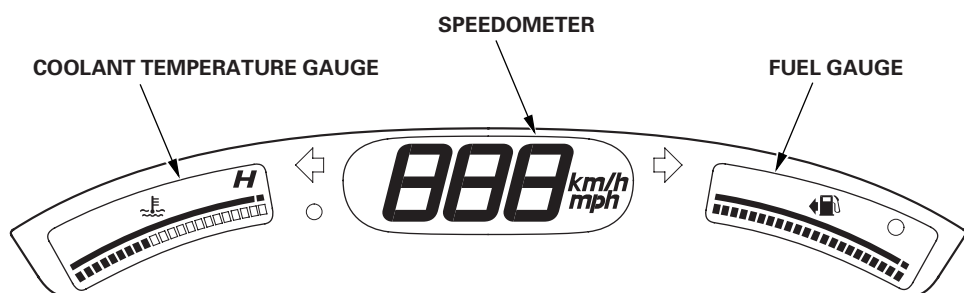


3. Install the parts in the reverse order of removal. Take care not to pinch the washer tube. Check the windshield washer operation.

Gauges

Component Location Index



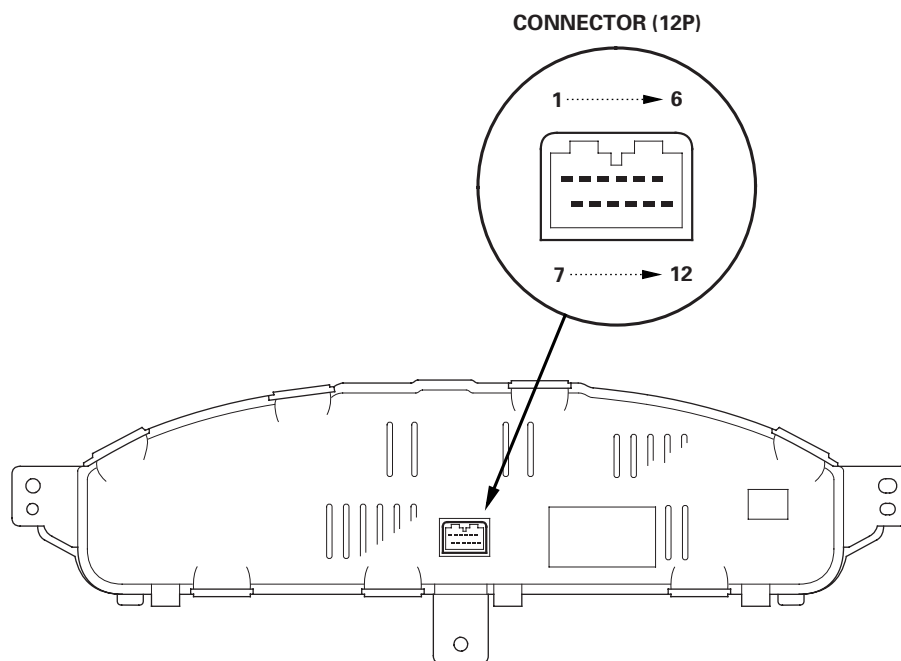


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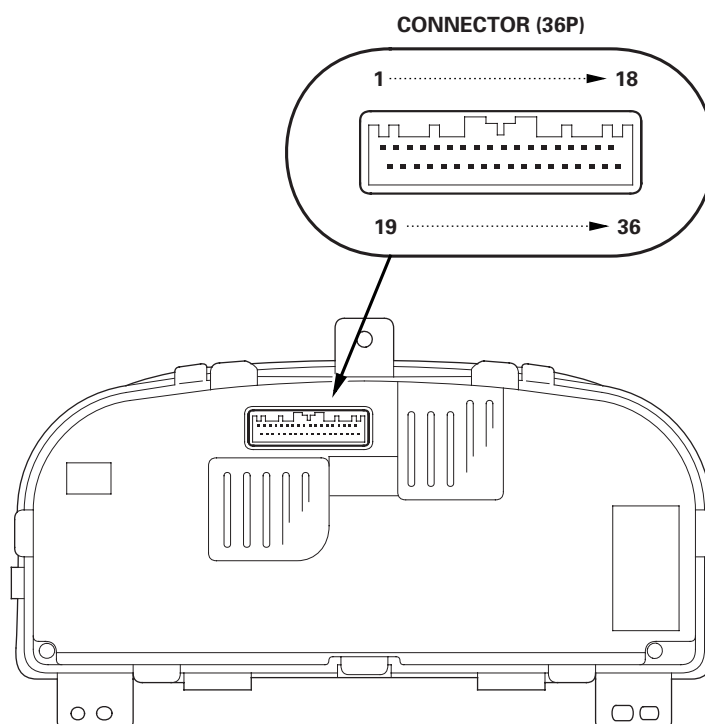
Gauges

Component Location Index (cont'd)

Gauge Control Module (Speedo)



Gauge Control Module (Tach)





Self-diagnostic Function

Before troubleshooting the gauge system, refer to multiplex integrated control system B-CAN System Diagnosis Test Mode A (see page 22-93).

The gauge control module (tach) has a self-diagnostic function shown, and also has a customizable reset function.

- The beeper drive circuit check.
- The indicator drive circuit check.
- The switch input test.
- The LCD segments check.
- The gauges drive circuit check (Tachometer, Fuel gauge, Coolant temperature gauge).
- The communication line check (B-CAN, F-CAN, and UART lines).

NOTE: Indicators are also controlled via the communication line.

Entering the self-diagnostic function with the HDS

Using the HDS, select Body Electrical, Gauges, then Function Test and do the self-diagnostic function.

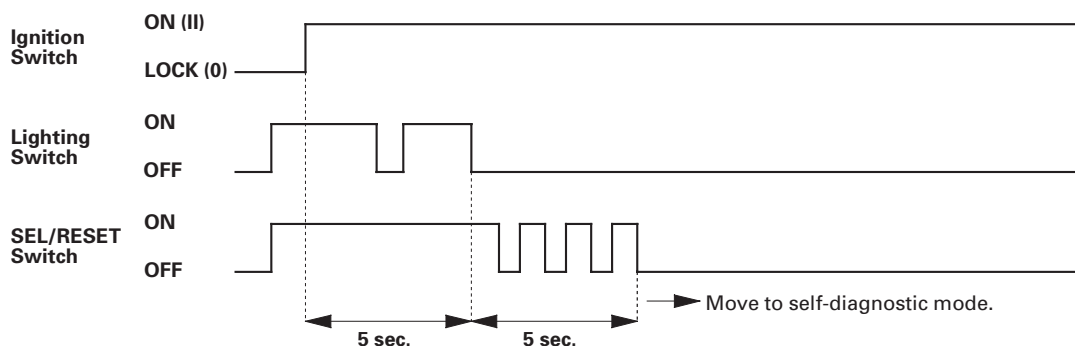
Entering the self-diagnostic function (manual method)

Before doing the self-diagnostic function, check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box and the No. 23 (10 A) fuse in the under-hood fuse/relay box.

1. Push and hold the SEL/RESET switch button.
2. Turn the headlights ON.
3. Turn the ignition switch to ON (II).
4. Within 5 sec., turn the headlights OFF, then ON and OFF again.
5. Within 5 sec., release the SEL/RESET switch 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 SEL/RESET switch button is used to start the Beeper Drive Circuit Test and the Gauge Drive Circuit Check.
- If the vehicle speed exceeds 2 km/h (1.2 mph) or the ignition switch is turned to LOCK (0), the self-diagnostic mode ends.



(cont'd)

Gauges

Self-diagnostic Function (cont'd)

The Indicator Drive Circuit Check

When entering the self-diagnostic mode, the following indicators blink:

A/T gear position indicator, ABS indicator, brake system indicator, charging system indicator, cruise control indicator, cruise main indicator, door indicator, DRL indicator, EPS indicator, fog light indicator^{*3}, high beam indicator, immobilizer indicator, lights-on indicator, low fuel indicator, low oil pressure indicator, low tire pressure indicator^{*2}, maintenance minder indicator, malfunction indicator lamp (MIL), REV limit indicator (TYPE S model), seat belt reminder indicator, security indicator, side airbag cutoff indicator, SRS indicator, TPMS indicator^{*2}, trunk indicator, VSA activation indicator^{*1}, VSA indicator^{*1}, and washer fluid level indicator.

* 1: '07 TYPE S and '08-09 models

* 2: '08-09 models

* 3: TYPE S and '08 Premium and '09 models

Switch Input Check

At the initial stage of the self-diagnostic function, the beep sounds intermittently, the beeper sounds continuously when any of the following switch inputs are switched from OFF to ON:

Cruise control main, dash lights brightness controller volume (+), (−) button, mph km/h switch, parking brake switch, SEL/RESET switch, SET, RESUME, CANCEL switches, and VSA OFF switch^{*}.

*: '07 TYPE S and '08-09 models

The Beeper Drive Circuit Check

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

The LCD Segment Check

When entering the self-diagnostic mode, all the segments blink five times.

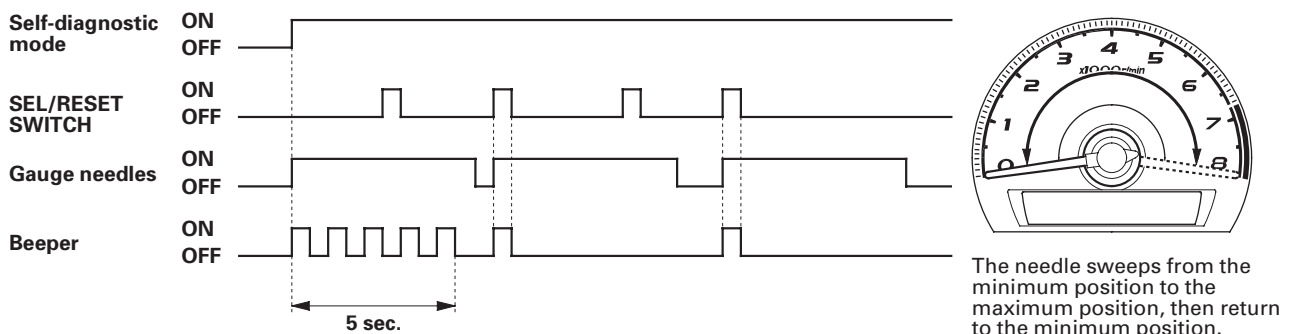
The Gauge Drive Circuit Check

When entering the self-diagnostic mode, the tachometer needle sweeps from the minimum position to maximum position, then returns to the minimum position.

NOTE:

After the beeper stops sounding and the gauge needle returns to the minimum position, pushing the SEL/RESET switch starts the Beeper Drive Circuit Check (one beep) and the Gauge Drive Circuit Check again.

The check cannot be started again until the gauge needle returns to the minimum position.



If the needle fails to sweep, or the beeper does not sound, replace the gauge control module (tach).



The Communication Line Check

While in the self-diagnostic mode, the Communication Line Check starts after the LCD Segments Check. If all segments come on, the communication line is OK. If faulty, the word "Error" will be indicated on the odometer display followed by number(s).

TYPE S model 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

Except TYPE S model Error Code List

Error code	Type of communication line(s) error
Error 1	F-CAN communication
Error 2	B-CAN communication
Error 3	UART communication
Error 12	F-CAN and B-CAN communication
Error 13	F-CAN and UART communication
Error 23	B-CAN and UART communication
Error 123	F-CAN, B-CAN and UART communication

Example Indication

Normal (all segments come on.):

Faulty (Error 1):

Fault (Error 13):

Fault (Error 123):

- If the word "Error 1" is indicated, there is a malfunction in the communication line between the gauge control module (tach) and the fast-controller area network (F-CAN). Check for DTCs in the ECM/PCM and troubleshoot any DTCs found. If no DTCs are found, go to indicated troubleshooting.
- If the word "Error 2" is indicated, there is a malfunction in the communication line between the gauge control module (tach) and the body-controller area network (B-CAN). Go to indicated troubleshooting (B1155 to B1160).
- Except TYPE S model: If the word "Error 3" is indicated, there is a malfunction in the UART communication line between the gauge control module (tach) and the gauge control module (speedo). Go to the gauge control module (tach) input test and check terminal No. 20. If the wire harness is OK, substitute a known-good gauge control module (speedo) and recheck.

If any F-CAN or B-CAN communication line errors are found, go to DTC check using HDS.

Ending the self-diagnostic function

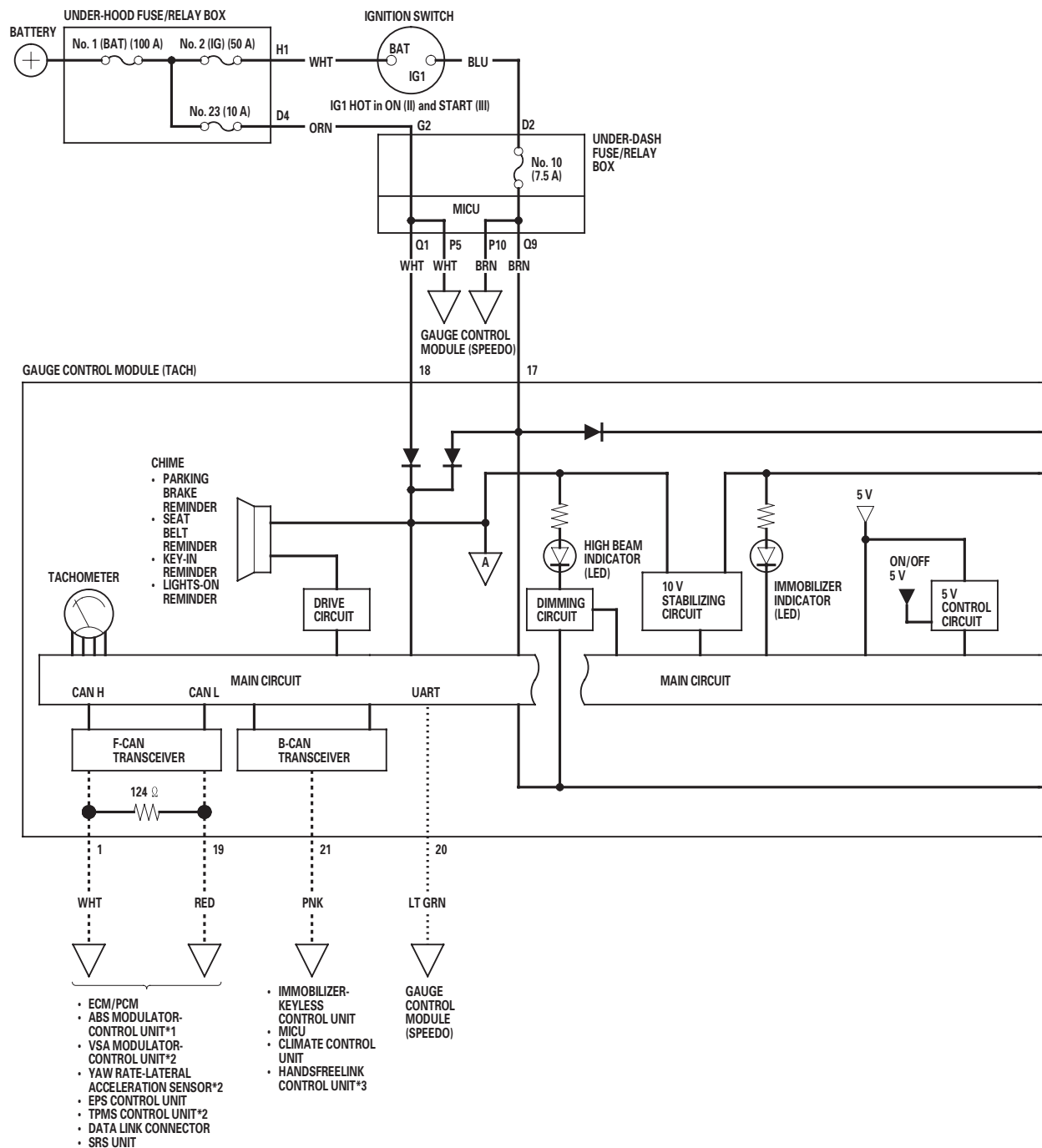
Turn the ignition switch to LOCK (0).

NOTE: If the vehicle speed exceeds 2 km/h (1.2 mph), the self-diagnostic function ends.

Gauges

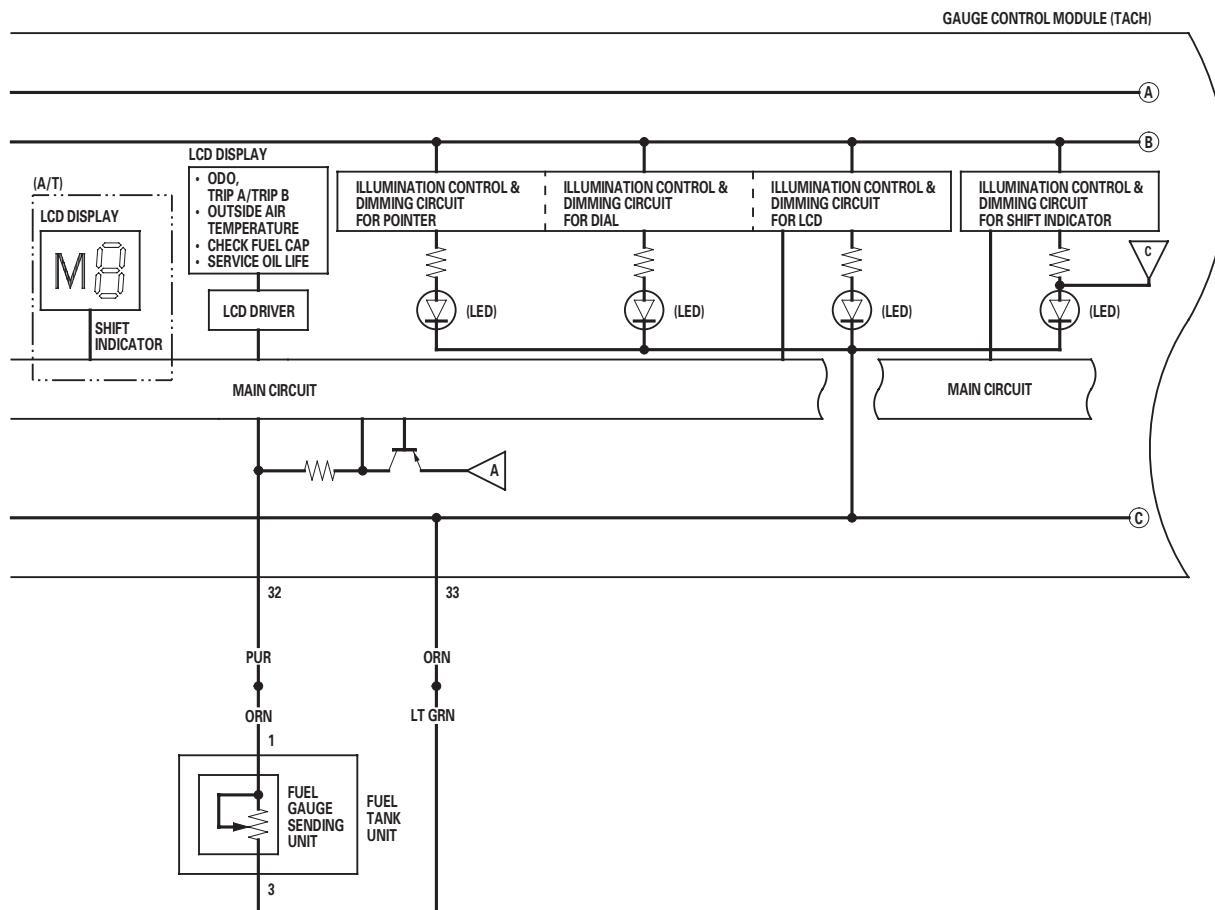
Circuit Diagram - Gauge Control Module (Tach)

Except TYPE S model





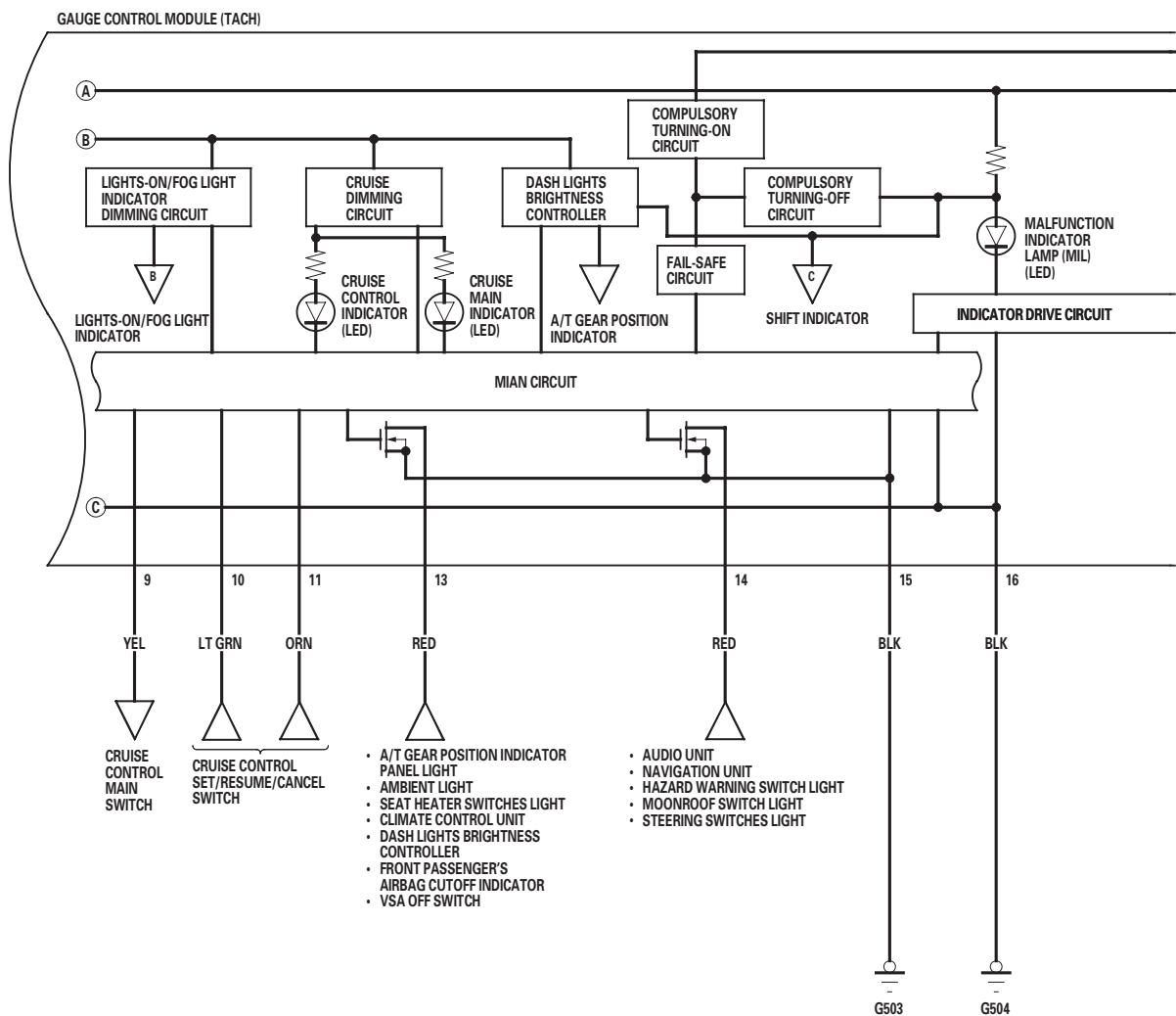
- : CAN line
..... : Other communication line
*1: '06-'07 models
*2: '08-'09 models
*3: '09 model with navigation system

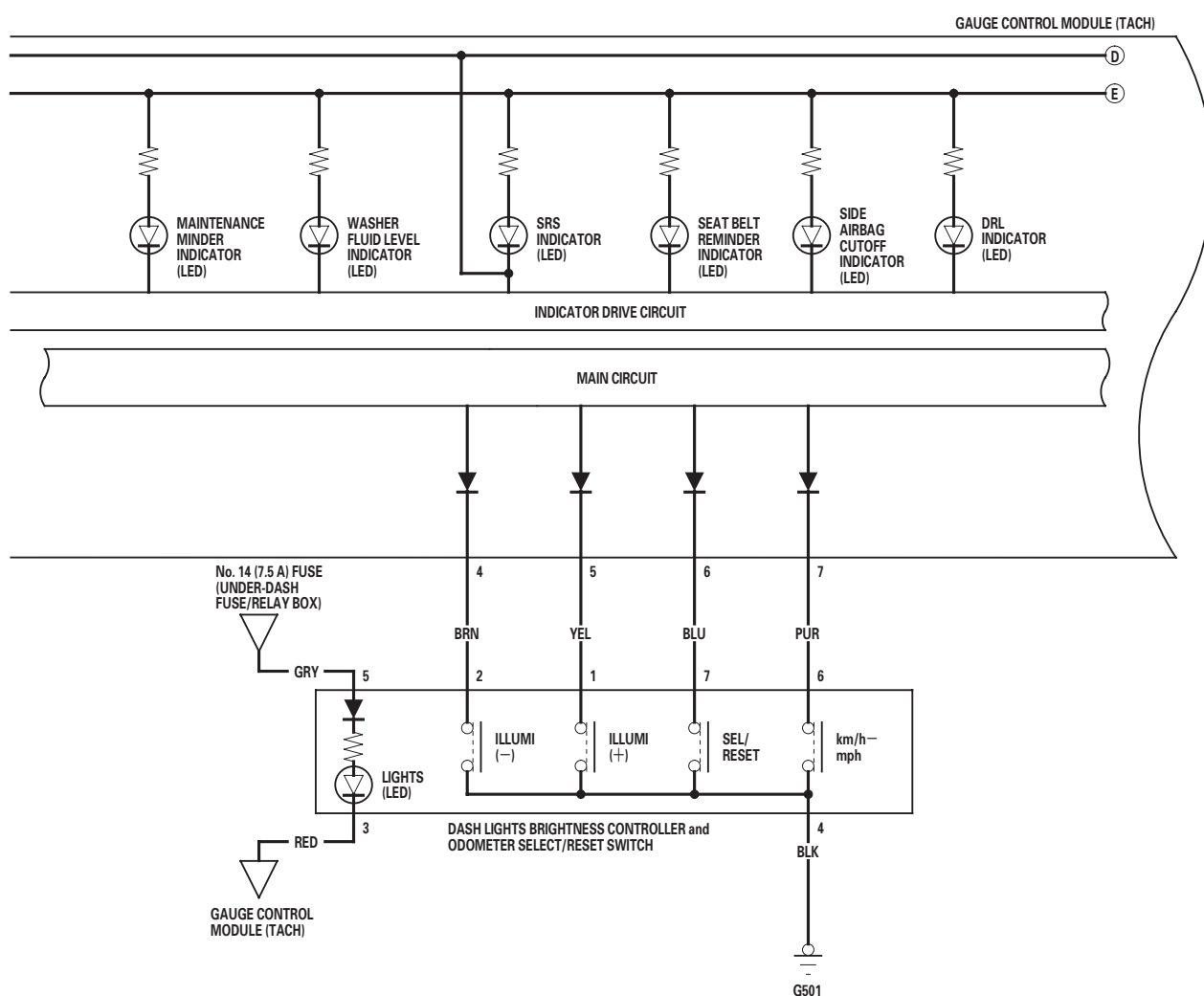


(cont'd)

Gauges

Circuit Diagram - Gauge Control Module (Tach) (cont'd)

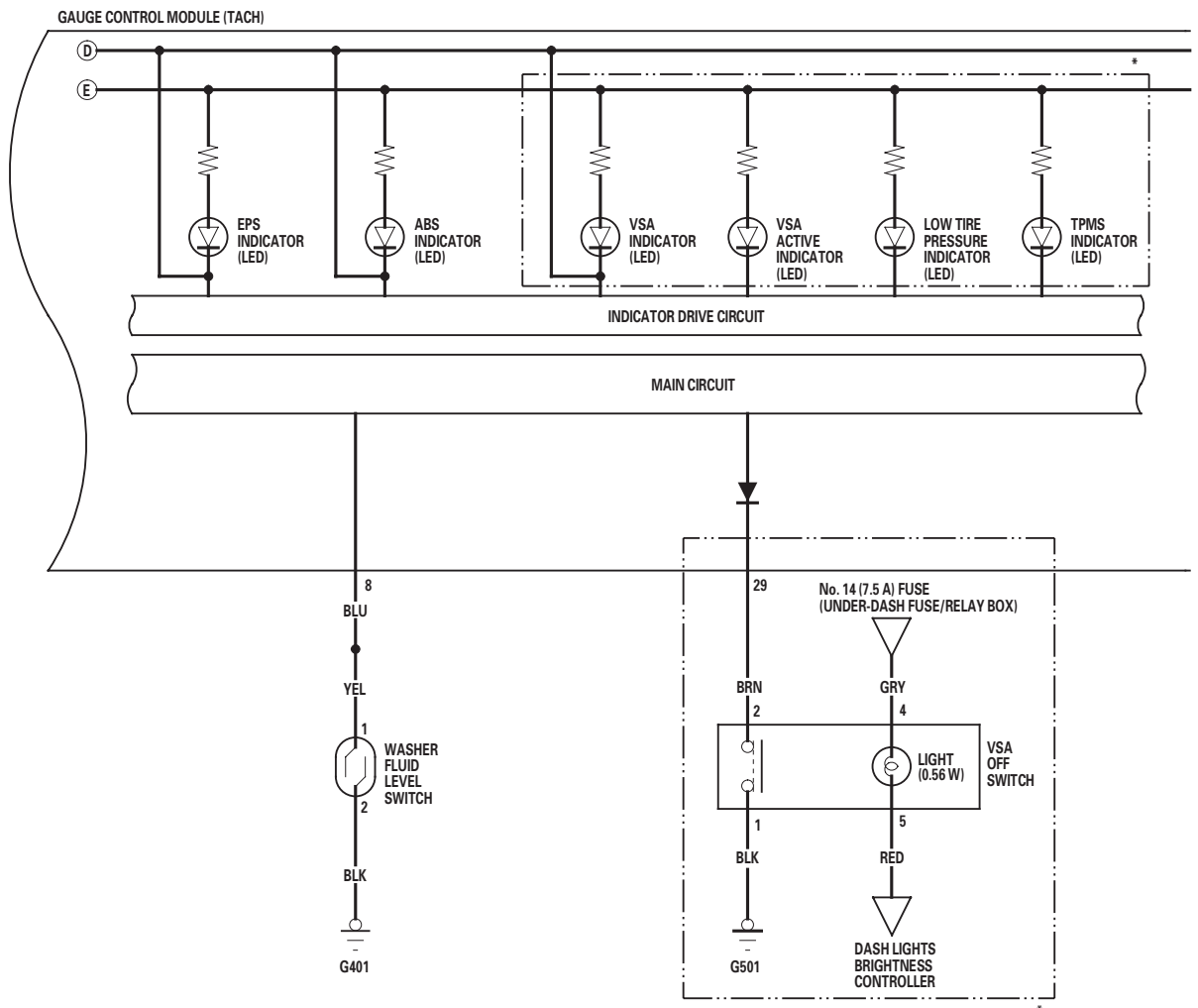




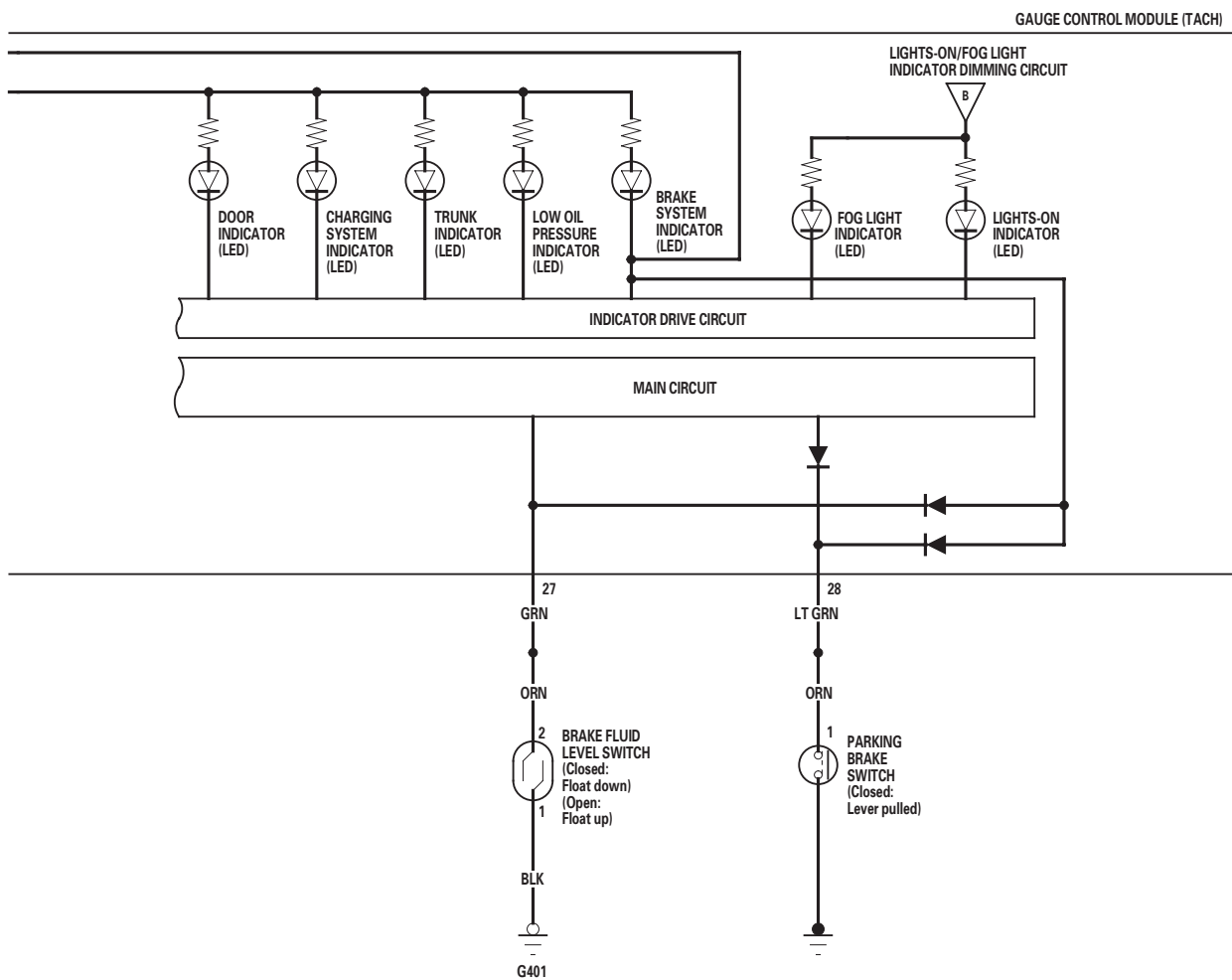
(cont'd)

Gauges

Circuit Diagram - Gauge Control Module (Tach) (cont'd)



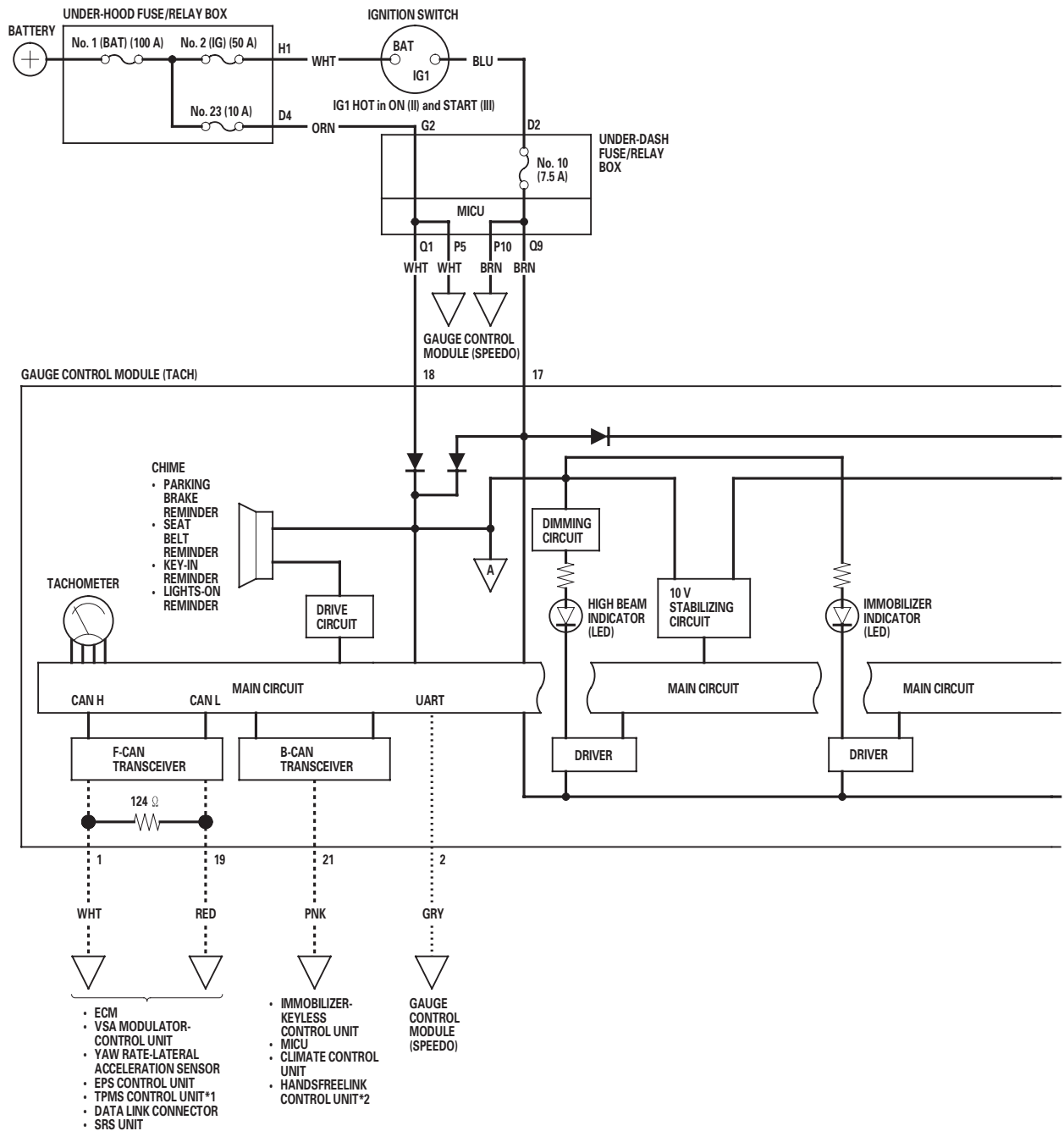
*: '08–09 models

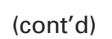
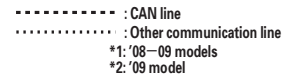


Gauges

Circuit Diagram - Gauge Control Module (Tach) (cont'd)

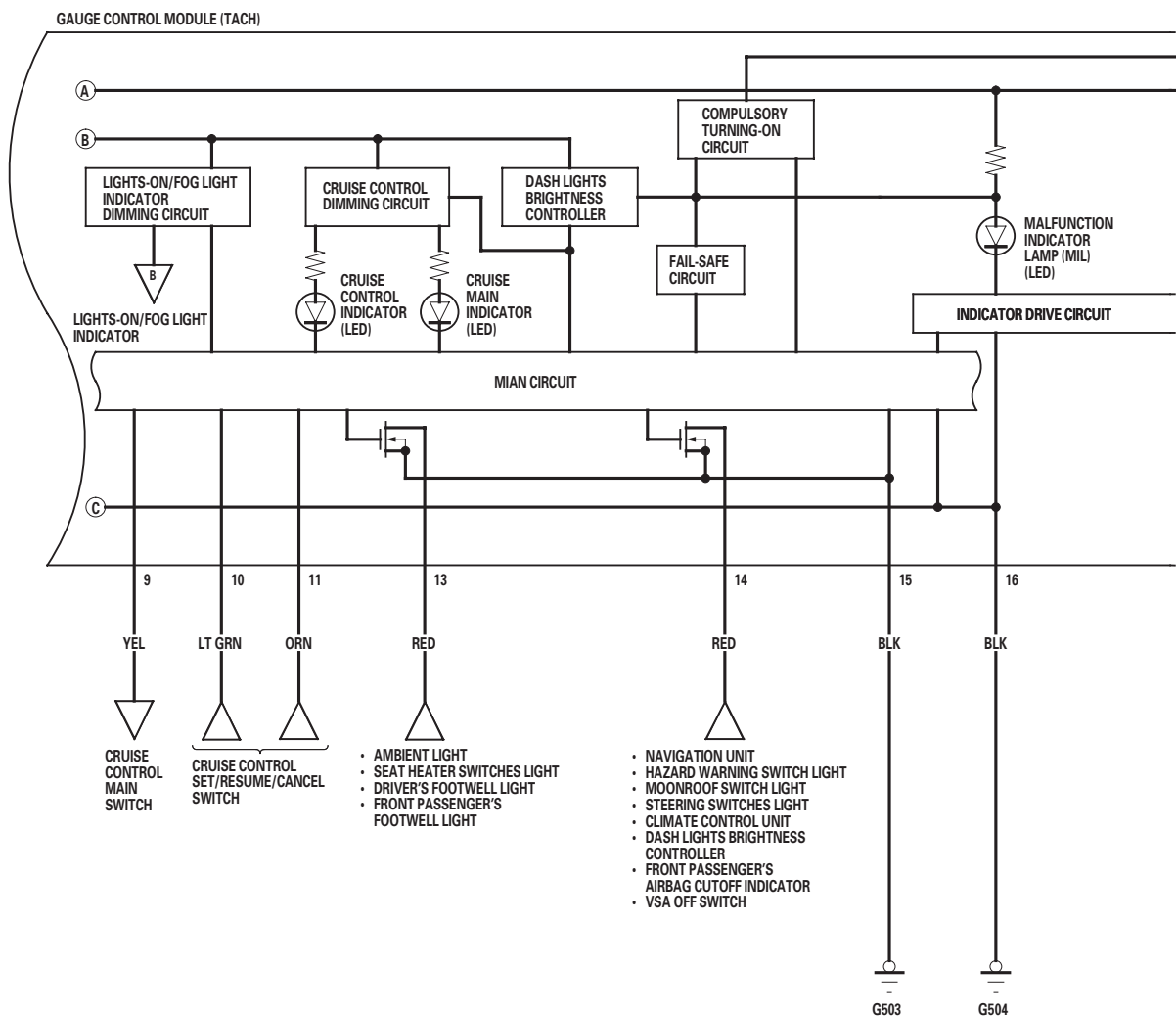
TYPE S model

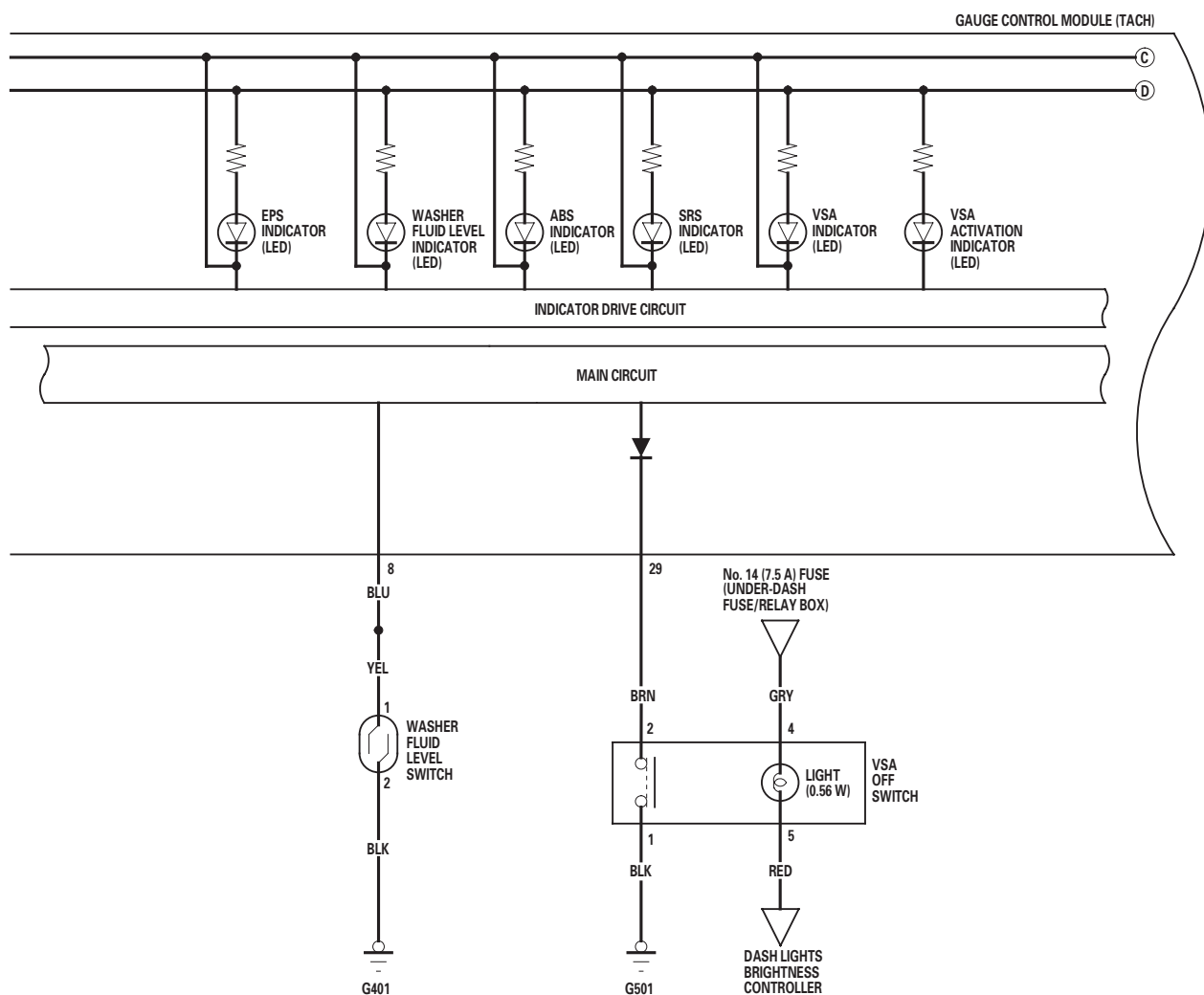




Gauges

Circuit Diagram - Gauge Control Module (Tach) (cont'd)

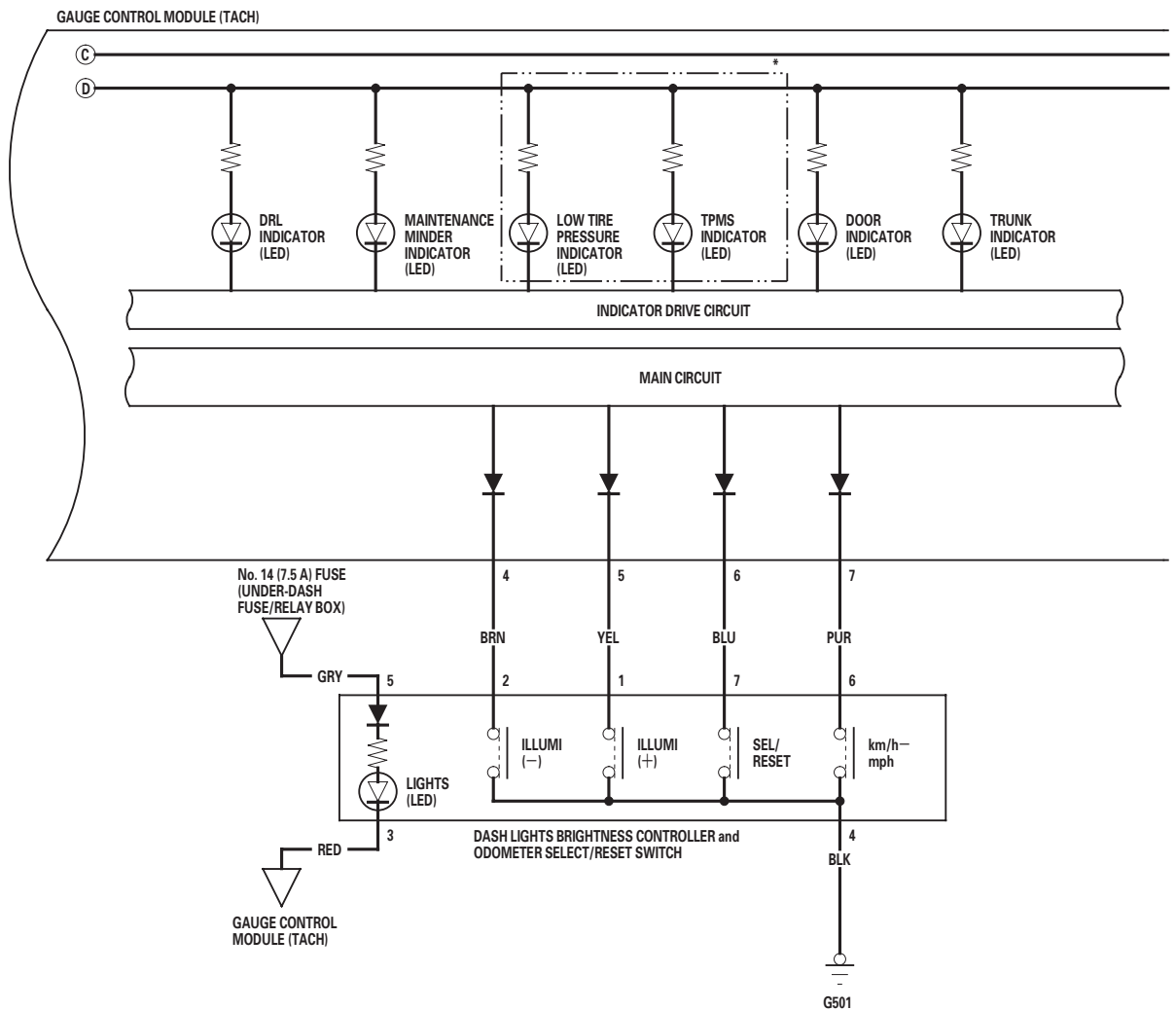




(cont'd)

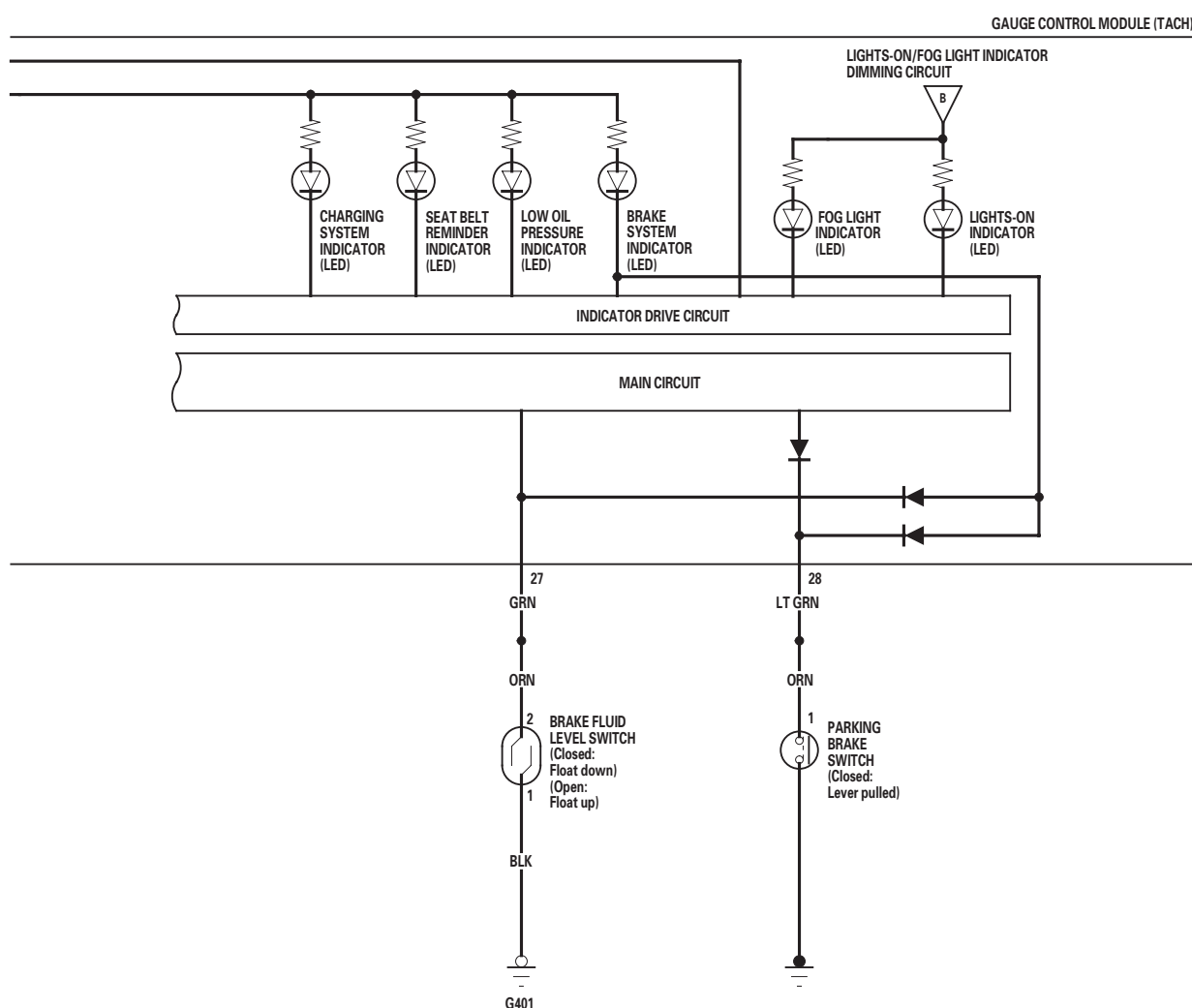
Gauges

Circuit Diagram - Gauge Control Module (Tach) (cont'd)





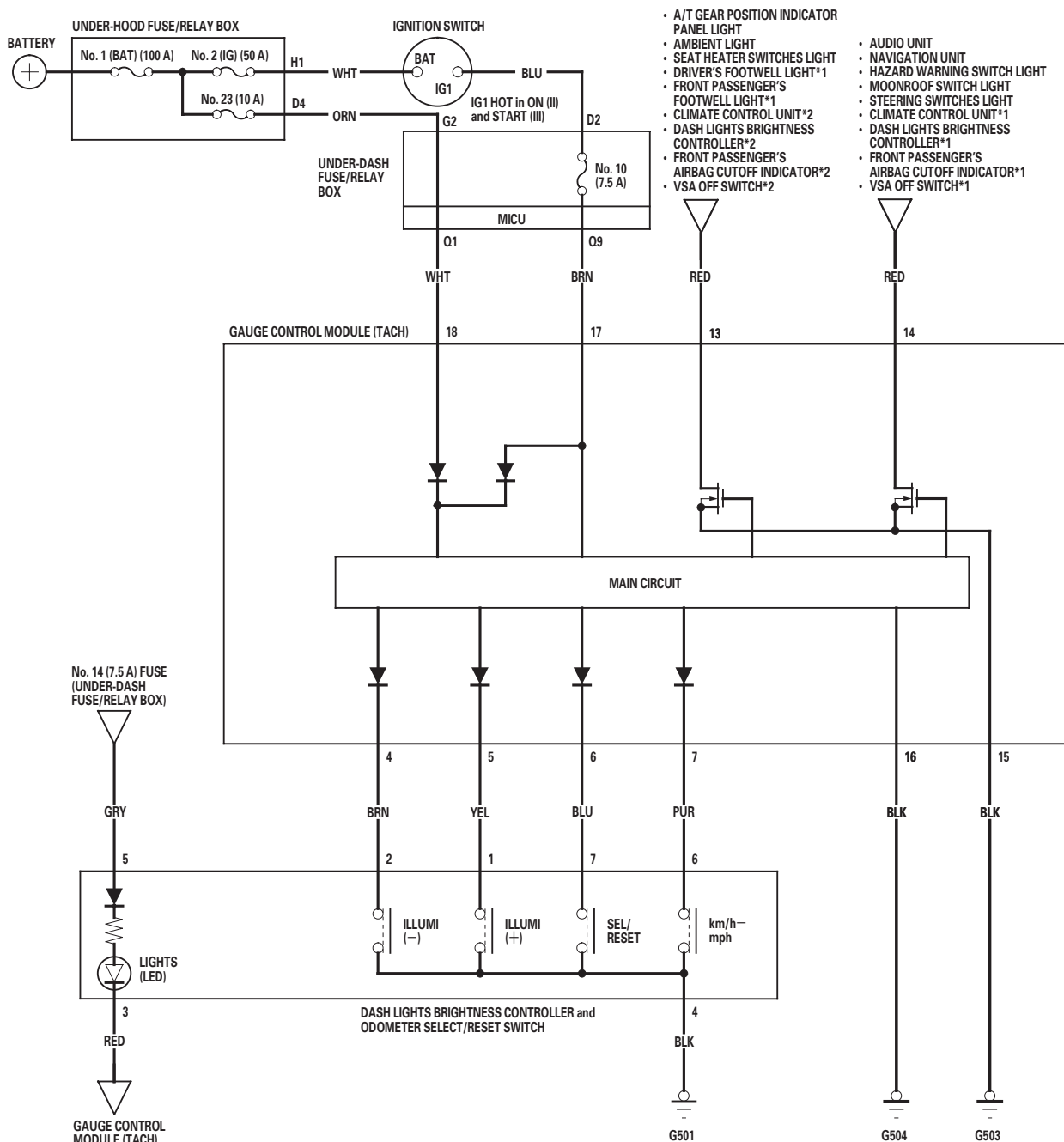
*: '08-09 models



Gauges

Circuit Diagram - Dash Lights Brightness Controller

*1: TYPE S model
*2: Except TYPE S model

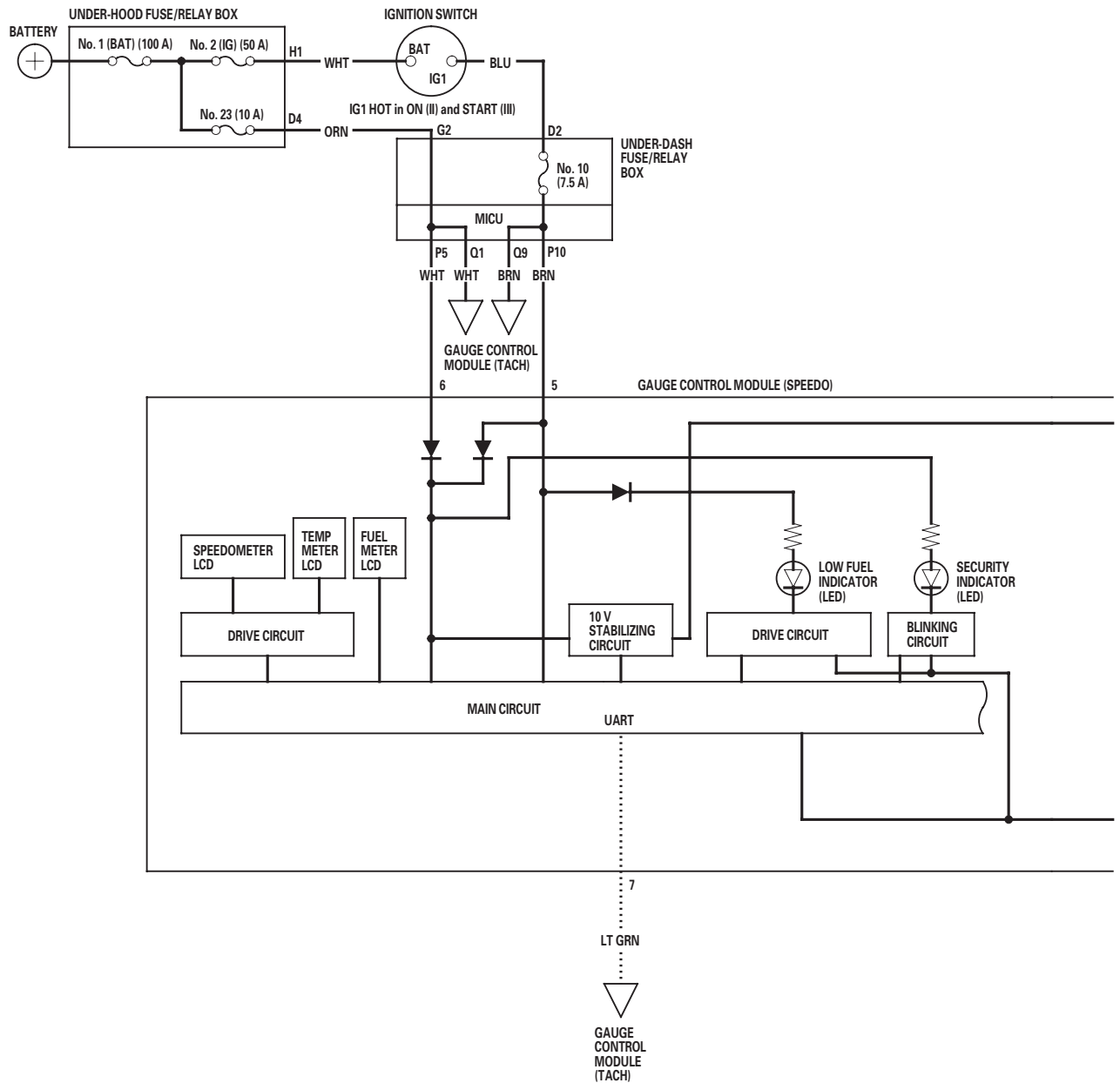


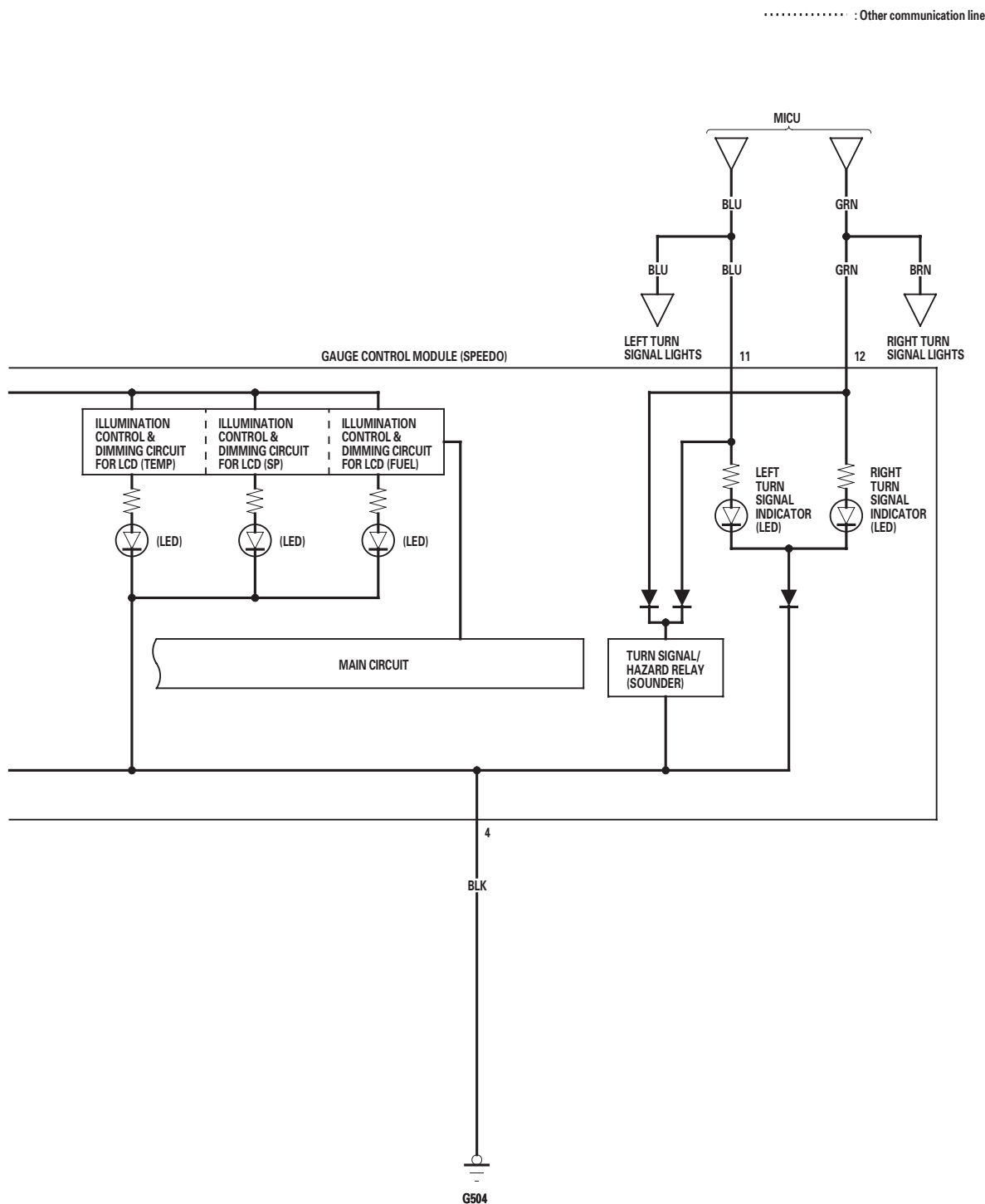


Gauges

Circuit Diagram - Gauge Control Module (Speedo)

Except TYPE S model

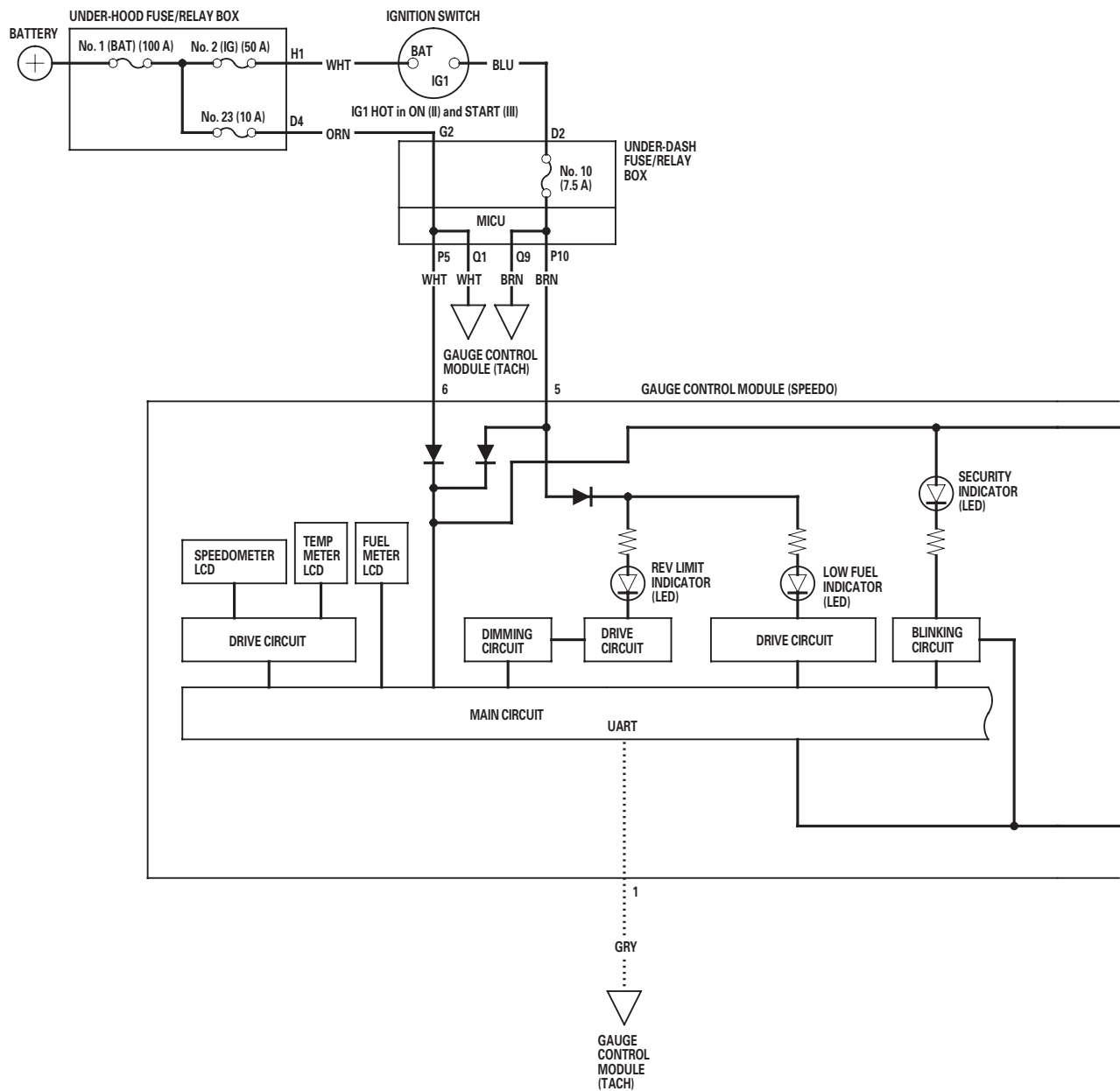


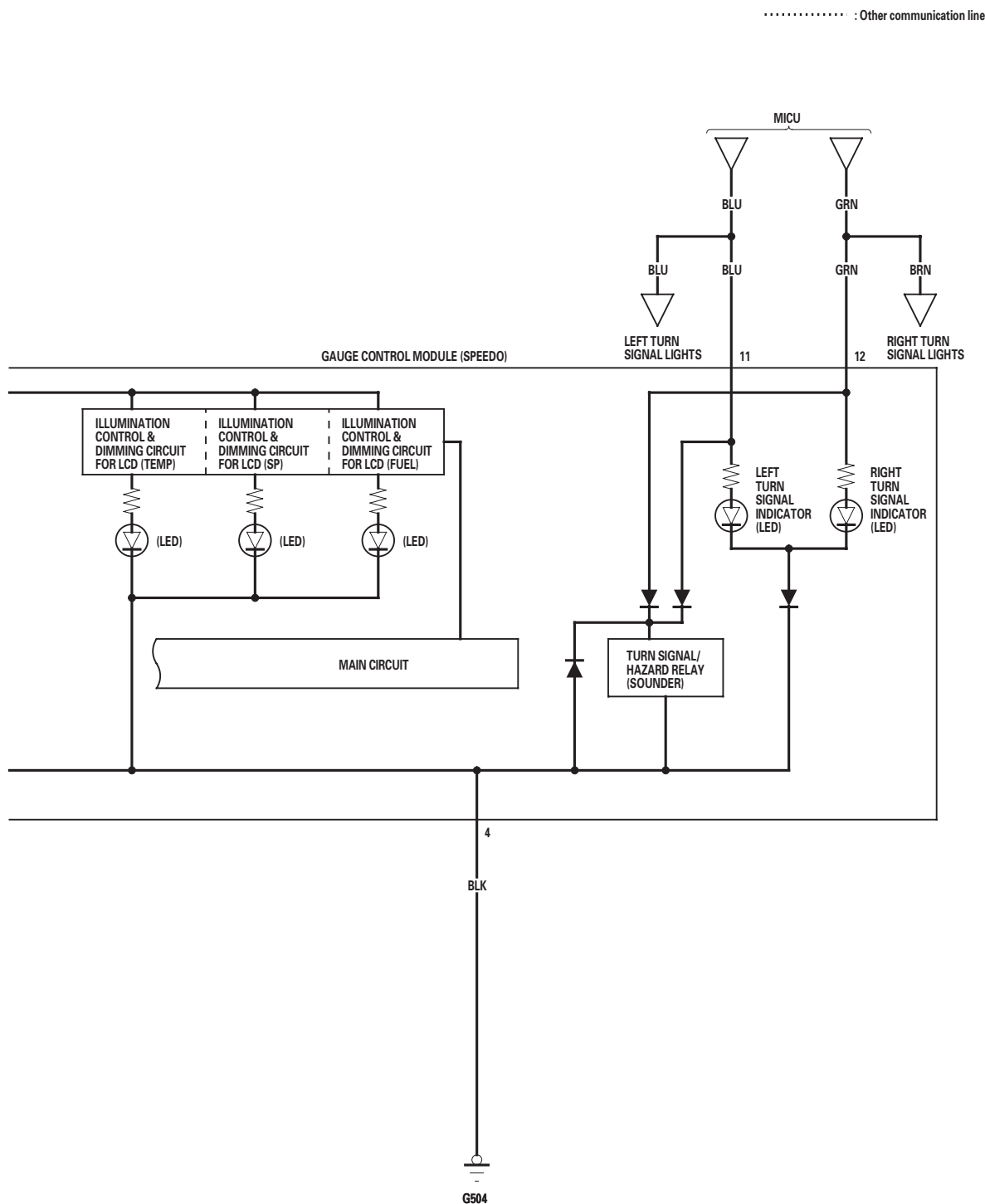


Gauges

Circuit Diagram - Gauge Control Module (Speedo) (cont'd)

TYPE S model





DTC Troubleshooting

DTC B1152: Gauge Control Module (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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for at least 6 seconds.
4. Check for DTCs with the HDS.

Is DTC B1152 indicated?

YES—Replace the gauge control module (tach) (see page 22-277). ■

NO—Intermittent failure, the system is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67), and the charging system. ■



DTC B1155: Gauge Control Module Lost Communication with the MICU (Headlight Switch Message)

DTC B1156: Gauge Control Module Lost Communication with the MICU (Wiper Switch Message)

DTC B1159: Gauge Control Module Lost Communication with the MICU (DOORSW Message)

DTC B1188: Gauge Control Module Lost Communication with the MICU (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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Check for DTCs with the HDS.

Are DTCs B1155, B1156, 1157, B1159, B1160, and/or B1188 indicated?

YES—Go to step 4.

NO—Intermittent failure. The gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67), and the charging system. ■

4. Check for DTCs with the HDS.

Are DTCs B1155, B1156, 1157, B1159, B1160, and/or B1188 indicated at the same time?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Replace the gauge control module (tach) (see page 22-277). ■

DTC Troubleshooting (cont'd)

DTC B1157: Gauge Control Module Lost Communication with the 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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Check for DTCs with the HDS.

Is DTC B1157 indicated?

YES—Go to step 4.

NO—Intermittent failure. The gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67), and the charging system. ■

4. Check for DTCs with the HDS.

Are DTCs B1157 and B1165 indicated at the same time?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Replace the gauge control module (tach) (see page 22-277). ■

DTC B1160: Gauge Control Module Lost Communication with the MICU (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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Check for DTCs with the HDS.

Is DTC B1160 indicated?

YES—Go to step 4.

NO—Intermittent failure. The gauge control module is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67), and the charging system. ■

4. Check for DTCs with the HDS.

Are DTCs B1160 and B1905 indicated at the same time?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Replace the gauge control module (tach) (see page 22-277). ■



DTC B1168: Gauge Control Module Lost Communication with ECM/PCM (Engine Messages)

DTC B1169: Gauge Control Module Lost Communication with the PCM (A/T Messages)

DTC B1170: Gauge Control Module Lost Communication with the ABS/VSA modulator-Control Unit (ABS/VSA message)

DTC B1178: F-CAN Communication Line Error

DTC B1187: Gauge Control Module Lost Communication with the SRS Unit (SRS Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs using the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Start and run the engine for at least 5 seconds then turn the engine off.
4. Check for DTCs with the HDS.

Are DTCs B1168, B1169, B1170, B1178, and/or B1187 indicated?

YES—Go to step 5.

NO—Intermittent failure, the F-CAN communication line is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67), and the charging system. ■

5. Check for DTCs in the ECM/PCM or ABS/VSA.

Are any DTCs indicated?

YES—Troubleshoot the ECM/PCM or ABS/VSA. ■

NO—Go to step 6.

6. Do the Gauge Control Module (Tach) Input Test (see page 22-271).

Are all inputs OK?

YES—Go to step 7.

NO—Repair the faulty input then recheck for DTCs. ■

7. Substitute a known-good gauge control module (tach).
8. Clear the DTCs with the HDS.
9. Turn the ignition switch to LOCK (0), and then back to ON (II).
10. Start and run the engine for at least 5 seconds then turn the engine off.
11. Check for DTCs with the HDS.

Are DTCs B1168, B1169, B1170, B1178, and/or B1187 indicated?

YES—Substitute a known-good ECM/PCM and retest. If the system/indication goes away, replace the original ECM/PCM. ■

NO—The original gauge control module (tach) is faulty; replace the gauge control module (tach) (see page 22-277). ■

DTC Troubleshooting (cont'd)

DTC B1173: Gauge Control Module Lost Communication with the TPMS Control Unit (TPMS Message) ('08-09 models)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and then back to ON (II).
3. Check for the DTCs with the HDS.

Is DTC B1173 indicated?

YES—Go to step 4.

NO—Intermittent failure, the F-CAN communication line is OK at this time. Check for loose or poor connections. If the connections are good, check the battery condition (see page 22-67), and the charging system. ■

4. Check for DTCs in the TPMS.

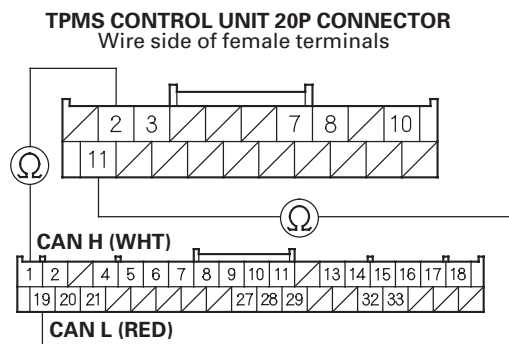
Are any DTCs indicated?

YES—Troubleshoot the TPMS DTCs with the HDS. ■

NO—Go to step 5.

5. Turn the ignition switch to LOCK (0).
6. Disconnect the gauge control module (tach) 36P connector.
7. Disconnect the TPMS control unit 20P connector.

8. Check for continuity between gauge control module (tach) 36P connector terminals No. 1 and No. 19 and TPMS control unit 20P connector terminals No. 2 and No. 11 respectively.



GAUGE CONTROL MODULE (TACH) 36P CONNECTOR

Wire side of female terminals

Is there continuity?

YES—Go to step 9.

NO—Repair an open in the wire between the gauge control module and the TPMS control unit. ■

9. Check for poor connections, power, and ground to the TPMS control unit. If OK, substitute a known-good TPMS control unit.

10. Check for DTCs with the HDS.

Is DTC B1173 indicated?

YES—Replace the gauge control module (tach) (see page 22-277). ■

NO—Replace the original TPMS control unit. ■



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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for 30 seconds.
4. Check for DTCs with the HDS.

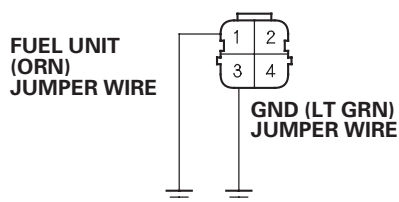
Is DTC B1175 indicated?

YES—Go to step 5.

NO—Intermittent failure, the fuel level sensor circuit is OK at this time. Check for loose or poor connections. ■

5. Turn the ignition switch to LOCK (0).
6. Disconnect the fuel tank unit 5P connector and the gauge control module (tach) 36P connector.
7. Connect fuel tank unit 4P connector terminals No. 1 and No. 3 to body ground with jumper wires.

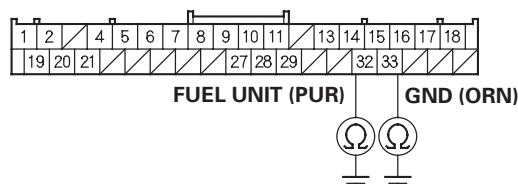
FUEL TANK UNIT 4P CONNECTOR



Wire side of female terminals

8. Check for continuity between gauge control module (tach) 36P connector terminals No. 32 and No. 33 and body ground individually.

GAUGE CONTROL MODULE (TACH) 36P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Go to step 9.

NO—Repair an open in the wire between the gauge control module (tach) and the fuel tank unit. ■

9. Do the fuel gauge sending unit test (see page 11-340).

Is the fuel gauge sending unit OK?

YES—Replace the gauge control module (tach) (see page 22-277). ■

NO—Replace the fuel tank unit (see page 11-339). ■

DTC Troubleshooting (cont'd)

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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for 30 seconds.
4. Check for DTCs with the HDS.

Is DTC B1176 indicated?

YES—Go to step 5.

NO—Intermittent failure, the fuel level sensor circuit is OK at this time. Check for loose or poor connections. ■

5. Turn the ignition switch to LOCK (0).
6. Disconnect the fuel tank unit 4P connector.
7. Clear the DTCs with the HDS.
8. Turn the ignition switch to LOCK (0), and then back to ON (II).
9. Wait for 30 seconds.
10. Check for DTCs with the HDS.

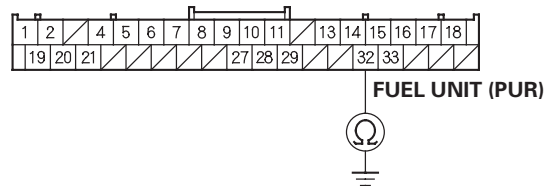
Is DTC B1176 indicated?

YES—Go to step 11.

NO—Replace the fuel gauge sending unit (see page 11-340). ■

11. Disconnect the gauge control module (tach) 36P connector.
12. Check for continuity between gauge control module (tach) 36P connector terminal No. 32 and body ground.

GAUGE CONTROL MODULE (TACH) 36P CONNECTOR



Wire side of female terminals

Is there continuity?

YES—Repair a short in the wire between the gauge control module (tach) and the fuel tank unit. ■

NO—Replace the gauge control module (tach) (see page 22-277). ■



DTC B1177: Battery Voltage Abnormal ('06 model)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Check for DTCs with the HDS.

Is DTC B1177 indicated?

YES—Go to step 8.

NO—Go to step 4.

4. Clear the DTCs with the HDS.
5. Turn the ignition switch to LOCK (0), and then back to ON (II).
6. Crank the engine.
7. Check for DTCs with the HDS.

Is DTC B1177 indicated?

YES—Go to step 8.

NO—Intermittent failure. The gauge control module (tach) and power supply voltage (IG1) that is supplied to the gauge control module (tach) are OK at this time. The battery may have been discharged, and recovered. ■

8. Check the battery (see page 22-67) and the charging system.

Is 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 be repaired. ■

9. Turn the ignition switch to ON (II).
10. With the gauge control module (tach) 36P connector still connected, measure the voltage between gauge control module (tach) 36P connector terminal No. 17 and body ground.

Is the voltage about 7.5 V?

YES—Replace the gauge control module (tach) (see page 22-277). ■

NO—Repair an open or high resistance in the BRN wire between the ignition switch and the gauge control module (tach). ■

DTC Troubleshooting (cont'd)

DTC B1183: Gauge Control Module Lost Communication with the EPS Control Unit (EPS Message)

NOTE: If you are troubleshooting multiple DTCs, be sure to follow the instructions in B-CAN System Diagnosis Test Mode A (see page 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to ON (II).
3. Wait for 6 seconds or more.
4. Check for DTCs with the HDS.

Is DTC B1183 indicated?

YES—Go to step 5.

NO—Intermittent failure. The gauge control module (tach) is OK at this time. Check for loose or poor connections. ■

5. Check for DTCs with the HDS.

Are DTCs B1168, B1169, B1178, B1183, B1184, B1185, and B1187 all indicated at the same time?

YES—Troubleshoot DTC B1178. ■

NO—Go to step 6.

6. Check for EPS DTCs with the HDS.

Are any DTCs indicated?

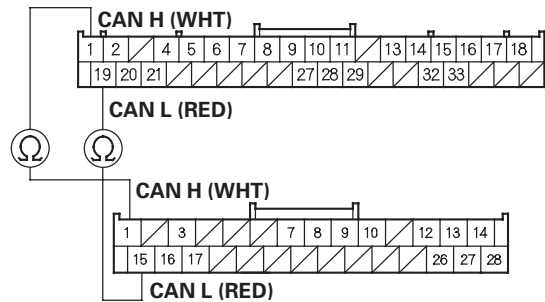
YES—Troubleshoot the indicated DTC, then recheck. ■

NO—Go to step 7.

7. Turn the ignition switch to LOCK (0).
8. Disconnect the gauge control module (tach) 36P connector.
9. Disconnect the EPS control unit 28P connector (see page 17-84).

10. Check for continuity between gauge control module (tach) 36P connector terminals No. 1 and No. 19 and EPS control unit 28P connector terminals No. 1 and No. 15 individually.

GAUGE CONTROL MODULE (TACH) 36P CONNECTOR Wire side of female terminals



EPS CONTROL UNIT 28P CONNECTOR Wire side of female terminals

Is there continuity?

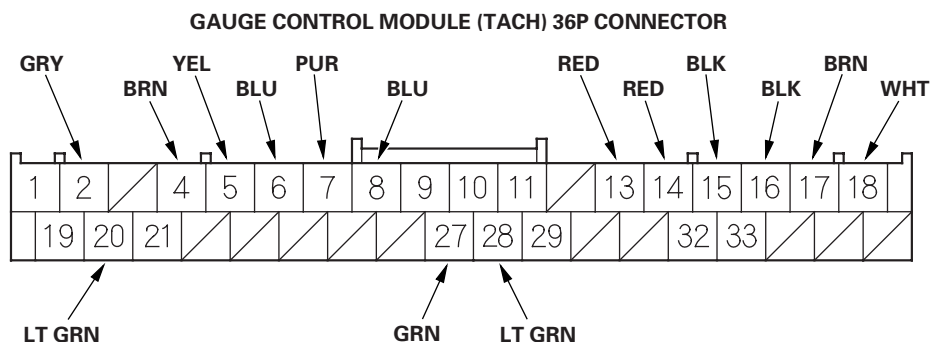
YES—Substitute a known-good EPS control unit (see page 17-84) and recheck. If DTC B1183 is still indicated, replace the gauge control module (tach). ■

NO—Repair an open in the wire. ■

Gauge Control Module (Tach) Input Test

NOTE: Before testing, do the gauge control module self-diagnosis function, and make sure the B-CAN communication line and the UART line are OK.

1. Turn the ignition switch to LOCK (0).
2. Remove the gauge control module (tach) and disconnect the 36P connector from it (see page 22-277).



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.

(cont'd)

Gauges

Gauge Control Module (Tach) Input Test (cont'd)

4. With the connector still disconnected, do these input tests at the following 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 desired result is not obtained
20 [2]	LT GRN [GRY]	Disconnect the gauge control module (speedo) 12P connector	Check for continuity between terminal No. 20 [No. 2] and gauge control module (speedo) 12P connector terminal No. 7 [No. 1] : There should be continuity.	An open in the wire
			Check for continuity to ground: There should be no continuity.	A short to ground in the wire
13	RED	Combination light switch ON	Attach to ground: The illuminations of the seat heater switches and the ambient light should come on full bright.	• Faulty LEDs • An open in the wire
14	RED	Combination light switch ON	Attach to ground: The illuminations of the dash lights, the audio unit, the steering wheel switches, and the climate control unit lights should come on full bright.	• Faulty LEDs • An open in the wire

[] : TYPE S model

5. Reconnect the connector to the gauge control module (tach), and do these input tests at the following connector.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the gauge control module (tach) must be faulty; replace it.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
15	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G503) • An open in the wire
16	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G504) • An open in the wire
17	BRN	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box • An open in the wire
18	WHT	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
4	BRN	Ignition switch ON (II), ILLUMI (—) button pressed	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G501) • Faulty dash light brightness controller and odometer select/reset switch • An open in the wire
		Ignition switch ON (II), ILLUMI (—) button released	Measure the voltage to ground: There should be more than 5 V.	• Faulty dash light brightness controller and odometer select/reset switch • A short to ground in the wire



Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
5	YEL	Ignition switch ON (II), ILLUMI (+) button pressed	Measure the voltage to ground: There should be less than 1 V.	- Poor ground (G501) - Faulty dash light brightness controller and odometer select/reset switch - An open in the wire
		Ignition switch ON (II), ILLUMI (+) button released	Measure the voltage to ground: There should be more than 5 V.	- Faulty dash light brightness controller and odometer select/reset switch - A short to ground in the wire
6	BLU	Ignition switch ON (II), SELECT/RESET button pressed	Measure the voltage to ground: There should be less than 1 V.	- Poor ground (G501) - Faulty dash light brightness controller and odometer select/reset switch - An open in the wire
		Ignition switch ON (II), SELECT/RESET button released	Measure the voltage to ground: There should be more than 5 V.	- Faulty dash light brightness controller and odometer select/reset switch - A short to ground in the wire
7	PUR	Ignition switch ON (II), km/h-mph button pressed	Measure the voltage to ground: There should be less than 1 V.	- Poor ground (G501) - Faulty dash light brightness controller and odometer select/reset switch - An open in the wire
		Ignition switch ON (II), km/h-mph button released	Measure the voltage to ground: There should be more than 5 V.	- Faulty dash light brightness controller and odometer select/reset switch - A short to ground in the wire
8	BLU	Ignition switch ON (II), washer fluid is half or more in the washer reservoir	Measure the voltage to ground: There should be more than 5 V.	- Faulty washer fluid level switch - A short to ground in the wire
		Ignition switch ON (II), washer fluid is empty in the washer reservoir	Measure the voltage to ground: There should be less than 1 V.	- Poor ground (G401) - Faulty washer fluid level switch - An open in the wire
27	GRN	Ignition switch ON (II), brake fluid is full level in the reservoir	Measure the voltage to ground: There should be less than 1 V.	- Poor ground (G401) - Faulty brake fluid level switch - An open in the wire
		Ignition switch ON (II), brake fluid is lower level in the reservoir	Measure the voltage to ground: There should be more than 5 V.	- Faulty brake fluid level switch - A short to ground in the wire
28	LT GRN	Ignition switch ON (II), parking brake lever pulled	Measure the voltage to ground: There should be less than 1 V.	- Faulty parking brake switch - An open in the wire
		Ignition switch ON (II), parking brake lever released	Measure the voltage to ground: There should be more than 5 V.	- Faulty parking brake switch - A short to ground in the wire

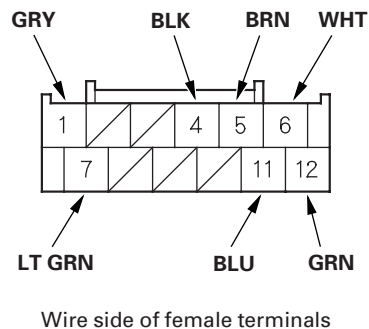
Gauges

Gauge Control Module (Speedo) Input Test

NOTE: Before testing, do the gauge control module self-diagnosis function, and make sure the B-CAN communication line and the UART line are OK.

1. Turn the ignition switch to LOCK (0).
2. Remove the gauge control module (speedo) and disconnect the 12P connector from it (see page 22-277).

GAUGE CONTROL MODULE (SPEEDO) 12P CONNECTOR



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



4. With the connector still disconnected, do these input tests at the following 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 desired result is not obtained
11	BLU	Ignition switch ON, turn signal switch in LEFT	Measure the voltage to ground: There should be battery voltage when the lights are flashing.	• Faulty MICU • Faulty combination light switch • An open in the wire
12	GRN	Ignition switch ON, turn signal switch in RIGHT	Measure the voltage to ground: There should be battery voltage when the lights are flashing.	• Faulty MICU • Faulty combination light switch • An open in the wire
7 [1]	LT GRN [GRY]	Disconnect the gauge control module (tach) 36P connector	Check for continuity between terminal No. 7 [No. 1] and gauge control module (tach) 36P connector terminal No. 20 [No. 2] : There should be continuity.	An open in the wire
			Check for continuity between terminal No. 7 [No. 1] and body ground (gauge control module (tach) 36P connector disconnected): There should be no continuity.	A short to ground in the wire

[] : TYPE S model

5. Reconnect the connector to the gauge control module (speedo), and do these input tests at the following connector.

- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the gauge control module (speedo) must be faulty; replace it.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
6	WHT	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
5	BRN	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 10 (7.5 A) fuse in the under-dash fuse/relay box • An open in the wire
4	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G504) • An open in the wire

Rewriting the ODO Data and Transferring the Maintenance Minder Data to 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 jump 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 menu display.
3. Select "Gauge Control Module Replacement (ODO rewrite)" from the ADJUSTMENT menu, and follow the instructions on the display to retrieve the ODO data and the Maintenance Minder information.
4. Replace the gauge control module.
5. Follow the instructions on the display to write the new ODO data and Maintenance Minder data to a new gauge control module. If the data transfer fails, refer to the instructions below to release the locked ODO data.

Release Locked odometer mileage to the original gauge control module.

If after you attempt to transfer mileage the odometer has dashes (— — —), garbled, or incorrect value displayed, do the following start over. The original gauge control module is going to be unlocked and restored to its original state.

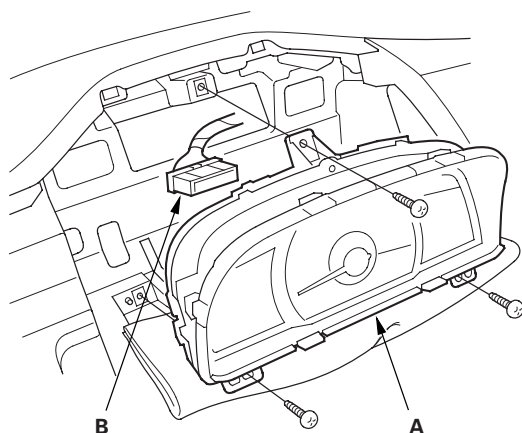
1. Confirm that you have the latest HDS version of software.
2. Make sure that the HDS shows the correct VIN for the car you are working on.
3. With the ignition switch to LOCK (0), reconnect the original gauge assembly.
4. Completely re-boot the HDS.
5. Clear any stored DTCs.
6. Navigation to Body.
Electric/Gauges/Adjustment/Instrument Panel Replacement.
7. Select "3. Releasing Locked ODO Data".
8. Follow the prompts and the Odometer mileage will be restored.
9. Start over and make sure the screen prompts are followed.

Gauge Control Module Replacement

Tachometer

NOTE: Before replacing the gauge control module, do the "Rewriting the ODO Data and Transferring the Maintenance Minder Data to a New Gauge Control Module" (see page 22-276).

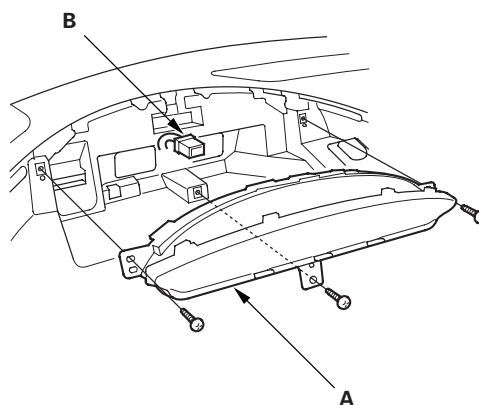
1. Remove the subdisplay visor assembly (see page 20-100).
2. Remove the three screws from the gauge control module (tach) (A).



3. Disconnect the 36P connector (B) from the gauge control module (tach).
4. Install the gauge control module (tach) in the reverse order of removal.

Speedometer

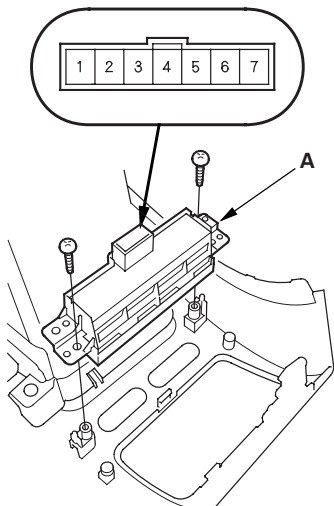
1. Remove the instrument panel (see page 20-98).
2. Remove the three screws from the gauge control module (speedo) (A).



3. Disconnect the 12P connector (B) from the gauge control module (speedo).
4. Install the gauge control module (speedo) in the reverse order of removal.

Dash Lights Brightness Controller and Odometer Select/Reset Switch Test/Replacement

- 1. Remove the subdisplay visor (see page 20-100) and disconnect the connectors.
- 2. Remove the two screws and the dash lights brightness controller and odometer select/reset switch (A).



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

Terminal	1	2	4	6	7	3	5
Position							
SEL/RESET button pressed							
km/h-mph change button pressed							
(+) button pressed							
(-) button pressed							

- 4. If the continuity is not as specified, replace the dash lights brightness controller and odometer select/reset switch.
- 5. Install the dash lights brightness controller and odometer select/reset switch in the reverse order of removal.



Outside Air Temperature Indicator Calibration

Description

The outside temperature sensor is located behind the center of the front bumper. The gauge control module (tach) 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 (tach) to help prevent abnormal or fluctuating outside air temperature indicator readings.

Outside Air Temperature Indicator Logic

Initial outside air temperature indication after the ignition switch is turned to ON (II).

- If the engine coolant temperature is 60 °C (140 °F) or higher when the ignition switch is turned to 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 59 °C (139 °F) or lower when the ignition switch is turned to 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 air temperature indicator will increase by 1 °C (1.8 °F) per minute after the vehicle speed is greater than 30 km/h (19 mph) for more than 1 minute and 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 30 km/h (19 mph). If the vehicle speed drops below 30 km/h (19 mph), the indicator will not update again until the vehicle speed is increased to 30 km/h (19 mph) or more for more than 1 minute and 30 seconds again. If the outside air temperature is less than the indicated temperature, the temperature will decrease 1 °C every 2 seconds (1 °F every 1.1 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 outside air temperature sensor (see page 21-68), or gauge control module self-diagnosis (see page 22-241).

(cont'd)

Gauges

Outside Air Temperature Indicator Calibration (cont'd)

Calibration

The outside air temperature indicator's displayed temperature can be recalibrated $\pm 3^{\circ}\text{C}$ (or $\pm 5^{\circ}\text{F}$) to meet the client's expectations.

1. Turn the ignition switch to ON (II).
2. Select the outside air temperature display.
3. Press and hold the SEL/RESET button until the trip meter resets, then release it. Press, and continue to hold, the switch again, and the display will scroll through temperature settings from $+3^{\circ}\text{C}$ to -3°C (or $+5^{\circ}\text{F}$ to -5°F) as shown.

0.1.2.3.-3.-2.-1

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

Example:

Incorrect value = 20°C (68°F)

Desired correction value = $+1^{\circ}\text{C}$ ($+2^{\circ}\text{F}$)

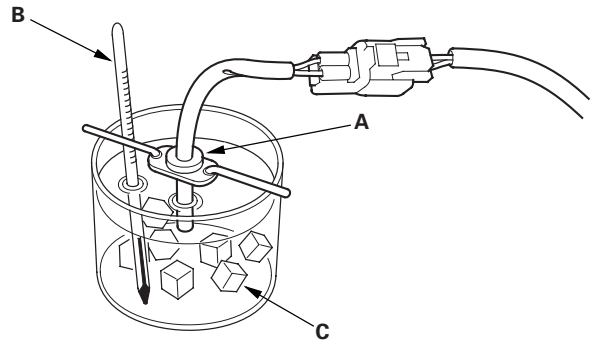
Correct value = 21°C (70°F)

Desired correction value = -1°C (-2°F)

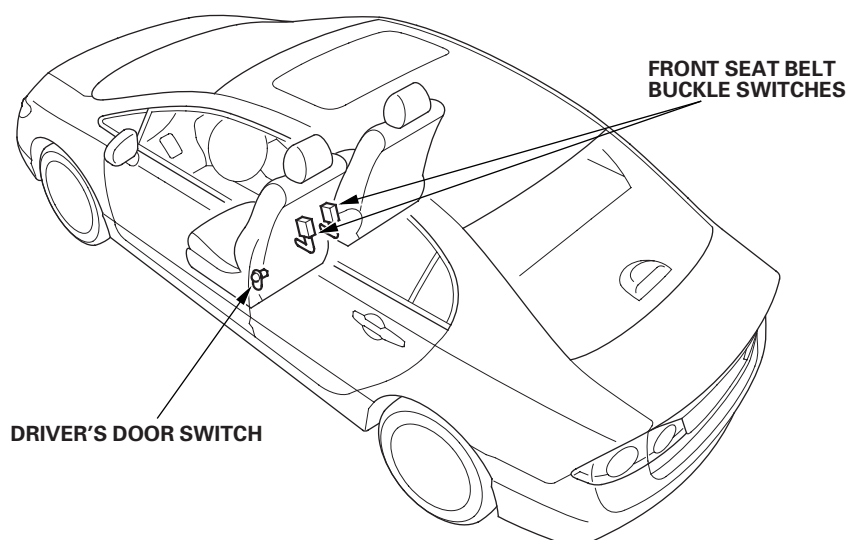
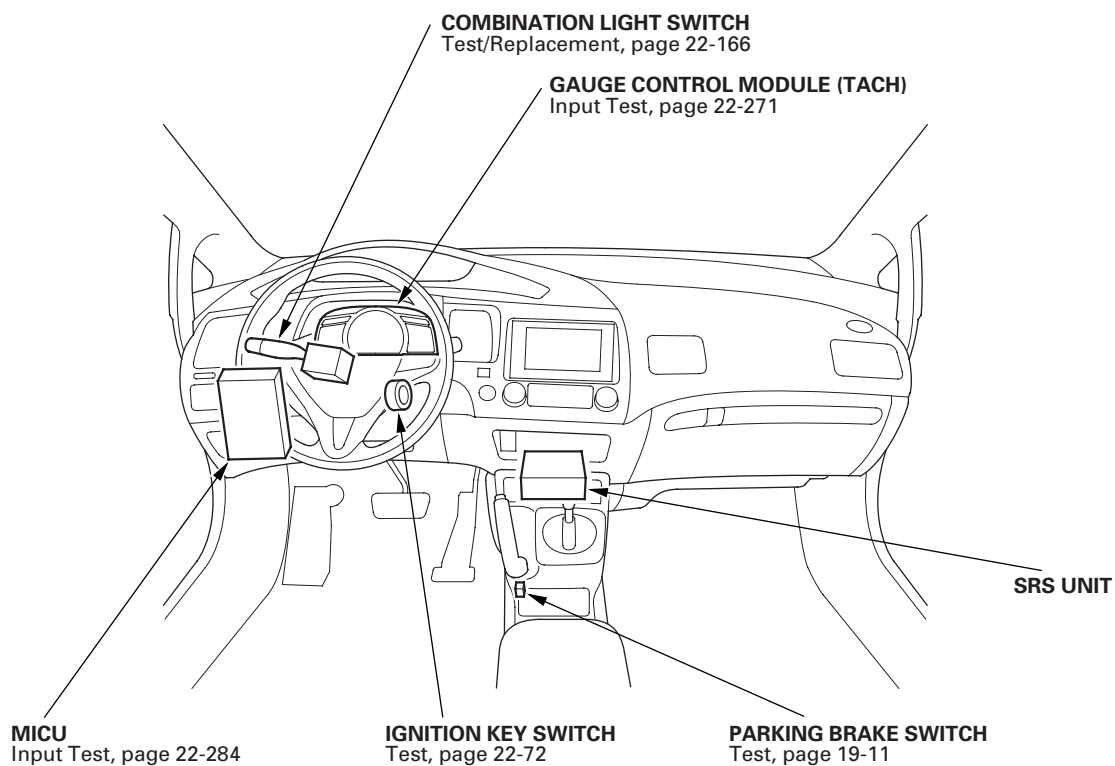
Correct value = 19°C (66°F)

NOTE: To recalibration temperature is not the value the sensor sees. Therefore the temperature can only be adjusted $\pm$ degrees from the sensor.

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

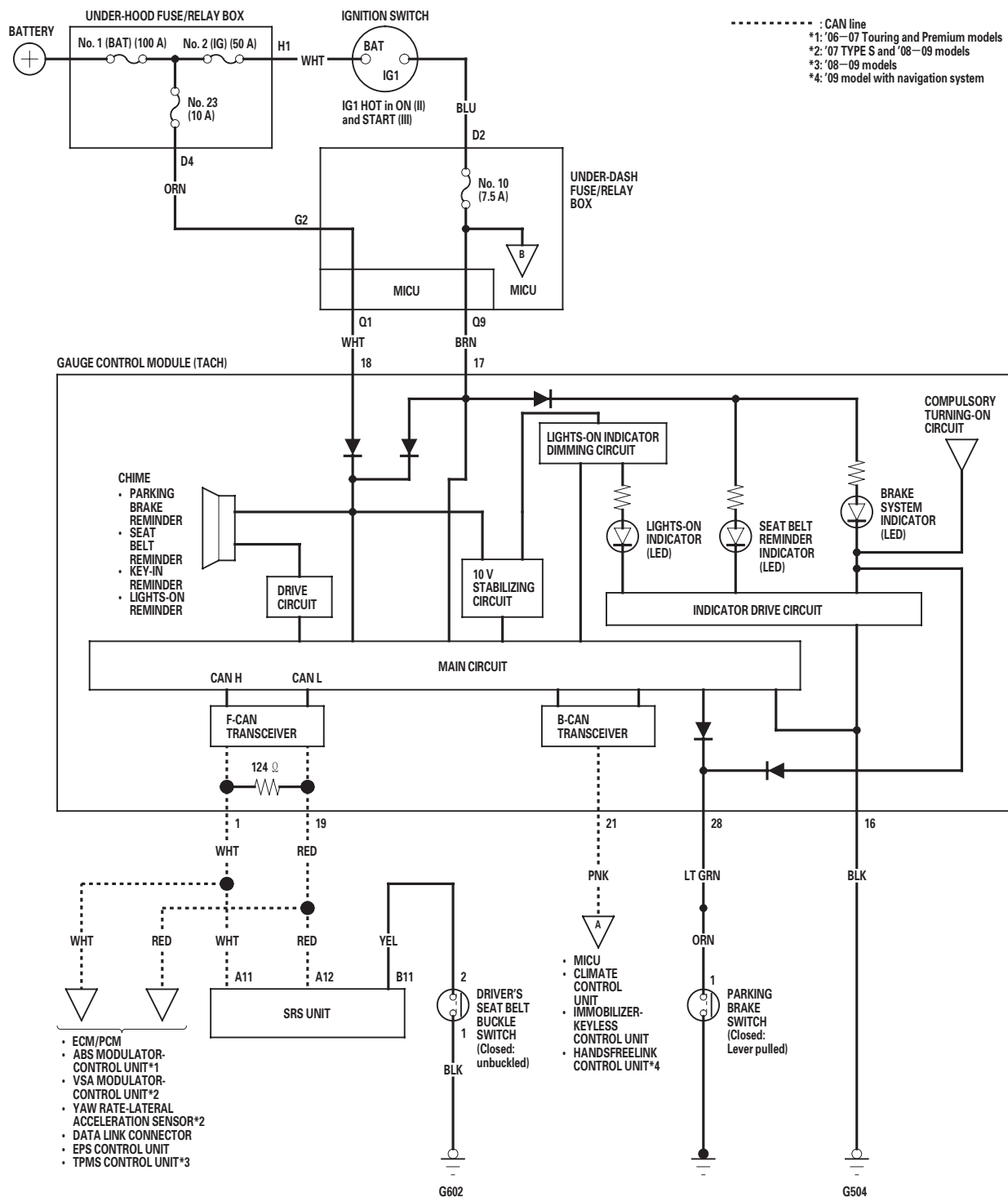


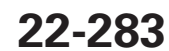
Component Location Index



Reminder Systems

Circuit Diagram





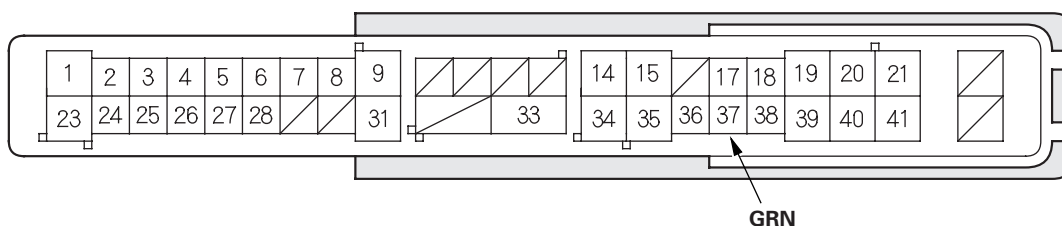
Reminder Systems

MICU Input Test

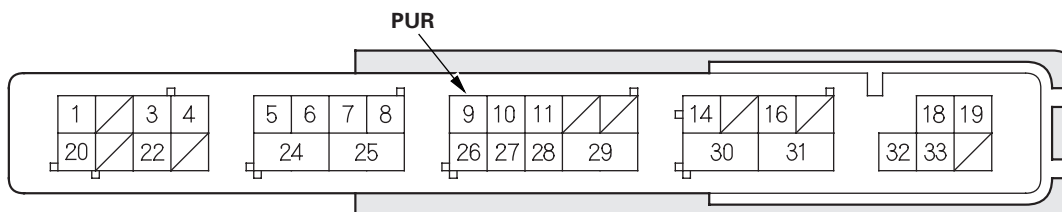
1. Before testing the multiplex control system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93).
2. Check the No. 10 (7.5 A) fuse in the under-dash fuse/relay box. If the fuse is blown, replace it and go to step 3.
3. Disconnect the under-dash fuse/relay box connectors E, F, R, and S.

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

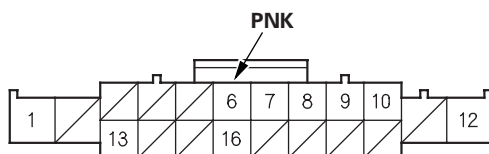
UNDER-DASH FUSE/RELAY BOX CONNECTOR E (42P)



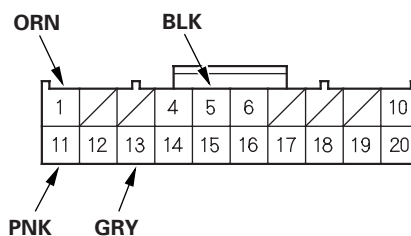
UNDER-DASH FUSE/RELAY BOX CONNECTOR F (34P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR R (20P)



UNDER-DASH FUSE/RELAY BOX CONNECTOR S (20P)



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.



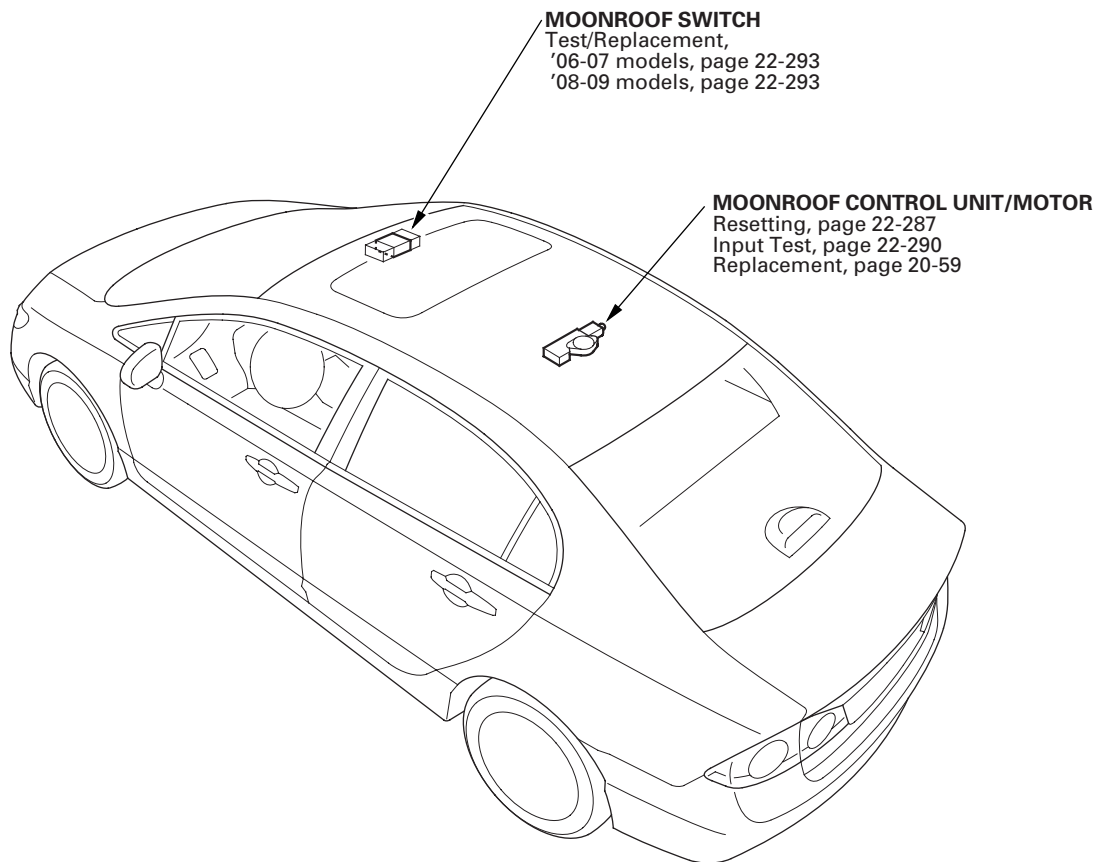
5. Reconnect the connector to the under-dash fuse/relay box, and do these input tests at the following connectors.

- 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.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
E37	GRN	Driver's door open	Measure the voltage to ground: There should be less than 0.5 V.	• Faulty driver's door switch • 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 • A short to ground in the wire
R6	PNK	Ignition key inserted into the ignition switch	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G504) • Faulty ignition key switch • An open in the wire
		Ignition switch OFF and ignition key removed from the ignition switch	Measure the voltage to ground: There should be more than 5 V.	• Faulty ignition key switch • A short to ground in the wire
S1 · S5	ORN · BLK	Combination light switch OFF	Measure the voltage between S1 and S5 terminals: There should be less than 0.5 V.	• Faulty combination light switch • An open in the wire
		Combination light switch in any other position than OFF	Measure the voltage between S1 and S5 terminals: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
S11 · S5	PNK · BLK	Combination light switch (Headlight position) ON	Measure the voltage between S11 and S5 terminals: There should be less than 0.5 V.	• Faulty combination light switch • An open in the wire
		Combination light switch OFF	Measure the voltage between S11 and S5 terminals: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire
S13 · S5	GRY · BLK	Combination light switch (SMALL position) ON	Measure the voltage between S13 and S5 terminals: There should be less than 0.5 V.	• Faulty combination light switch • An open in the wire
		Combination light switch OFF	Measure the voltage between S13 and S5 terminals: There should be more than 5 V.	• Faulty combination light switch • A short to ground in the wire

Moonroof

Component Location Index





Resetting the Moonroof Control Unit

Resetting the moonroof is required when any of the following have occurred:

- The moonroof was moved manually while the battery was 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.

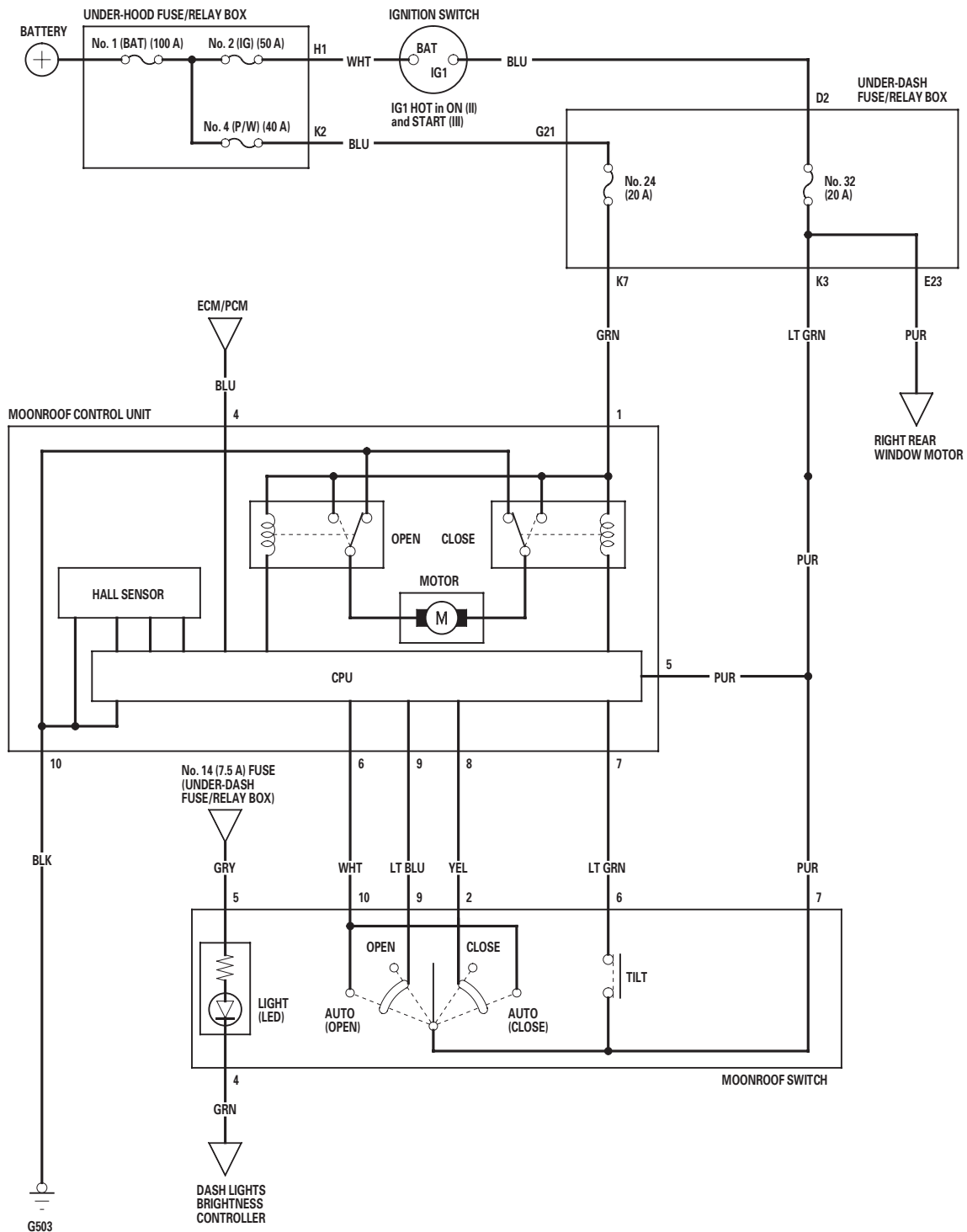
To reset the moonroof control unit, do these steps:

1. Close the driver's door, and keep it closed until the procedure is complete.
2. Turn the ignition switch to LOCK (0).
3. Press and hold the tilt switch, and turn the ignition switch to ON (II).
4. Release the tilt switch, and turn the ignition switch to LOCK (0).
5. Repeat steps 3 and 4 four times.
6. Press and hold the moonroof open switch for 3 additional seconds after the moonroof is fully opened.
7. Press and hold the moonroof close switch for 3 additional seconds after the moonroof is fully closed (tilted).
8. Confirm that the moonroof control unit is reset by using the moonroof AUTO OPEN and AUTO CLOSE function.

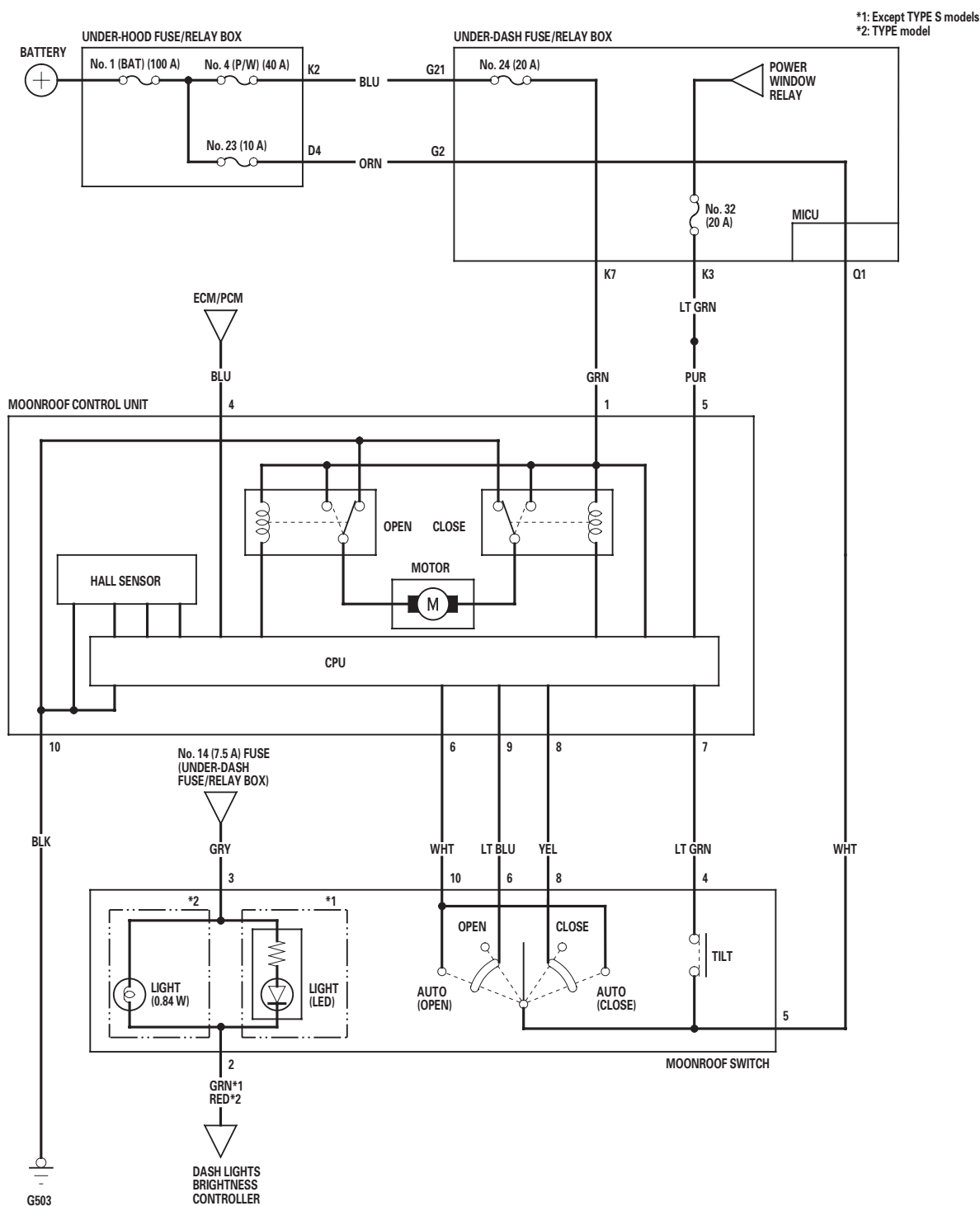
Moonroof

Circuit Diagram

'06-07 models



'08-09 models

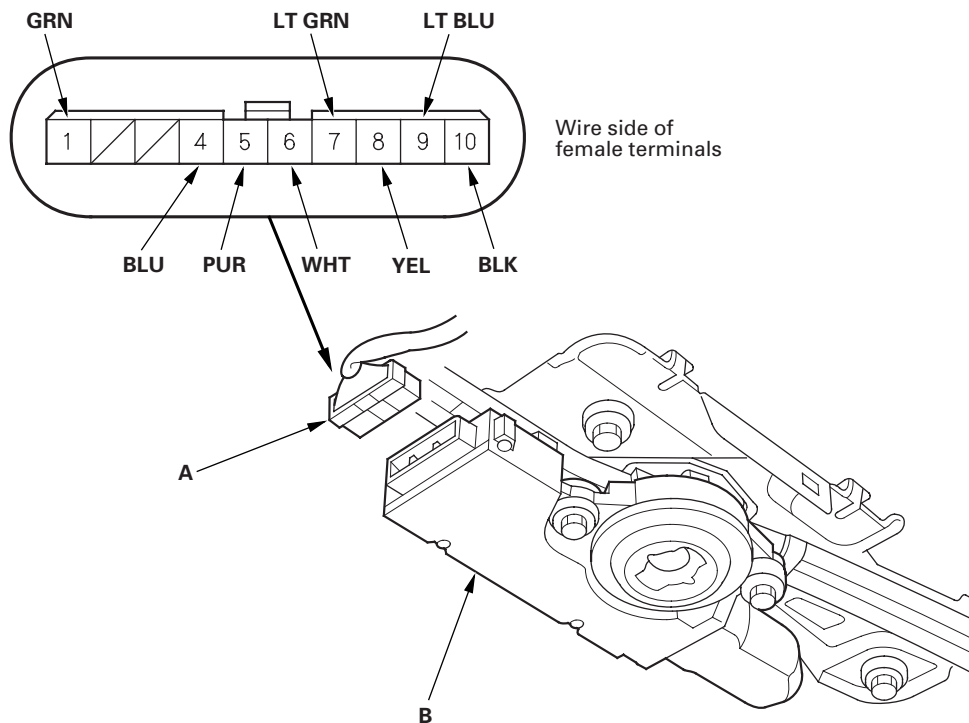


Moonroof

Moonroof Control Unit Input Test

NOTE: If the moonroof works OK manually, but will not work in AUTO, or reverses frequently (obstacle detection), do the moonroof calibration (see page 22-287) before proceeding with the input test.

1. Turn the ignition switch to LOCK (0).
2. Remove the headliner (see page 20-84).
3. Disconnect the 10P connector (A) from the moonroof control unit (B).



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 moonroof control unit, and do these input tests at the following 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 desired result is not obtained
1	GRN	Under all conditions	Measure the voltage to ground: There should be battery voltage.	• Blown No. 24 (20 A) fuse in the under-dash fuse/relay box • An open in the wire
5	PUR	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 32 (20 A) fuse in the under-dash fuse/relay box • An open in the wire
10	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G503) • An open in the wire
6	WHT	Moonroof switch in AUTO OPEN or AUTO CLOSE position	Measure the voltage to ground: There should be battery voltage.	• Faulty moonroof switch • Blown No. 32 (20 A) fuse in the under-dash fuse/relay box^{*1} • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box^{*2} • Faulty under-dash fuse/relay box • An open in the wire
7	LT GRN	Moonroof switch in TILT position	Measure the voltage to ground: There should be battery voltage.	• Faulty moonroof switch • Blown No. 32 (20 A) fuse in the under-dash fuse/relay box^{*1} • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box^{*2} • Faulty under-dash fuse/relay box • An open in the wire
8	YEL	Moonroof switch in CLOSE position	Measure the voltage to ground: There should be battery voltage.	• Faulty moonroof switch • Blown No. 32 (20 A) fuse in the under-dash fuse/relay box^{*1} • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box^{*2} • Faulty under-dash fuse/relay box • An open in the wire
9	LT BLU	Moonroof switch in OPEN position	Measure the voltage to ground: There should be battery voltage.	• Faulty moonroof switch • Blown No. 32 (20 A) fuse in the under-dash fuse/relay box^{*1} • Blown No. 23 (10 A) fuse in the under-hood fuse/relay box^{*2} • Faulty under-dash fuse/relay box • An open in the wire

* 1: '06-07 models

* 2: '08-09 models

(cont'd)

Moonroof Control Unit Input Test (cont'd)

6. Check the ECM/PCM DTCs. If there is no DTC, jump the SCS line with the HDS, then disconnect ECM/PCM connector A (44P), and the moonroof control unit/motor 10P connector.

7. Do this input test at the following connector.

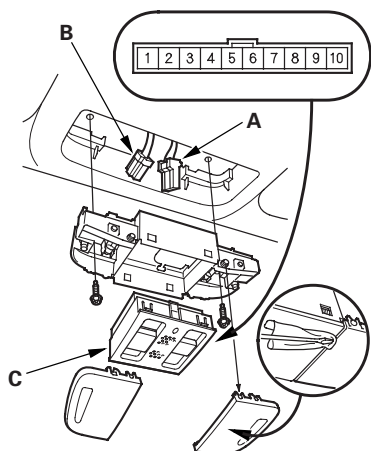
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the control unit must be faulty; replace the moonroof control unit/motor.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
4	BLU	Under all conditions	Check for continuity between terminal No. 4 and ECM/PCM connector A (44P) terminal No. 29: There should be continuity.	An open in the wire
			Check for continuity between terminal No. 4 and body ground: There should be no continuity.	A short to ground in the wire

Moonroof Switch Test/Replacement

'06-07 models

1. Remove the front individual map lights (see page 22-196).
2. Disconnect the moonroof switch 10P connector (A) and map light switch 3P connector (B).



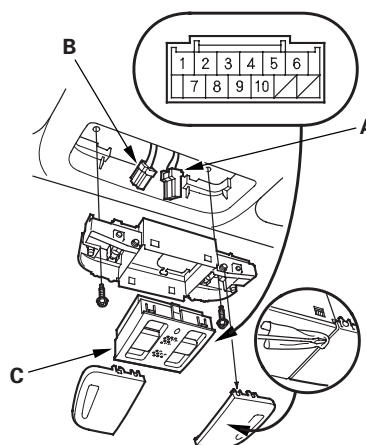
3. Remove the moonroof switch (C).
4. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	7	2	6	9	10	4	5
OPEN	○	—	○				
CLOSE	○	○					
TILT	○	—	○			○	○
CLOSE+AUTO	○	○			○		
OPEN+AUTO	○	—	○	○			

5. If the continuity is not as specified, replace the illumination bulb or the switch.
6. Install the moonroof switch and light in the reverse order of removal.

'08-09 models

1. Remove the front individual map lights (see page 22-196).
2. Disconnect the moonroof switch 12P connector (A) and map light switch 3P connector (B).



3. Remove the moonroof switch (C).
4. Check for continuity between the terminals in each switch position according to the table.

Terminal Position	5	8	4	6	10	2	3
OPEN	○	—	○				
CLOSE	○	○				○	○
TILT	○	—	○				
CLOSE AUTO	○	○			○	○	○
OPEN AUTO	○	—	○	○			

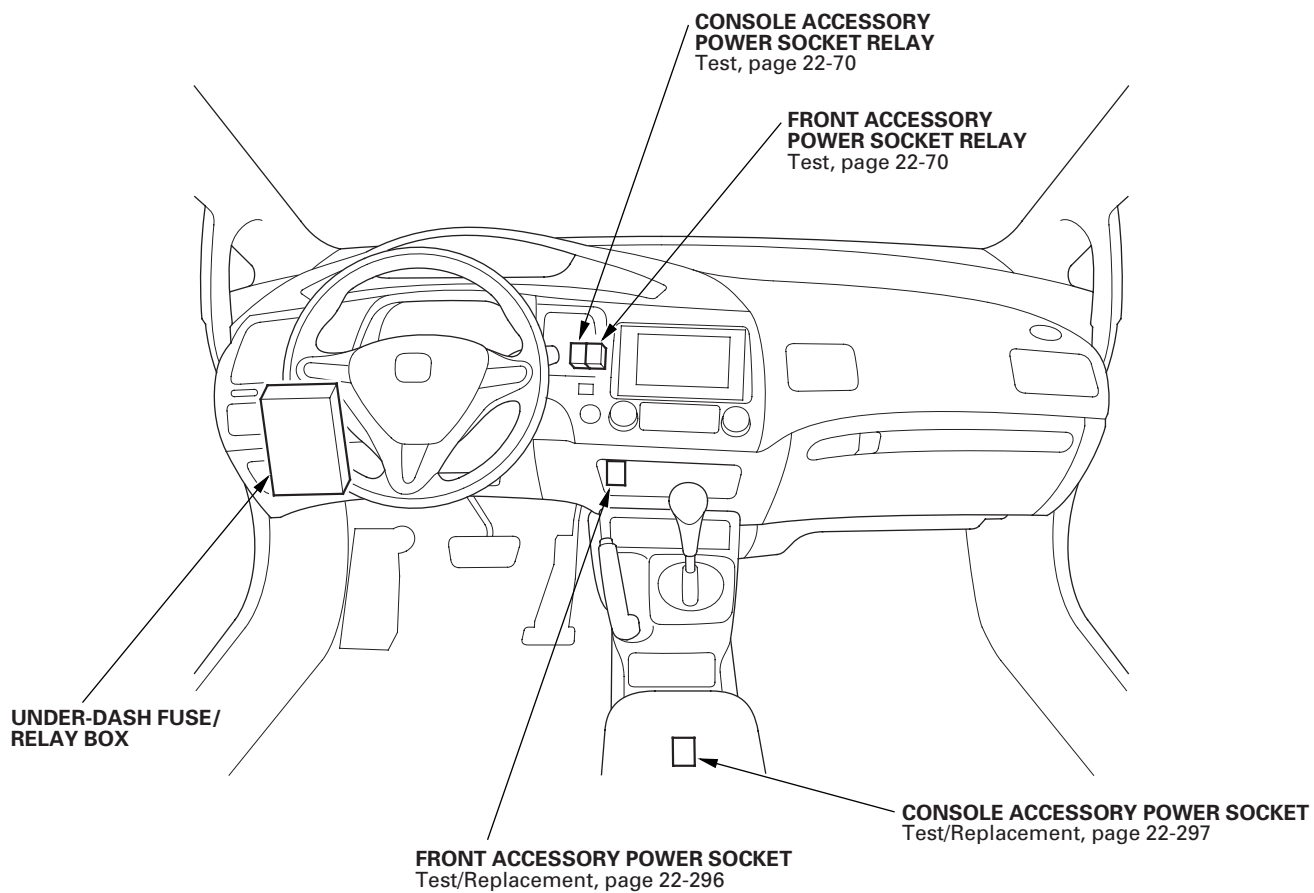
*1: Except Type S model

*2: Type S model

5. If the continuity is not as specified, replace the illumination bulb or the switch.
6. Install the moonroof switch and light in the reverse order of removal.

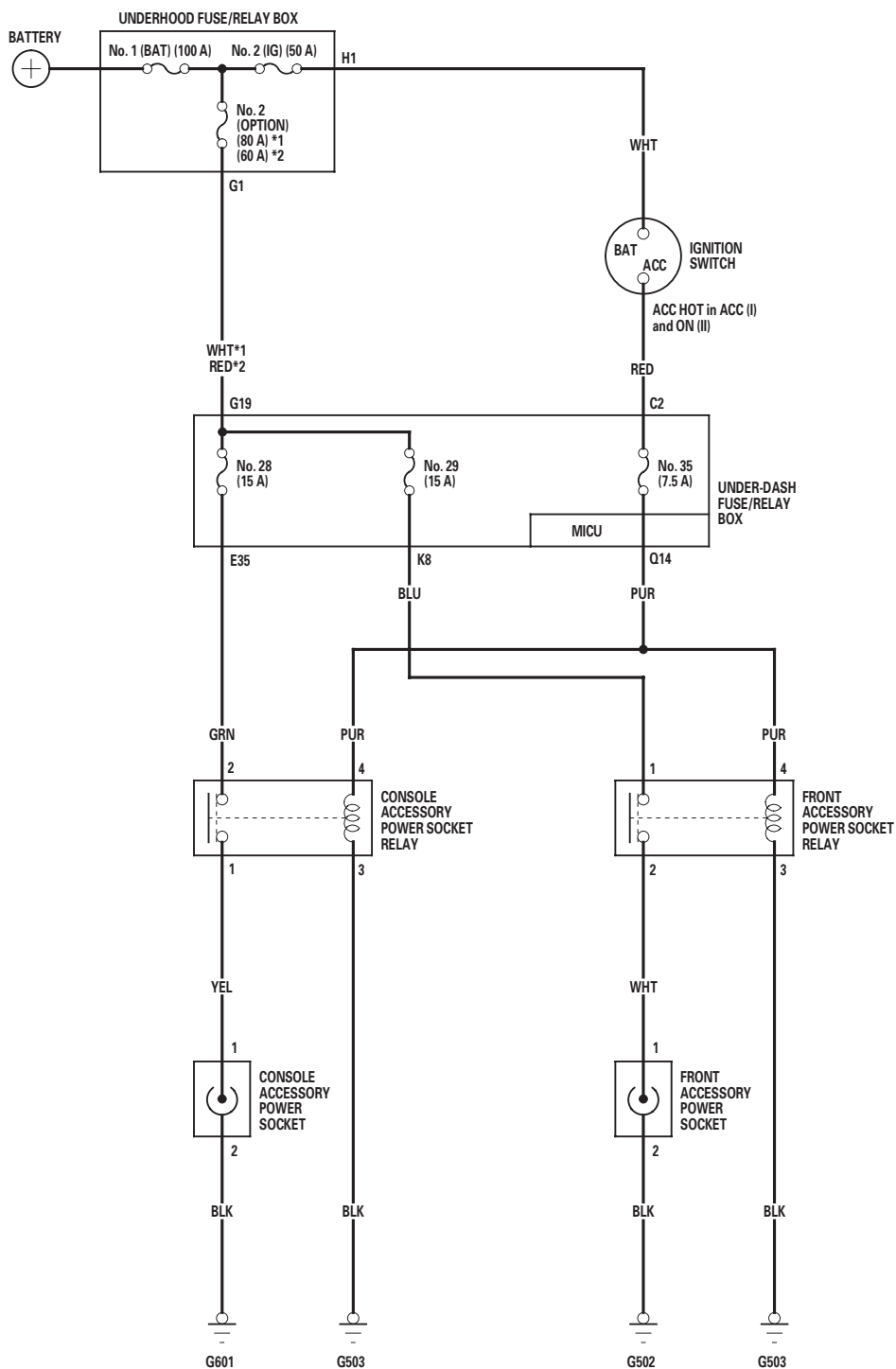
Accessory Power Sockets

Component Location Index





Circuit Diagram



*1: '06–'07 models
*2: '08–'09 models

Accessory Power Sockets

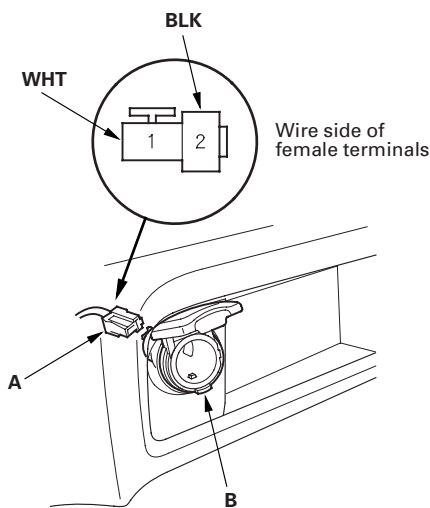
Front Accessory Power Socket Test/Replacement

NOTE: If both of the front and console accessory power sockets do not work, check the No. 35 (7.5 A) fuse in the under-dash fuse/relay box.

1. Remove the center panel.

- With audio:
 - '06-08 models (see page 23-80)
 - '09 model (see page 23-256)
- With navigation:
 - '06-08 models (see page 23-155)
 - '09 model (see page 23-355)

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).

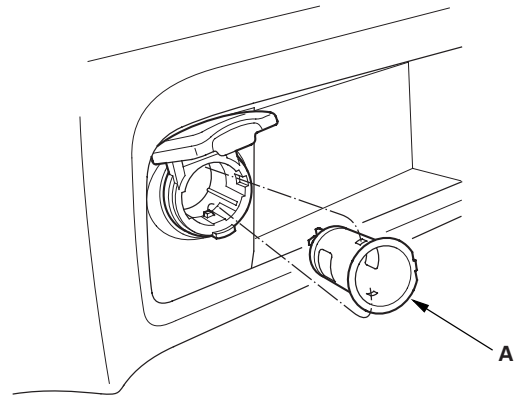
5. Measure the voltage between front accessory power socket 2P connector terminal No. 1 and body ground. There should be battery voltage.

- If there is battery voltage, go to step 6.
- If there is no voltage, check for:
 - Blown No. 29 (15 A) fuse in the under-dash fuse/relay box.
 - Faulty front accessory power socket relay.
 - Poor ground (G 503).
 - An open in the wire.

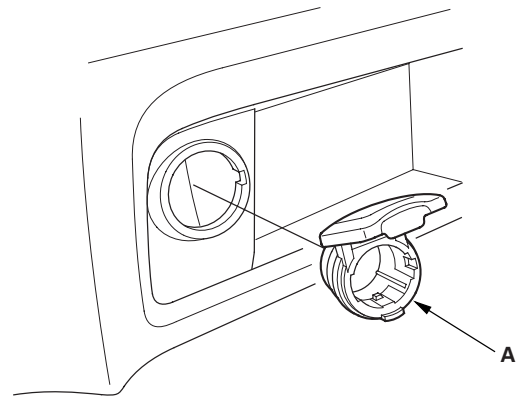
6. Check for continuity between front accessory power socket 2P connector terminal No. 2 and body ground. There should be continuity.

- If there is continuity, replace the power socket; go to step 7.
- If there is no continuity, check for:
 - Poor ground (G 502).
 - An open in the wire.

7. Remove the socket (A).



8. Remove the housing (A) from the panel.

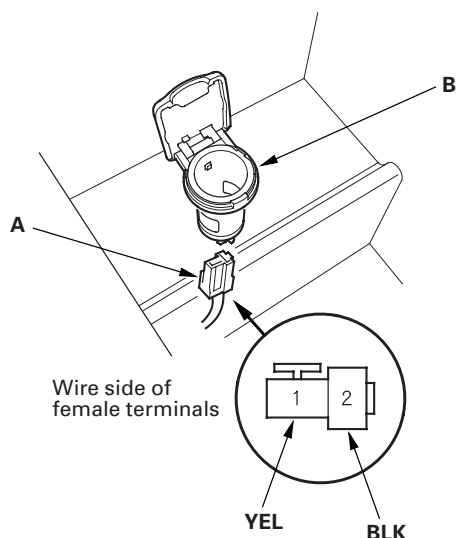


9. Install the front accessory power socket in the reverse order of removal.

Console Accessory Power Socket Test/Replacement

NOTE: If both of the front and console accessory power sockets do not work, check the No. 35 (7.5 A) fuse in the under-dash fuse/relay box.

1. Remove the center console (see page 20-95).
2. Disconnect the 2P connector (A) from the console accessory power socket (B).

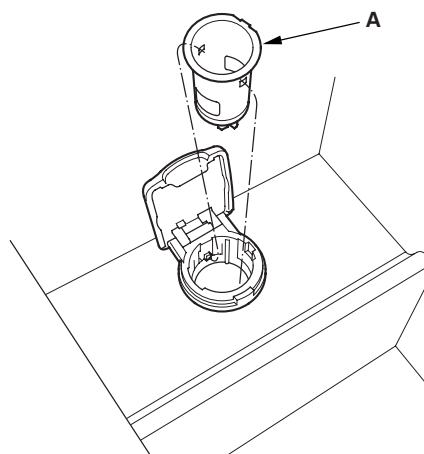


3. Inspect the connector terminals to be sure they are all making good contact.
 - If the terminals are bent, loose, or corroded, repair them as necessary and recheck the system.
 - If the terminals look OK, go to step 4.
4. Turn the ignition switch to ACC (I), and measure the voltage between console accessory power socket 2P connector terminal No. 1 and body ground. There should be battery voltage.
 - If there is battery voltage, go to step 5.
 - If there is no voltage, check for:
 - Blown No. 28 (15 A) fuse in the under-dash fuse/relay box.
 - Faulty console accessory power socket relay.
 - Poor ground (G 503).
 - An open in the wire.

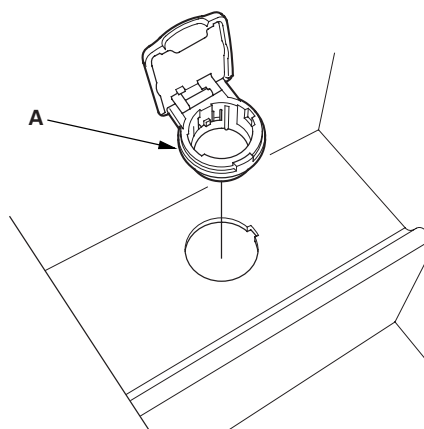
5. Check for continuity between console accessory power socket 2P connector terminal No. 2 and body ground. There should be continuity.

- If there is continuity, replace the power socket; go to step 6.
- If there is no continuity, check for:
 - Poor ground (G 601).
 - An open in the wire.

6. Remove the socket (A).



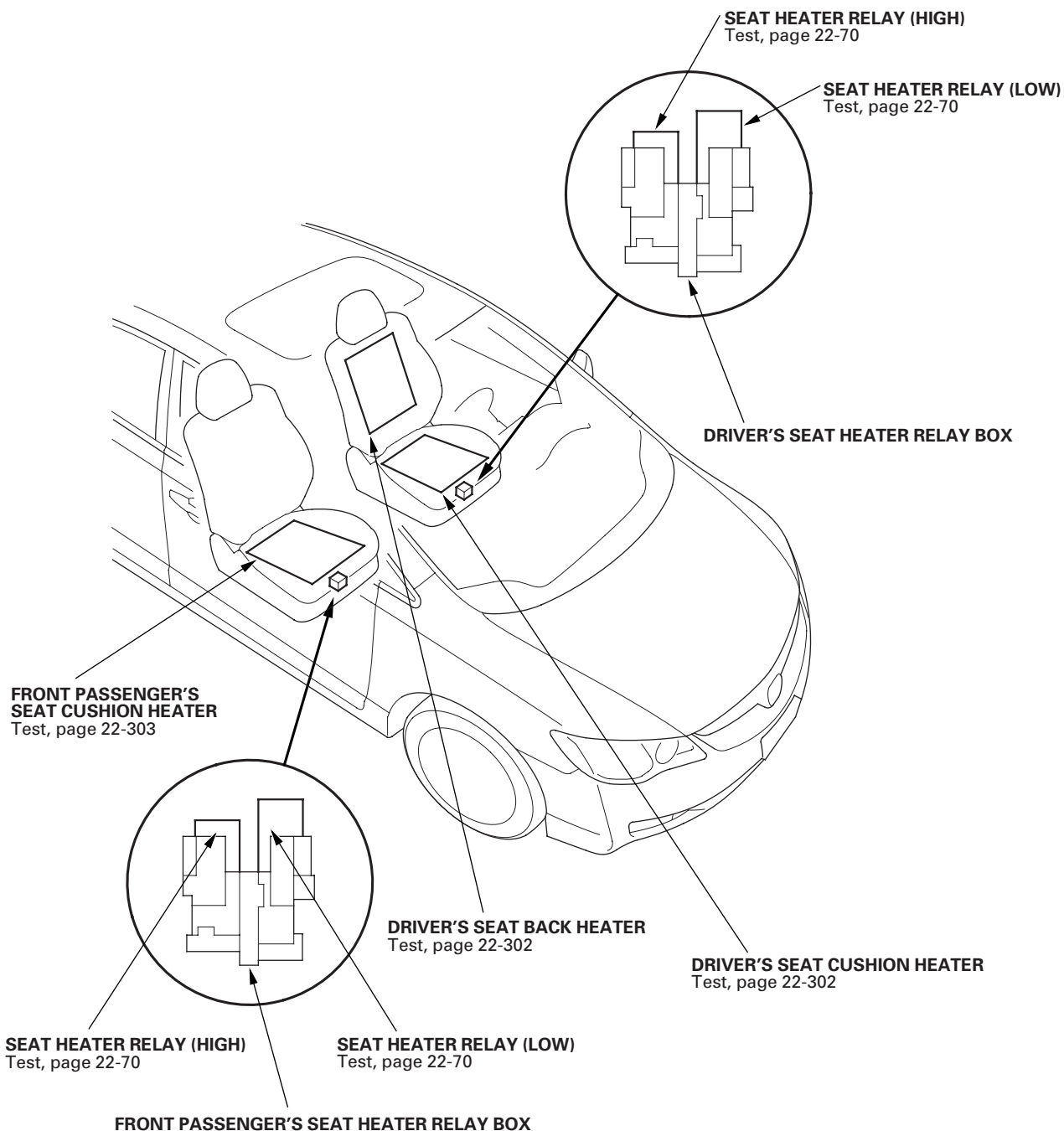
7. Remove the housing (A) from the panel.

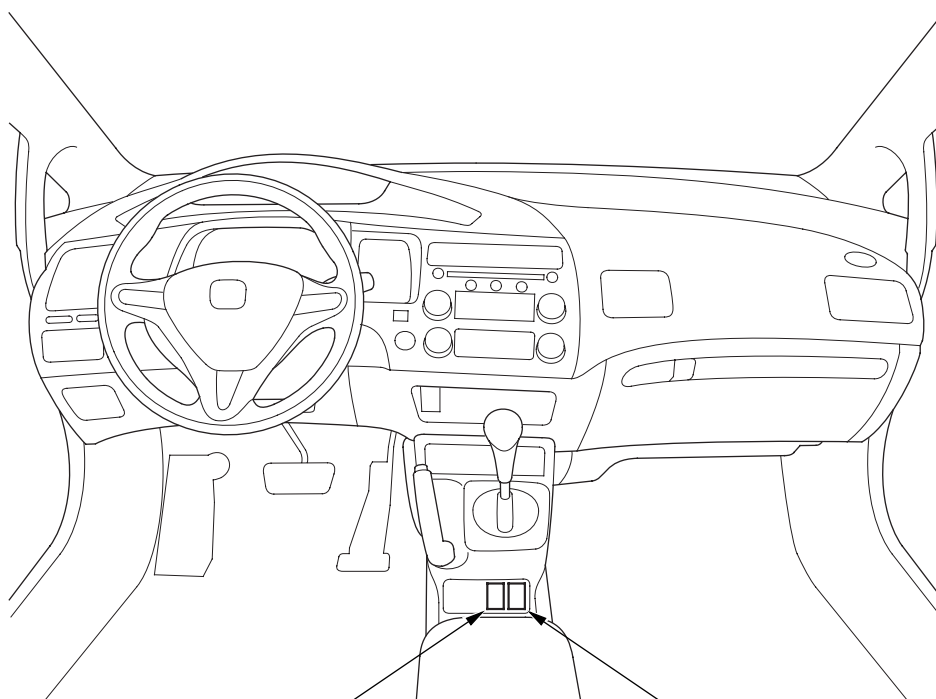


8. Install the console accessory power socket in the reverse order of removal.

Seat Heaters

Component Location Index



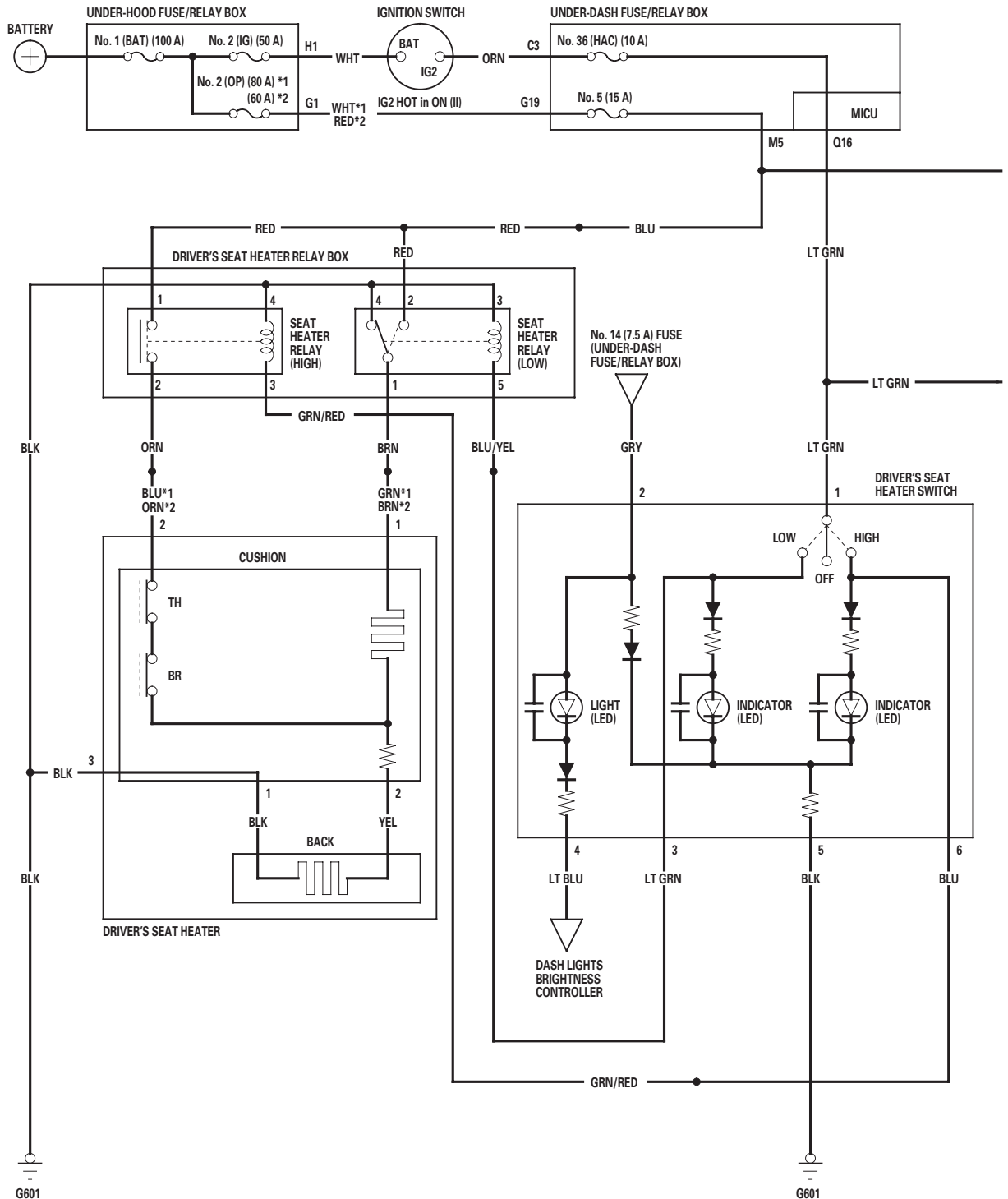


DRIVER'S SEAT HEATER SWITCH
Test/Replacement, page 22-302

FRONT PASSENGER'S SEAT HEATER SWITCH
Test/Replacement, page 22-302

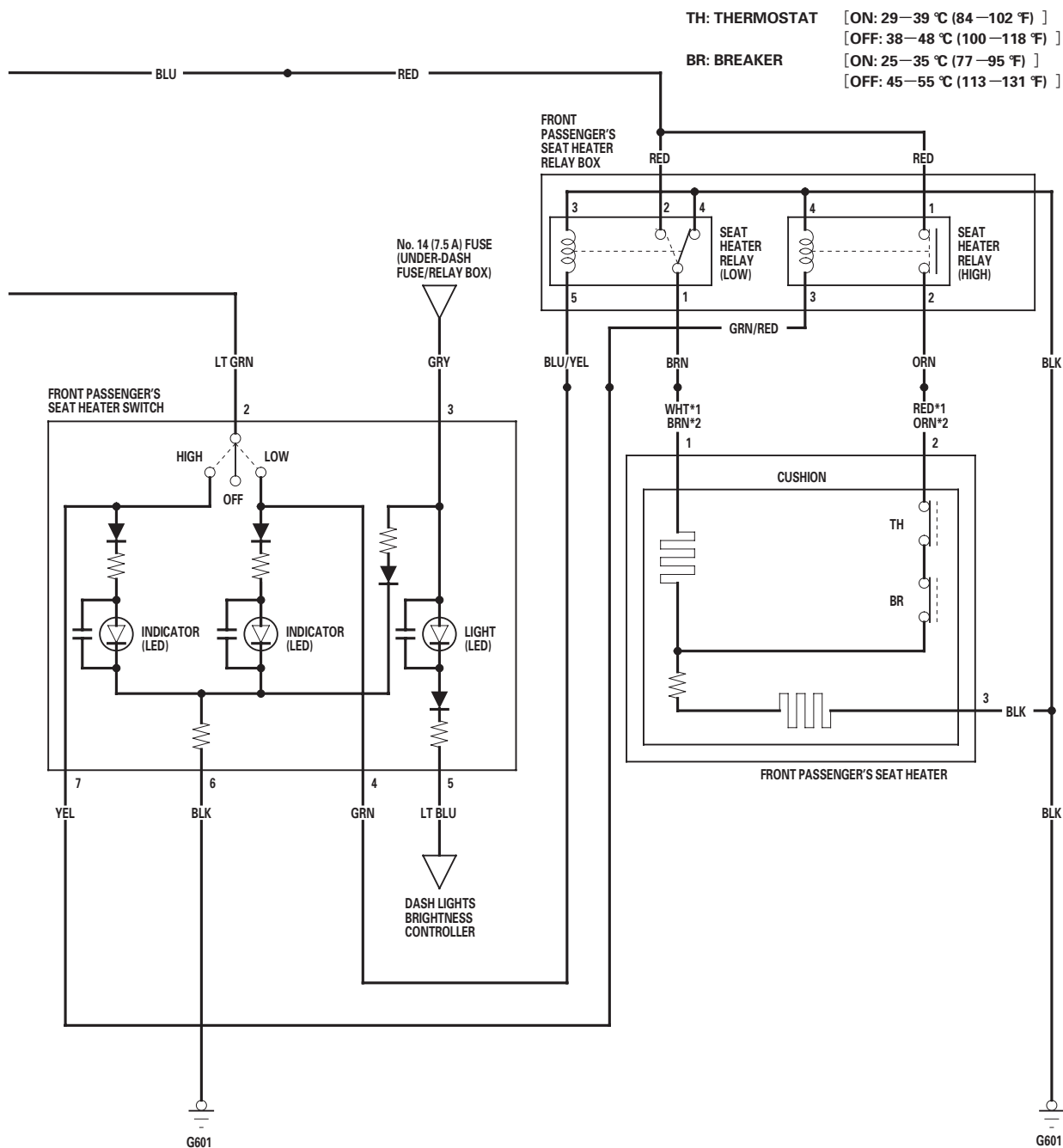
Seat Heaters

Circuit Diagram





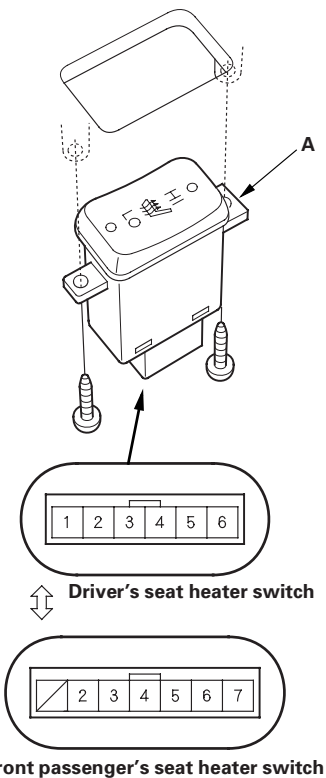
*1: '06-07 models
*2: '08-09 models



Seat Heaters

Switch Test/Replacement

- 1. Remove the center console front panel (see page 20-92).
- 2. Disconnect the 6P (or 7P*) connector from the seat heater switch (A), then remove the switch.
*: Front passenger's seat heater switch



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

Terminal		1	2	3	4	5	6
Position		[2]	[3]	[4]	[5]	[6]	[7]
ON	HIGH	○					○
	LOW	○		○			
OFF							

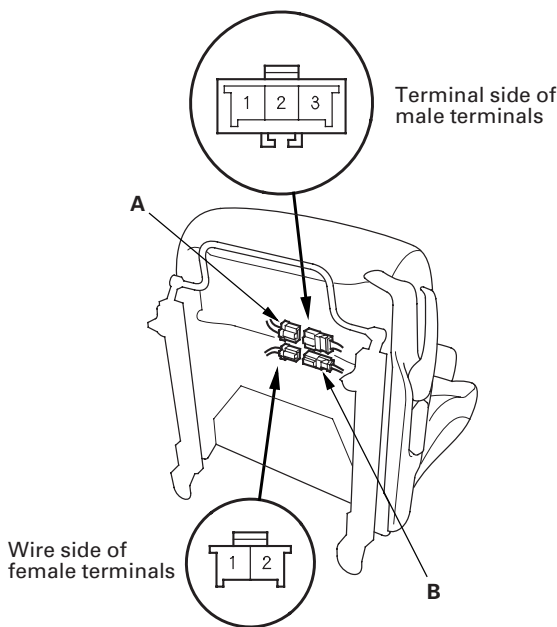
[] : Front passenger's seat heater switch

- 4. If the continuity is not as specified, replace the switch.
- 5. Install the seat heater switch in the reverse order of removal.

Seat Heater Test

Driver's

- 1. Remove the driver's seat (see page 20-118).
- 2. Disconnect the 3P connector (A) and 2P connector (B) from the seat heater.

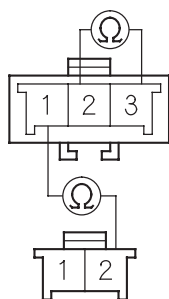


- 3. Check for continuity between seat-back heater 2P connector (female terminals) terminals No. 1 and No. 2. There should be continuity.

4. Reconnect the 2P connector.
5. Check for continuity between seat-cushion heater 3P connector (male terminals) terminal No. 1 and seat-back heater 2P connector (female terminals) terminal No. 2, and seat-cushion heater 3P connector (male terminals) terminals No. 2 and No. 3. There should be continuity.

SEAT-CUSHION HEATER 3P CONNECTOR

Terminal side of male terminals



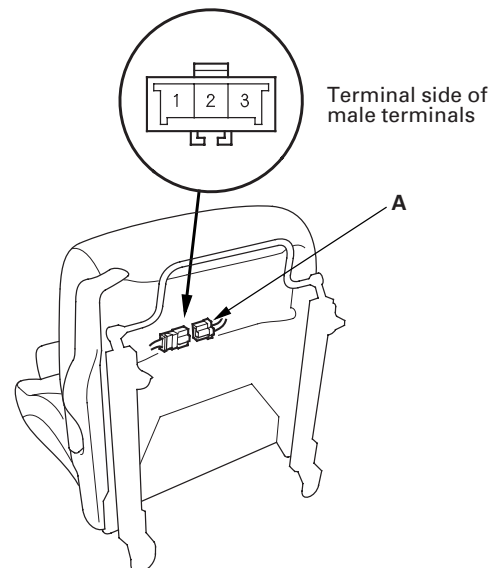
SEAT-BACK HEATER 2P CONNECTOR

Wire side of female terminals

6. If the continuity is not as specified, replace the appropriate seat heater.

Front Passenger's

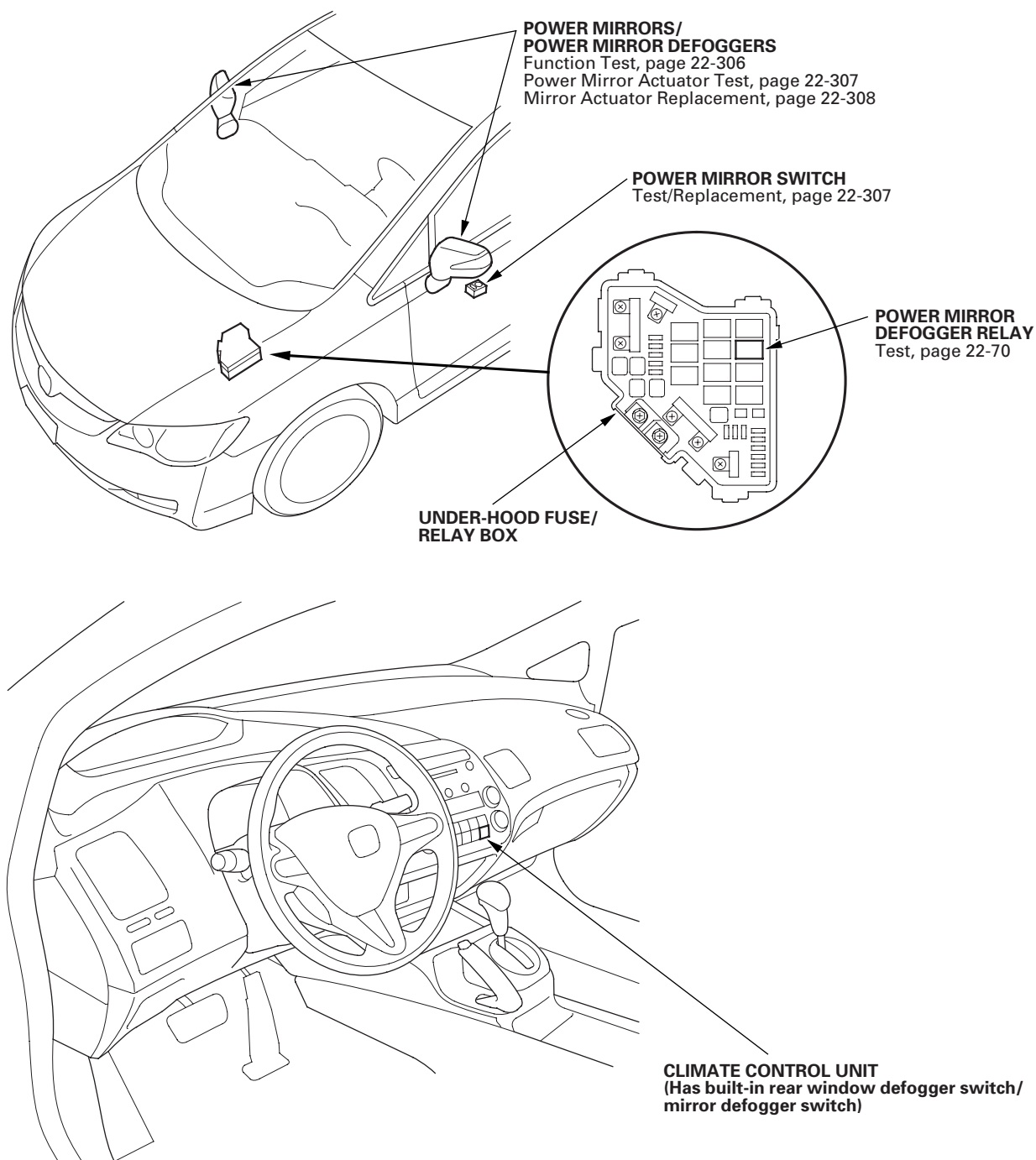
1. Remove the front passenger's seat (see page 20-118).
2. Disconnect the 3P connector (A) from the seat heater.



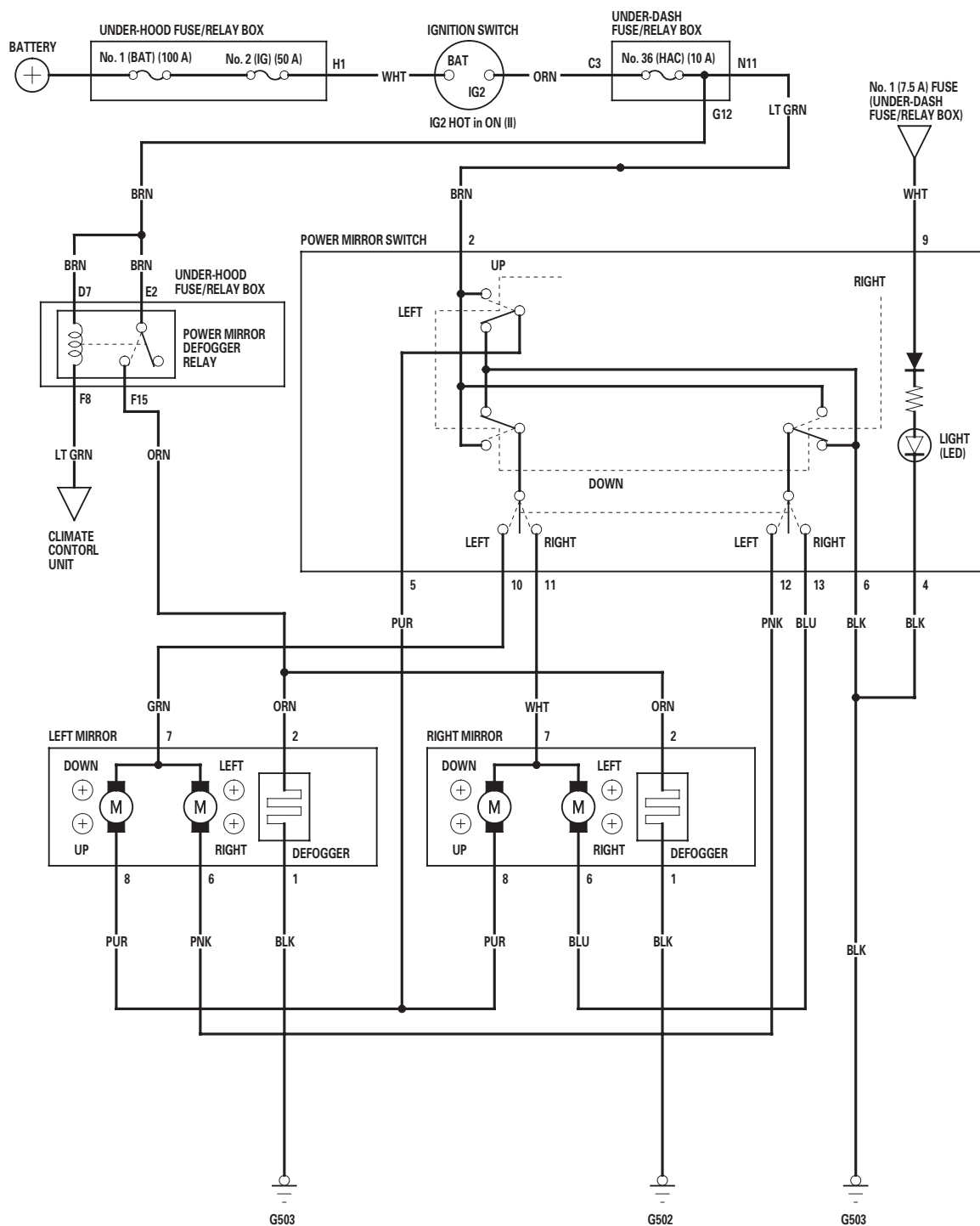
3. Check for continuity between seat-cushion heater 3P connector (male terminals) terminals No. 1 and No. 3, and seat-cushion heater 3P connector (male terminals) terminals No. 2 and No. 3. There should be continuity.
4. If the continuity is not as specified, replace the seat heater.

Power Mirrors

Component Location Index



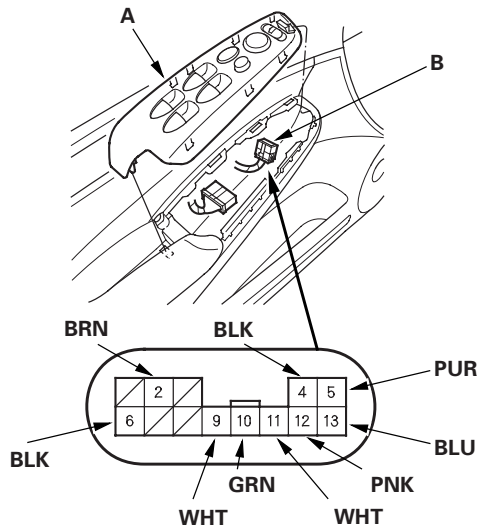
Circuit Diagram



Power Mirrors

Function Test

1. Remove the power window master switch (A).



Wire side of female terminals

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

Both mirrors

4. Measure the voltage between terminal No. 2 and body ground with the ignition switch turned to ON (II). There should be battery voltage.
 - If there is no voltage, check for:
 - Blown No. 36 (10 A) fuse in the under-dash fuse/relay box.
 - An open in the BRN wire.
 - If there is battery voltage, go to step 5.
5. Check for continuity between terminal No. 6 and body ground. There should be continuity.
 - If there is no continuity, check for:
 - An open in the BLK wire.
 - Poor ground (G 503).
 - If there is continuity, check both mirrors individually as described in the next steps.

Left mirror

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

Right mirror

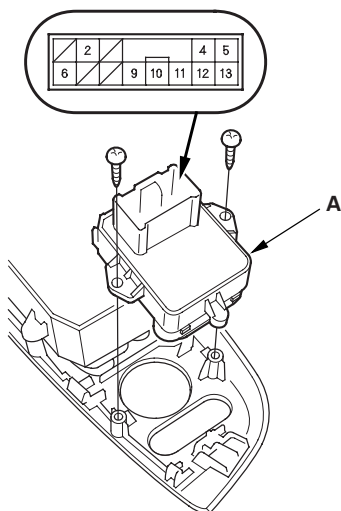
7. Connect terminals No. 2 and No. 11, and terminals No. 5 (or No. 13) and No. 6 with jumper wires. The right mirror should tilt down (or swing left) with the ignition switch to ON (II).
 - If the mirror does not tilt down (or does not swing left), check for an open in the PUR (or BLU) wire between the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

Defogger

8. Connect the power mirror defogger relay terminals No. 1 and No. 2 in the under-hood fuse/relay box with a jumper wire, and measure the voltage between mirror connectors terminal No. 1 and body ground. There should be battery voltage and both mirrors should warm up with the ignition switch to ON (II).
 - If there is no voltage or neither warms up, check for:
 - An open in the ORN wire.
 - Blown No. 36 (10 A) fuse in the under-dash fuse/relay box.
 - If only one fails to warm up, check:
 - Its defogger.
 - Poor ground (G 503).
 - If both warm up, check the defogger switch.

Power Mirror Switch Test/ Replacement

1. Remove the driver's door grip cover (see page 20-7).
2. Disconnect the 13P connector from the power mirror switch (A), then remove the two screws and power mirror switch.



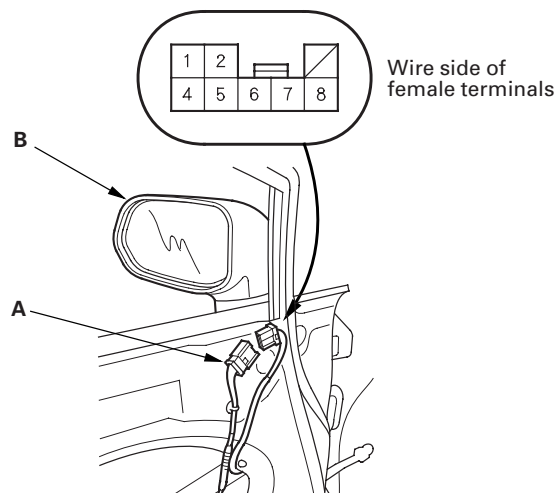
3. Check for continuity between the terminals in each switch position according to the table.

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

4. If the continuity is not as specified, remove the screws and replace the switch.
5. Install the power mirror switch in the reverse order of removal.

Power Mirror Actuator Test

1. Remove the door panel (see page 20-7).
2. Disconnect the 8P connector (A) from the power mirror actuator (B).



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

Terminal Position		8	7	6
TILT UP		⊕	⊖	
TILT DOWN		⊖	⊕	
SWING LEFT			⊕	⊖
SWING RIGHT			⊖	⊕

4. If the mirror fails to work properly, replace the mirror actuator.

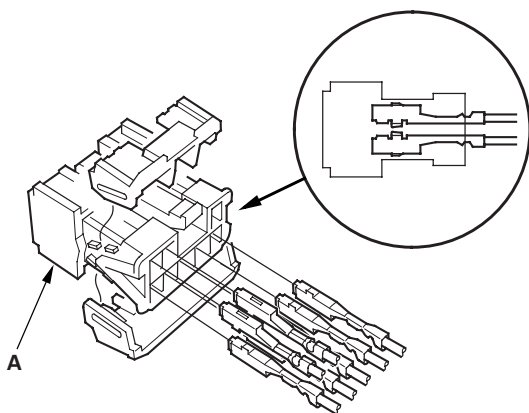
Defogger Test

5. Check for continuity between terminals No. 1 and No. 2 of the 8P connector. These should be continuity.
6. If the continuity is not as specified, check for:
 - An open in the wire.
 - A faulty mirror holder.

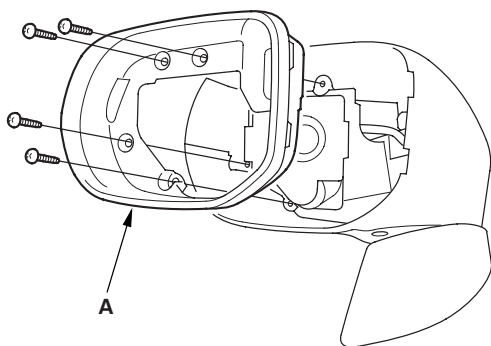
Power Mirrors

Power Mirror Actuator Replacement

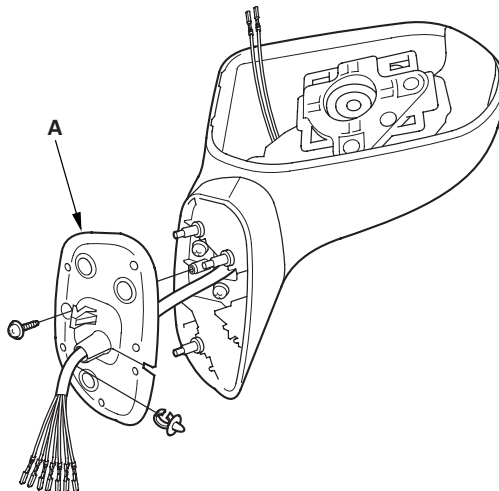
1. Remove the mirror holder (see page 20-34).
2. Remove the power mirror (see page 20-33).
3. Disconnect the 8P connector from the mirror.
4. Record the terminal locations and wire colors.
5. Disassemble the power mirror 8P connector (A), and remove all terminals from it.



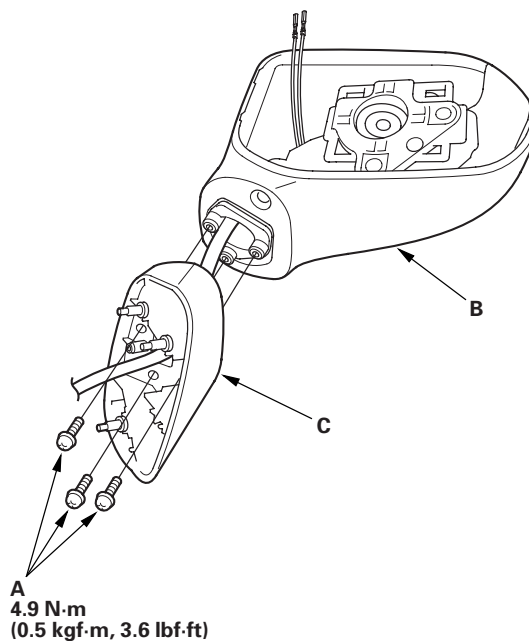
6. Remove the screws and the mirror visor (A).



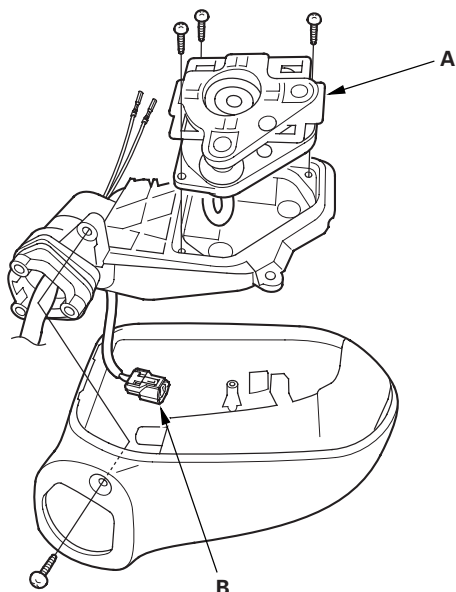
7. Remove the screw from the gasket (A).



8. Remove the three screws (A), and separate the mirror housing (B) from the bracket (C).

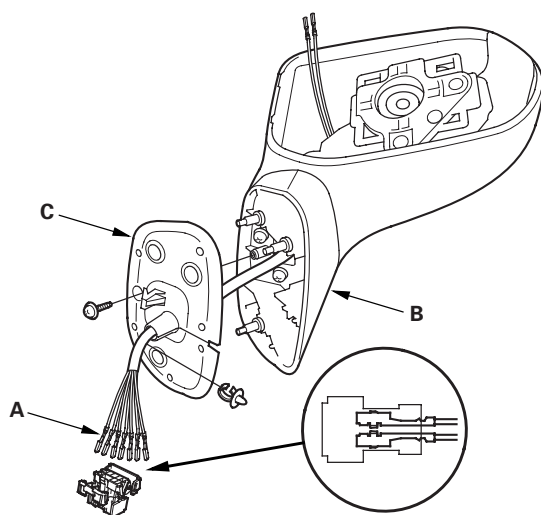


9. Remove the four screws, and the actuator (A).



10. Disconnect the 2P connector (B) from the side turn signal light.

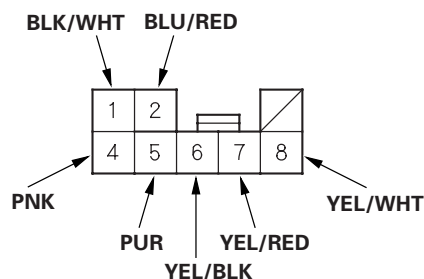
11. Route the wire harness (A) of the new actuator through the hole in the bracket (B) and gasket (C).



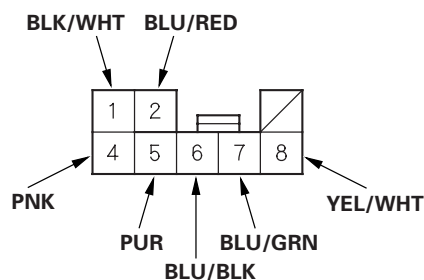
12. Install the power mirror actuator, bracket, harness clip, and gasket in the reverse order of removal.

13. Insert the new actuator terminals into the connector in the original arrangement.

Left:



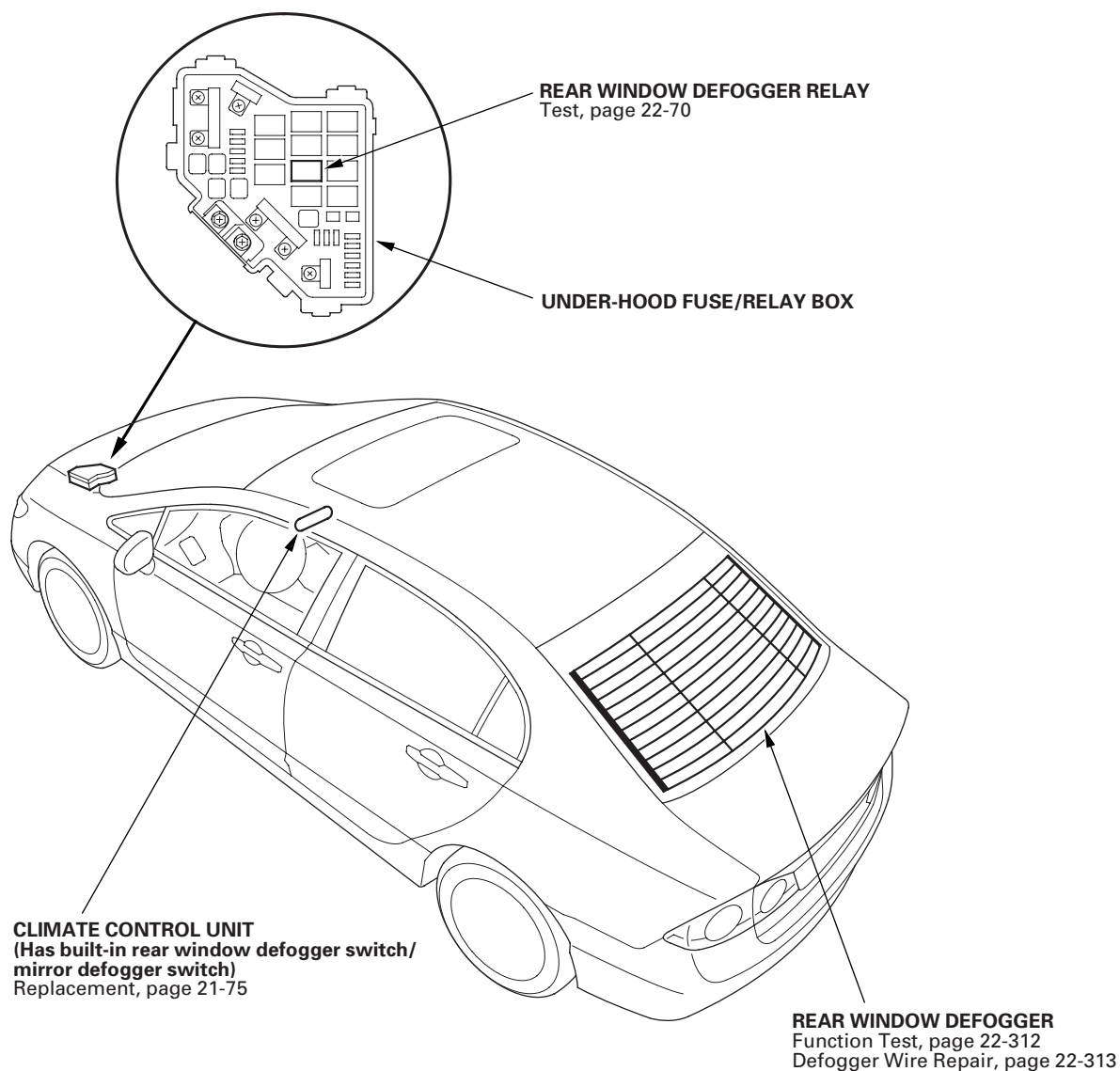
Right:



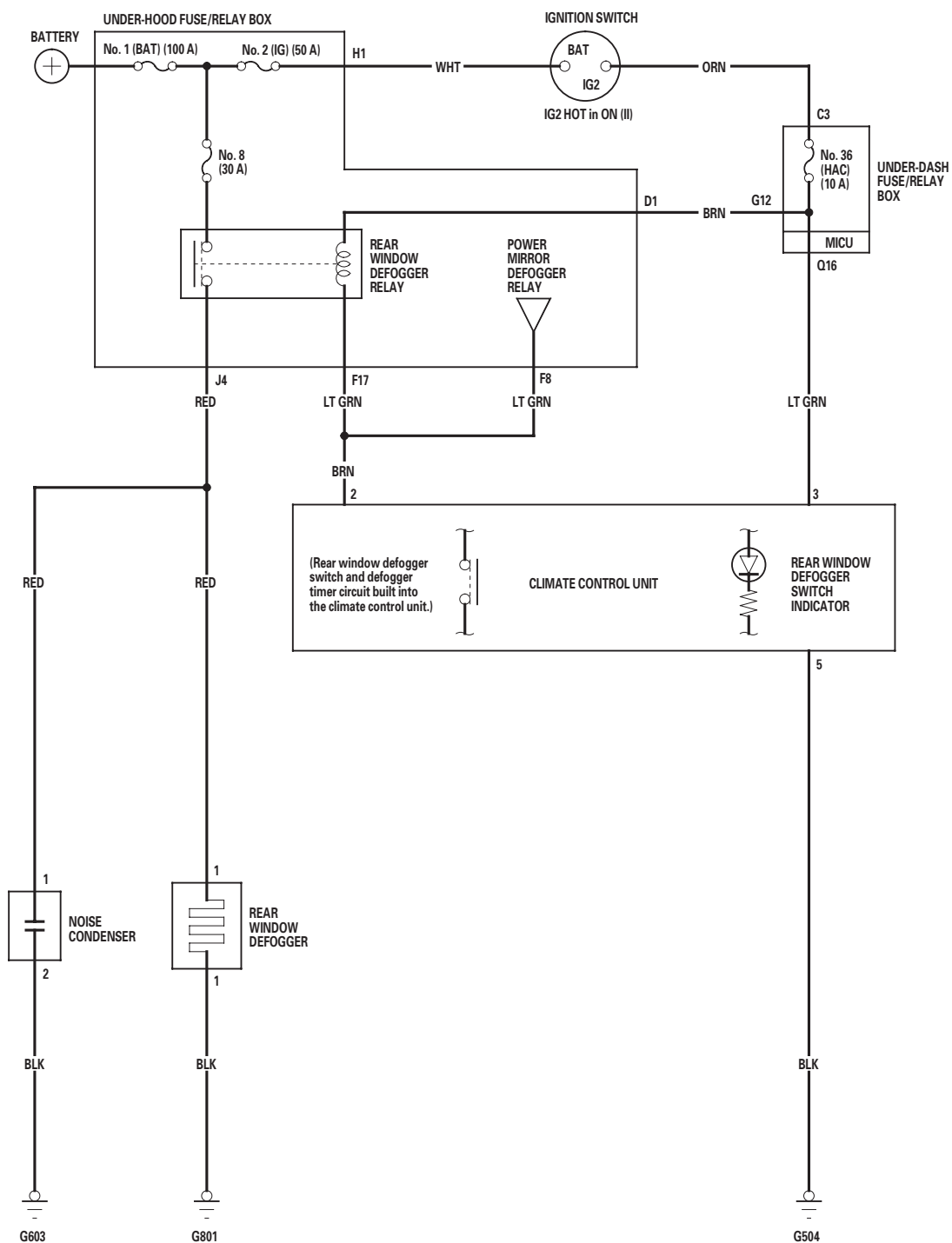
14. Apply tape to seal the intersection of the wire harness and the gasket.
15. Reassemble in the reverse order of disassembly. Be careful not to break the mirror when reinstalling it to the actuator.
16. Reinstall the mirror assembly on the door.
17. Operate the power mirror to ensure smooth operation.

Rear Window Defogger

Component Location Index



Circuit Diagram



Rear Window Defogger

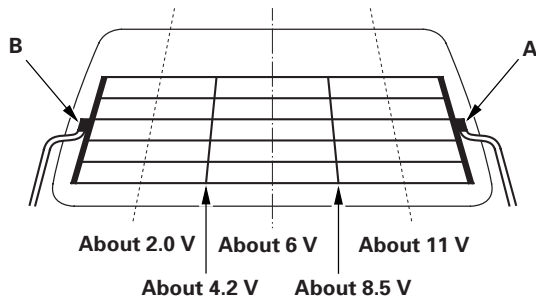
Function Test

NOTE:

- Be careful not to scratch or damage the defogger wires with the tester probe.
- Before testing, check the No. 8 (30 A) fuse in the under-hood fuse/relay box and the No. 36 (10 A) fuse in the under-dash fuse/relay box.

1. Measure the voltage between the positive terminal (A) and body ground with the ignition switch turned to ON (II) and the defogger switch ON. There should be battery voltage.

- If there is no voltage, check for:
 - Faulty rear window defogger relay.
 - 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 (G801). If there is continuity, go to step 4.

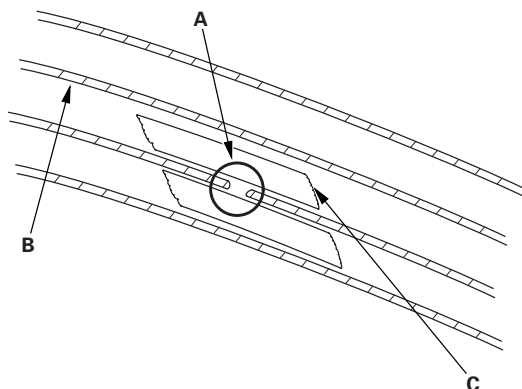
4. Reconnect the negative terminal to the rear window defogger.
5. Turn the ignition switch to ON (II) and the rear window defogger switch ON.
6. Touch the voltmeter positive probe to each point on each defogger wire, and the negative probe to the negative terminal.

- 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.
 - If it is more than specified at one of the points, there is a break in the negative half of the wire.
 - If it is less than specified at one of the points, there is a break in the positive half of the wire.

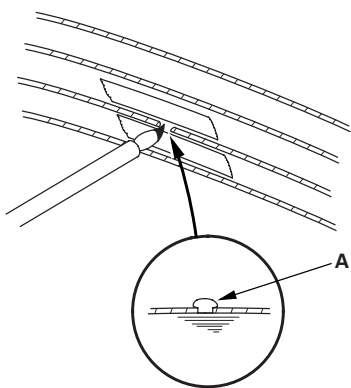
Defogger Wire Repair

NOTE: To make an effective repair, the broken section must be no longer than 25 mm (1 in.).

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



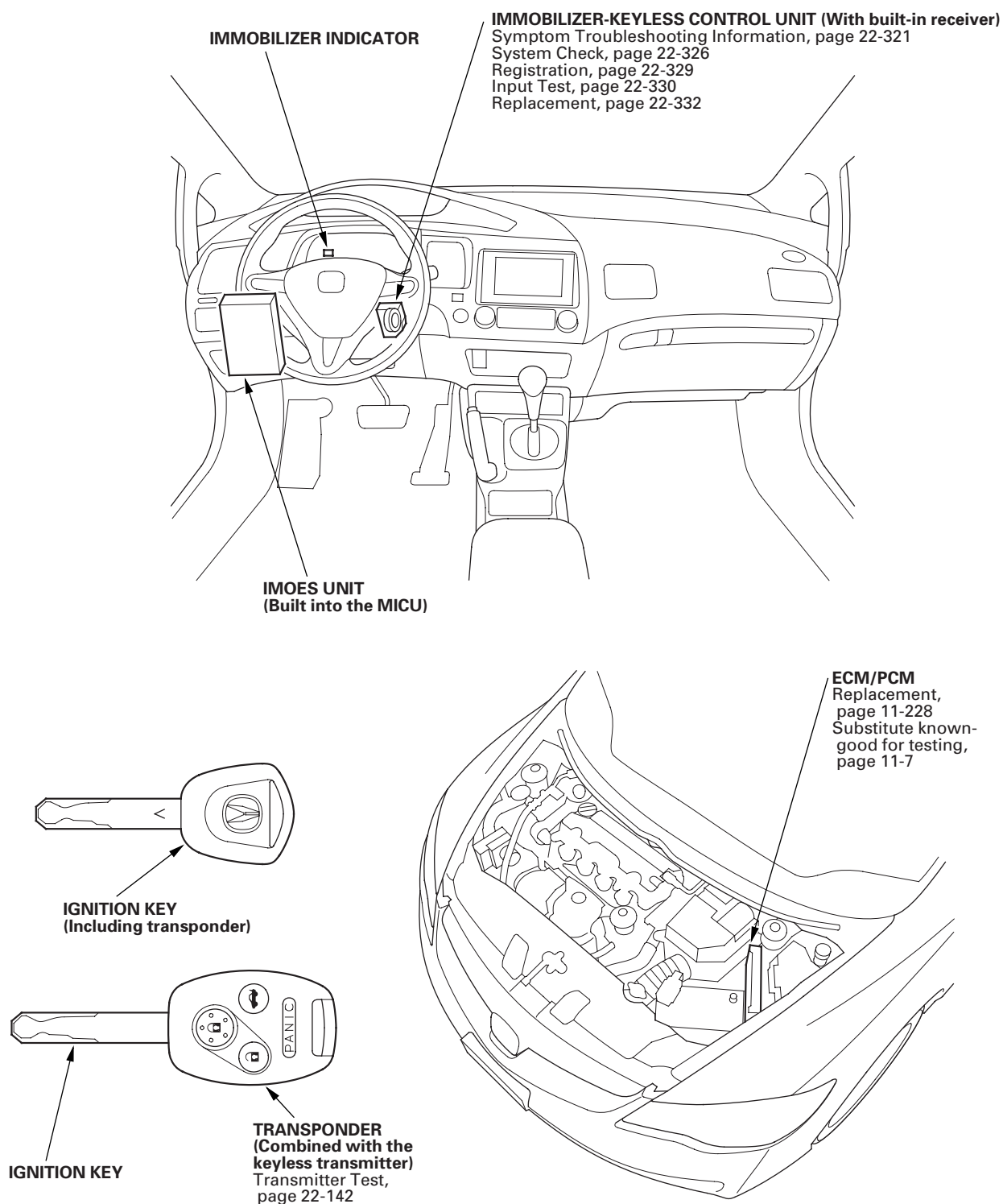
2. Carefully mask above and below the broken portion of the defogger wire (B) with cellophane tape (C).
3. Using a small brush, apply a heavy coat of silver conductive paint (commercially available) (A) extending about 3.1 mm (1/8 in.) on both sides of the break. Allow 25 minutes to dry.



4. Do the function test to confirm that the wire is repaired (see page 22-312).
5. Apply a second coat of paint in the same way. Let it dry 3 hours before removing the tape.

Immobilizer System

Component Location Index



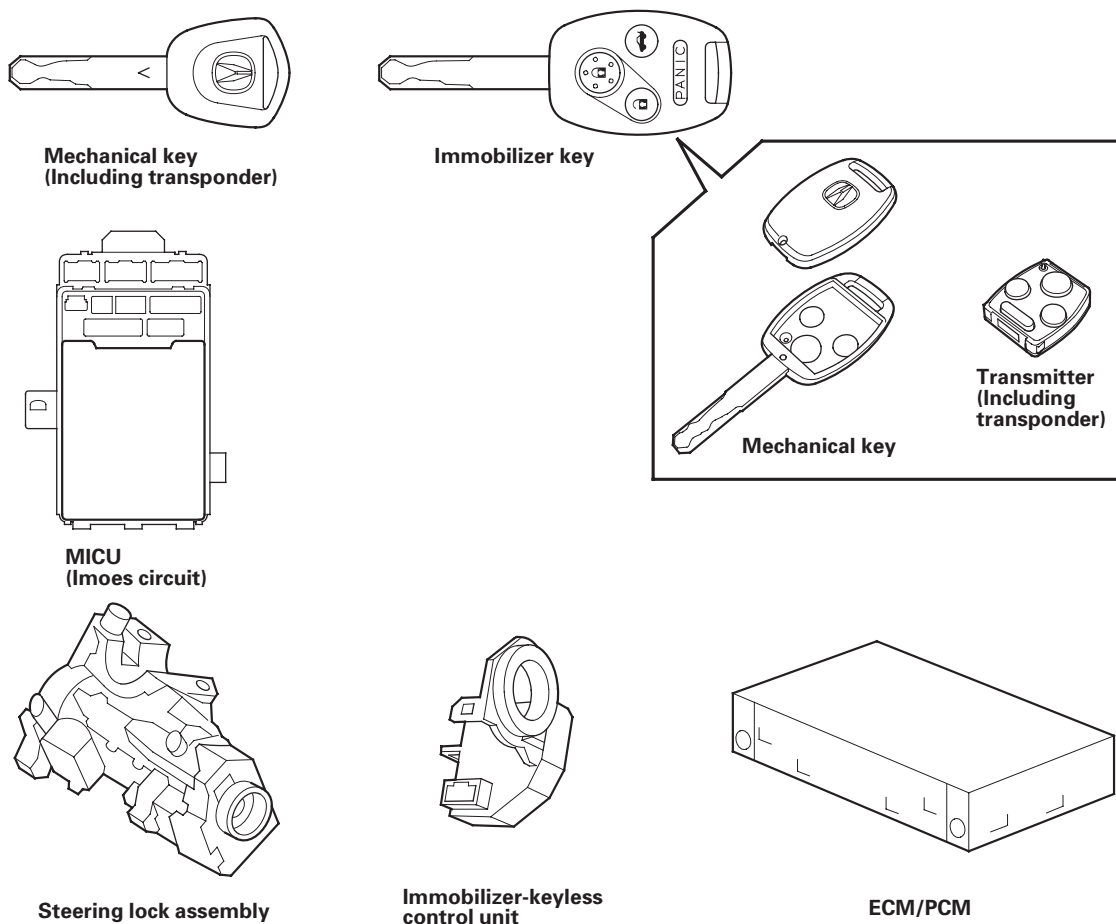
System Description

The vehicle is equipped with a type VI immobilizer system that will disable the vehicle unless a programmed ignition key is used.

This system consists of a transponder combined with a keyless transmitter, immobilizer-keyless control unit, the MICU (has built-in imoes unit), immobilizer indicator, and the ECM/PCM.

When the immobilizer key (programmed by the HDS) is inserted into the ignition switch and turned to ON (II), 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 ECM/PCM and the MICU (imoies unit). The ECM/PCM and MICU (imoies unit) identify this code signal, then fuel power is supplied.

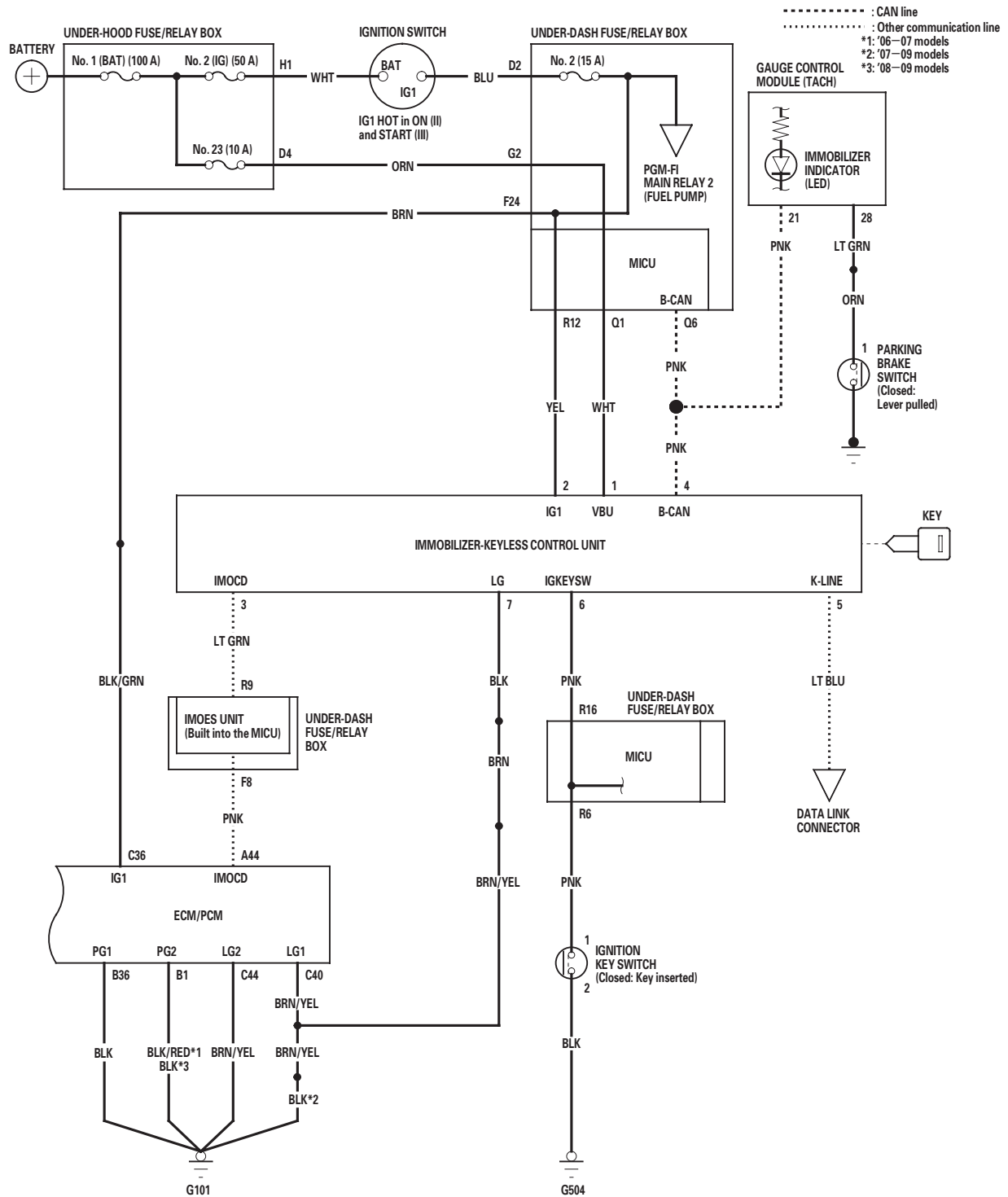
NOTE: The transmitter is automatically programmed to the vehicle when a transponder is programmed by the HDS.



If the wrong key has been used or the code was not received or recognized by the unit, the indicator will come on for about 2 seconds, then it will blink until the ignition switch is turned to LOCK (0). When the ignition switch is turned to LOCK (0), the indicator will blink ten times to signal that the unit has reset correctly, then the indicator will go off.

Immobilizer System

Circuit Diagram



DTC Troubleshooting

DTC B1905: Immobilizer-Keyless Control Unit Lost Communication with MICU (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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to 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 at the immobilizer-keyless control unit 7P connector, and the under-dash fuse/relay box connector Q (16P). ■

5. Check for DTCs with the HDS.

Is DTC B1160 also indicated with DTC B1905?

YES—Faulty MICU; replace the under-dash fuse/relay box (see page 22-66). ■

NO—Replace the immobilizer-keyless control unit (see page 22-332). ■

Immobilizer System

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 22-93).

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0), and then back to 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 at the gauge control module (tach) 36P connector and at the immobilizer-keyless control unit 7P connector. ■

5. Turn the ignition switch to LOCK (0), and then back to ON (II).
6. Select the BODY ELECTRICAL menu, then enter the UNIT INFORMATION.
7. Check the condition of the gauge control module (tach) from the CONNECTED UNIT list.

Is NOT AVAILABLE indicated?

YES—Go to step 8.

NO—Replace the immobilizer-keyless control unit (see page 22-332). ■

8. Do the gauge control module (tach) input test (see page 22-271).

Are all inputs OK?

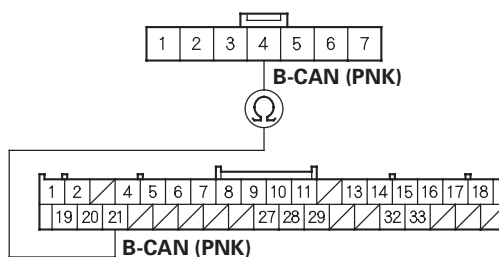
YES—Go to step 9.

NO—Repair the faulty input, then recheck the DTCs. ■

9. Disconnect the immobilizer-keyless control unit 7P connector.
10. Disconnect the gauge control module (tach) 36P connector.
11. Check for continuity between immobilizer-keyless control unit 7P connector terminal No. 4 and gauge control module (tach) 36P connector terminal No. 21.

IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR

Wire side of female terminals



GAUGE CONTROL MODULE (TACH) 36P CONNECTOR

Wire side of female terminals

Is there continuity?

YES—Replace the gauge control module (tach) (see page 22-277). ■

NO—Repair an open in the wire between the immobilizer-keyless control unit and the gauge control module (tach). ■

DTC B1925: Ignition Key Switch 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 22-93).
- If the vehicle is equipped with an ACURA ACCESSORY remote starter, this DTC is normal no further diagnosis is necessary.

1. Clear the DTCs with the HDS.
2. Turn the ignition switch to LOCK (0) and remove the ignition key.
3. Insert the ignition key into the ignition switch, and turn the ignition switch to ON (II).
4. Check for DTCs with the HDS.

Is DTC B1925 indicated?

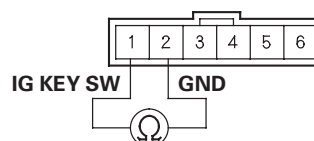
YES—Go to step 5.

NO—Intermittent failure, the system is OK at this time. Check for loose or poor connections at the immobilizer-keyless control unit 7P connector, under-dash fuse/relay box 20P connector R, and at the ignition key switch 6P connector. ■

5. Turn the ignition switch to LOCK (0) and remove the ignition key.
6. Disconnect the ignition key switch 6P connector.

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

IGNITION KEY SWITCH 6P CONNECTOR



Terminal side of male terminals

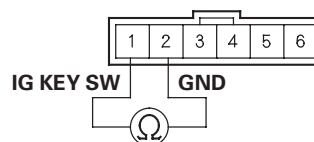
Is there continuity?

YES—Faulty ignition key switch or short to ground, replace the steering lock assembly (see page 17-14). ■

NO—Go to step 8.

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

IGNITION KEY SWITCH 6P CONNECTOR



Terminal side of male terminals

Is there continuity?

YES—Go to step 10.

NO—Faulty ignition key switch, replace the steering lock assembly (see page 17-14). ■

(cont'd)

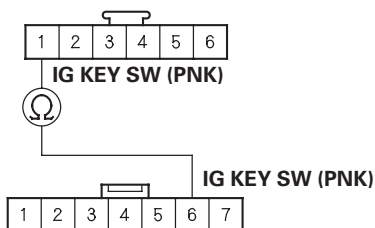
Immobilizer System

DTC Troubleshooting (cont'd)

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

IGNITION KEY SWITCH 6P CONNECTOR

Wire side of female terminals



IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR

Wire side of female terminals

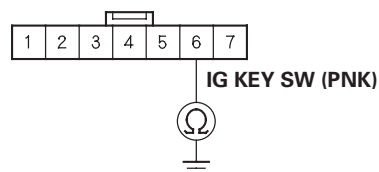
Is there continuity?

YES—Go to step 12.

NO—Repair an open in the wire and check under-dash fuse/relay box 20P connector R. ■

12. Check for continuity between immobilizer-keyless control unit 7P connector terminal No. 6 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 or substitute a known-good under-dash fuse/relay box, and recheck. If the symptom/indication goes away, replace under-dash fuse/relay box. ■

NO—Replace the immobilizer-keyless control unit (see page 22-332). ■



Symptom Troubleshooting Information

Symptom Troubleshooting by the Immobilizer Indicator Lighting Pattern

Immobilizer system condition can be checked by the immobilizer indicator lighting pattern.

Normal operation

If the immobilizer code is identified, the immobilizer indicator comes on for 2 seconds, then goes off after turning the ignition switch to ON (II).

The immobilizer indicator does not come on when the ignition switch is turned to LOCK (0).

Immobilizer code is not identified

If the immobilizer code is not identified, the immobilizer indicator comes on for 2 seconds, then blinks after turning the ignition switch to ON (II).

The immobilizer indicator blinks ten times, then goes off when the ignition switch is turned to LOCK (0).

Immobilizer indicator does not come on

If the immobilizer indicator does not come on after turning the ignition switch to ON (II), there may be an open or short in the F-CAN lines between the ECM/PCM and the gauge control module (tach). Watch the malfunction indicator lamp (MIL). If the MIL stays on, go to the PGM-FI system troubleshooting (see page 11-203).

Immobilizer indicator does not go off

If the immobilizer indicator does not go off after turning the ignition switch to ON (II), do the gauge control module (tach) self-diagnostic function (see page 22-241). If the indicator drive circuit is OK, verify the SYSTEM CHECK with the HDS.

General Check before Troubleshooting

Before troubleshooting the immobilizer system, check the following general points and solve any if applicable.

- Battery is low; charge the battery fully, then troubleshoot the immobilizer system.
- Ignition key is not a genuine Honda part; use the Acura-approved key blank, register the key, then troubleshoot the immobilizer system.
- Key ring, or keys, or a key case is used; remove the key from it, and troubleshoot the immobilizer system with a key only.
- Aftermarket electrical part is attached; remove it, then troubleshoot the immobilizer system.

(cont'd)

Immobilizer System

Symptom Troubleshooting Information (cont'd)

How to Troubleshoot

NOTE: If the HDS does not communicate with the vehicle, troubleshoot the DLC circuit (see page 11-204).

1. Do the PGM-FI system DTCs check. If there are any DTCs, troubleshoot the indicated DTC.
2. Do the Body Electrical DTCs check. If there are any DTC, troubleshoot the indicated DTC.
3. Do the system check using the HDS. If there is a system check number, do the troubleshooting for the item indicated (see page 22-326).
4. Check the status log using the HDS. Troubleshoot the line with the highest counts (see page 22-328). 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 back up power fuse, or disconnecting the battery.

Symptom Troubleshooting of an open Power Supply and Ground Circuit

If a malfunction occurs in the immobilizer circuit for the VBU, IG1 and GND (LG) lines, identify the lines to check with this table.

Symptom		Immobilizer Indicator	Engine Start	Key Registration	Tester Communication	Keyless Operation
Line Error						
Terminal No.	Cause of Malfunction					
1	VBU line open or short	Comes on, then goes off.	Possible	Possible	Possible	Impossible
2	IG1 line open or short	Blinking	Impossible	Impossible	Impossible	Possible
3	IM OCD line open or short	Blinking	Impossible	Possible	Impossible	Possible
4	B-CAN line open or short	Comes on, then goes off.	Possible	Possible	Immobilizer: Possible 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
	KEYSW line short to ground					(in spite of the key is in the ignition switch) Impossible
7	GND (LG) line open	Blinking	Impossible	Impossible	Impossible	Impossible



Symptom Troubleshooting

1. Troubleshoot the immobilizer system by the order of the priority shown:

Order of Priority	Symptom	Possible cause
1	Immobilizer indicator blinks.	Symptom troubleshooting (see page 22-324).
2	Engine does not start with the immobilizer key.	Symptom troubleshooting (see page 22-325).
3	Immobilizer indicator does not come on.	Check the MIL indication. • If the MIL comes on, go to the PGM-FI System MIL circuit troubleshooting (see page 11-203). • If the MIL does not come on, replace the gauge control module (tach).
4	Immobilizer indicator does not go off.	Symptom troubleshooting (see page 22-325).

Immobilizer System

Symptom Troubleshooting (cont'd)

Immobilizer indicator blinks

NOTE: Before troubleshooting, check the items listed in "General Check before Troubleshooting".

1. Turn the ignition switch to LOCK (0).
2. Connect the HDS, then turn the ignition switch to ON (II).
3. Enter the IMMOBILIZER, then select the IMMOBILIZER SETUP.
4. Select the SYSTEM CHECK.

Is the SYSTEM CHECK indicated?

YES—Troubleshoot the immobilizer system according to the result of the SYSTEM CHECK (see page 22-326). ■

NO—Go to step 5.

5. Turn the ignition switch to LOCK (0).
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?

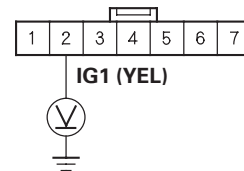
YES—Go to step 8.

NO—Check for a poor ground (G101) and/or an open in the wire between immobilizer-keyless control unit 7P connector terminal No. 7 and body ground (G101). ■

8. Turn the ignition switch to ON (II).

9. Measure the voltage between immobilizer-keyless control unit 7P connector terminal No. 2 and body ground.

IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR



Wire side of female terminals

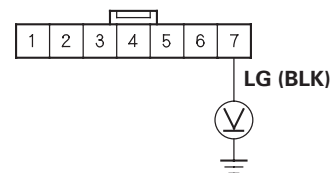
Is there battery voltage?

YES—Go to step 10.

NO—Repair open in the YEL wire between the under-dash fuse/relay box and the immobilizer-keyless control unit. ■

10. Measure the voltage between immobilizer-keyless control unit 7P connector terminal No. 7 and body ground.

IMMOBILIZER-KEYLESS CONTROL UNIT 7P CONNECTOR



Wire side of female terminals

Is there 0.5 V or more?

YES—Repair poor connection or open between immobilizer-keyless control unit 7P connector terminal No. 7 and G101. ■

NO—Replace the immobilizer-keyless control unit (see page 22-332). ■



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 22-322).

1. Try to start the engine.

Does the engine start?

YES—Intermittent failure, the system is OK at this time. Check status log (see page 22-328). ■

NO—Go to step 2.

2. Turn the ignition switch to LOCK (0).

3. Turn the ignition switch to ON (II), and check the immobilizer indicator.

Does the indicator come on for 2 seconds, then go off?

YES—Go to step 4.

NO—Go to the immobilizer indicator blinks troubleshooting (see page 22-324). ■

4. Turn the ignition switch to START (III).

Does the starter motor run?

YES—Go to step 5.

NO—Go to Starting System and check the starter motor (see page 4-6). ■

5. Try to start the engine with the immobilizer key.

Does the engine start?

YES—Go to step 6.

NO—Go to the PGM-FI System Symptom Troubleshooting. ■

6. Wait for a few minutes with the engine running.

Does the engine stop?

YES—Go to the PGM-FI System Symptom Troubleshooting. ■

NO—The system is OK at this time. ■

Immobilizer indicator does not go off

1. Turn the ignition switch to LOCK (0).
2. Connect the HDS to the data link connector.
3. Turn the ignition switch to ON (II).
4. Enter IMMOBILIZER, then select the IMMOBILIZER INFORMATION.
5. Do the SYSTEM CHECK with the HDS.

Is N-1 OK indicated?

YES—Replace the gauge control module (tach) (see page 22-277). ■

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 (see page 22-332). ■

Immobilizer System

System Check

1. Connect the HDS to the data link connector.
2. Turn the ignition switch to ON (II).
3. Monitor the SYSTEM CHECK in the IMMOBILIZER INFO with the HDS.
4. If the HDS displays NORMAL N-1, the immobilizer system is OK at this time, refer to the STATUS LOG. If the HDS displays any other messages, check as follows:

System Check No.	System Check	Possible Cause
A-1	The key is not registered	• This key is not registered in the immobilizer-keyless control unit. Try to register keys using the HDS. • No communication between the antenna and the immobilizer key because of interference from metal such as key chains/key rings/ other keys. • Low battery voltage.
A-2	Communication error between the key and immobilizer unit	• Intermittent interruption between transponder and immobilizer-keyless control unit. • The immobilizer key type is incorrect non-Acura key. • Key failure (transponder failure) • No communication between the antenna and the immobilizer key because of interference from metal such as key chains/key rings/ other keys. • Low battery voltage.
A-3	No communication between the key and immobilizer unit	• The ignition switch was turned to ON (II) with a non-immobilizer key. • The immobilizer key type is incorrect non-Acura key. • Key failure (transponder failure) • No communication between the antenna and the immobilizer key because of interference from metal such as key chains/key rings/ other keys. • Low battery voltage. • Immobilizer-keyless control unit failure
B-1	The ECM/PCM is not registered	• The ECM/PCM was not registered. Try to register the ECM/PCM using the HDS. • No communication between the ECM/PCM and the immobilizer-keyless control unit because of low battery voltage. • No communication between the immobilizer-keyless control unit and the ECM/PCM because of interference. • Open in the IG1 line
B-2	Error of communication format in ECM/PCM	• The ECM/PCM was not registered. Try to register the ECM/PCM using the HDS. • No communication between the ECM/PCM and the immobilizer-keyless control unit because of low battery voltage. • No communication between the immobilizer-keyless control unit and the ECM/PCM because of interference.



System Check No.	System Check	Possible Cause
C-1	The imoes unit is not registered	• Imoes unit was not registered. • No communication between the imoes unit and the immobilizer-keyless control unit because of low battery voltage. • No communication between the imoes unit and the immobilizer-keyless control unit because of interference.
C-2	Error of communication format in imoes unit	• Imoes unit was not registered. • No communication between the imoes unit and the immobilizer-keyless control unit because of low battery voltage. • No communication between the imoes unit and the immobilizer-keyless control unit because of interference.
D-1	S-net line short	• Harness short from the ECM/PCM to the immobilizer-keyless control unit. (IM OCD (S-net) line short) • No communication between the ECM/PCM and the immobilizer-keyless control unit because of low battery voltage. • No communication between the immobilizer-keyless unit and the ECM/PCM because of interference. • Immobilizer-keyless control unit failure • ECM/PCM failure
D-2	No communication between imoes unit and immobilizer unit	• Blown fuse • Harness open from the imoes unit to the immobilizer-keyless control unit. (IM OCD (S-net) line open) • No communication between the imoes unit and the immobilizer-keyless control unit because of low battery voltage. • No communication between the imoes unit and the immobilizer-keyless control unit because of interference. • Immobilizer-keyless control unit failure • Imoes unit failure
D-3	No communication between ECM/PCM and immobilizer unit	• Blown fuse • Harness open from the ECM/PCM to the immobilizer-keyless control unit. • No communication between the ECM/PCM and the immobilizer-keyless control unit because of low battery voltage. • No communication between the immobilizer-keyless control unit and the ECM/PCM because of interference. • Immobilizer-keyless control unit failure • ECM/PCM failure
E-1	Initial registration of immobilizer unit is not completed	The immobilizer-keyless control unit is not registered. Try to register the immobilizer-keyless control unit using the HDS.
E-2		
E-3		
E-4		
E-5		
F-1	Special Mode	Turn the ignition switch to ON (II) and to LOCK (0) with the registered key.
F-2		
F-3		
F-4		
F-5		

Immobilizer System

Status Log

If you suspect there is a immobilizer system problem, check the status log in the HDS.

1. Connect the HDS to the data link connector.
2. Turn the ignition switch to ON (II).
3. On the HDS screen, at MAIN MENU, enter IMMOBILIZER, then 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 (Code format normal, but code data is mismatch)	• The key was not registered • Interference from metal such as key chains • Low battery voltage
A-2	KEY CODE MISMATCH (Code format failure)	• Ignition switch was turned to ON (II) with another type of immobilizer key or aftermarket key • Interference from metal such as key chains • Low battery voltage
A-3	KEY CODE MISMATCH (No key code or non-immobilizer key)	• Ignition switch was turned to ON (II) with another type of immobilizer key or aftermarket key • Interference from metal such as key chains • Low battery voltage • Key failure • Immobilizer-keyless control unit failure
B-1	ECM/PCM CODE MISMATCH (Code format normal, but code data is mismatch)	• ECM/PCM was not registered correctly • Low battery voltage • Poor or loose terminal connections at the immobilizer-keyless control unit • Communication line electrical noise
B-2	ECM/PCM MISMATCH (Code format failure)	• ECM/PCM was not registered correctly • Low battery voltage • Poor or loose terminal connections at the immobilizer-keyless control unit • Communication line electrical noise
C-1	IMMOES UNIT mismatch (Code format normal, but data is mismatch)	• Imoes unit was not registered • The communication was not good between imoes unit and immobilizer unit by battery voltage low • The communication was not good between imoes unit and immobilizer unit by influence of some noise
C-2	IMMOES UNIT mismatch (Code format failure)	• Imoes unit was not registered correctly • The communication was not good between imoes unit and immobilizer unit by battery voltage low • The communication was not good between imoes unit and immobilizer unit by influence of some noise
D-1	SECURITY-NET LINE PROBLEM IMOC (S-NET) (Short to ground)	• Low battery voltage • Poor or loose terminal connections at the immobilizer-keyless control unit and the ECM/PCM • Communication line electrical noise
D-2	SECURITY-NET LINE PROBLEM (No communication)	• Blown fuse • Harness open from imoes unit to immobilizer unit • The communication was not good between imoes unit and immobilizer unit by battery voltage low • The communication was not good between imoes unit and immobilizer unit by influence of some noise • Imoes unit failure • Immobilizer unit failure
D-3	SECURITY-NET LINE PROBLEM IMOC (S-NET) (Open line or ECM/PCM failure)	• Open or short in the harness from the ECM/PCM to the immobilizer-keyless control unit • Low battery voltage • Poor or loose terminal connections at the immobilizer-keyless control unit and the ECM/PCM • Communication line electrical noise



Immobilizer Key Registration

NOTE:

- The HDS is required for registration of the immobilizer keys.
- Programming the immobilizer also programs the keyless transmitter.
- 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/Keyless transmitter

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 to 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 with the newly registered key.
8. When prompted by the HDS, do the keyless transmitter programming.

Add and Delete keys/Keyless transmitters, Then select Delete or Add keys

1. Have all registered keys, all new keys, and the first password from the iN system.
2. Connect the HDS to the data link connector.
3. Turn the ignition switch to 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 instructions on the HDS screen.
7. Check if the engine can be started with all the registered keys.

8. When prompted by the HDS, do the keyless transmitter programming.

All keys are lost

1. Prepare all new keys and have the immobilizer ECM/PCM code.
2. Connect the HDS to the data link connector.
3. Turn the ignition switch to 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 instructions on the HDS screen.
7. Check if the engine can with started by all the registered keys.
8. When prompted by the HDS, do the keyless transmitter programming.

Programming immobilizer-keyless control unit

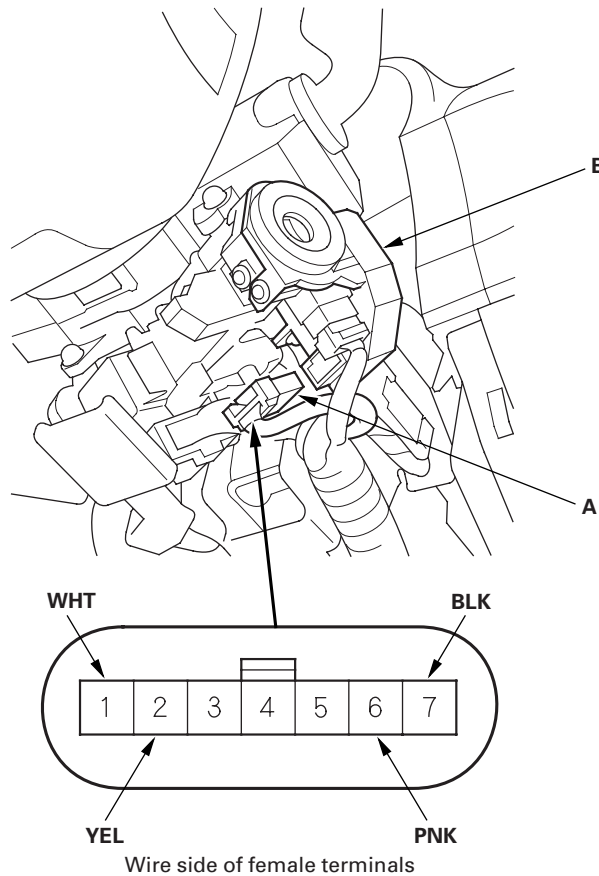
1. Have all registered keys and the ECM/PCM code.
2. Connect the HDS to the data link connector.
3. Turn the ignition switch to ON (II).
4. Select IMMOBILIZER from the SYSTEM SELECT menu.
5. Select REPLACE IMMOBILIZER/KEYLESS CONTROL UNIT REPLACE.
6. Do the registration according to the instructions on the HDS screen.
7. Check that the engine can be started with all registered keys.
8. When prompted by the HDS, do the keyless transmitter programming.

Immobilizer System

Immobilizer-keyless Control Unit Input Test

NOTE: Before testing the immobilizer system, troubleshoot the system using B-CAN System Diagnosis Test Mode A (see page 22-93) and check the No. 10 (7.5 A) and No. 38 (30 A) fuses in the under-dash fuse/relay box.

1. Remove the driver's dashboard lower cover (see page 20-102).
2. Remove the steering column covers (see page 17-9).
3. Disconnect the 7P connector (A) from the immobilizer-keyless control unit (B).



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 disconnected, do these input tests at the following 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 desired result is not obtained
1	ORN	Under all conditions	Measure the voltage between immobilizer-keyless control unit 7P connector terminals No. 1 and body ground: There should be battery voltage.	• Blown No. 23 (10 A) fuse in the under-hood fuse/relay box • An open in the wire
2	YEL	Ignition switch ON (II)	Measure the voltage to ground: There should be battery voltage.	• Blown No. 2 (15 A) fuse in the under-dash fuse/relay box • An open in the wire

6. Reconnect the connector to the immobilizer-keyless control unit, and do these input tests at the following connector.

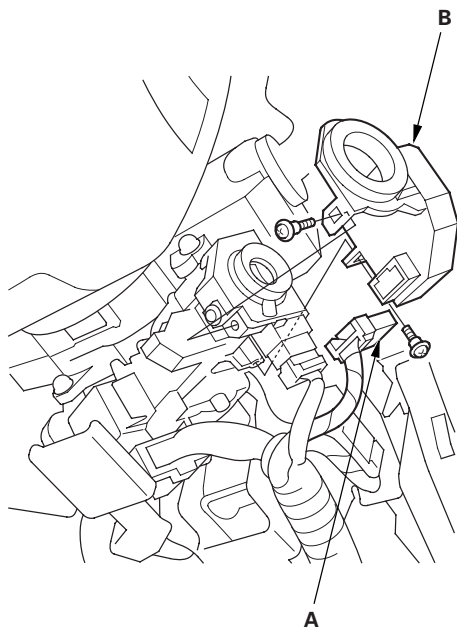
- If any test indicates a problem, find and correct the cause, then recheck the system.
- If all the input tests prove OK, the immobilizer-keyless control unit must be faulty; replace it.

Cavity	Wire	Test condition	Test: Desired result	Possible cause if desired result is not obtained
7	BLK	Under all conditions	Measure the voltage to ground: There should be less than 0.5 V.	• Poor ground (G101) • An open in the wire
6	PNK	Ignition key inserted into the ignition switch	Measure the voltage to ground: There should be less than 1 V.	• Poor ground (G504) • Faulty ignition key switch • An open in the wire

Immobilizer System

Immobilizer-keyless Control Unit Replacement

1. Remove the driver's dashboard lower cover (see page 20-102).
2. Remove the steering column covers (see page 17-9).
3. Disconnect the 7P connector (A) from the immobilizer-keyless control unit (B).



4. Remove the two screws and the immobilizer-keyless control unit.
5. Install the immobilizer-keyless control unit in the reverse order of removal.
6. After replacement, register the immobilizer-keyless control unit (see page 22-329), and make sure the immobilizer system works properly.