

SECTION : 9B

LIGHTING SYSTEMS

CAUTION : *Disconnect the negative battery cable before removing or installing any electrical unit or when a tool or equipment could easily come in contact with exposed electrical terminals. Disconnecting this cable will help prevent personal injury and damage to the vehicle. The ignition must also be in LOCK unless otherwise noted.*

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SPECIFICATIONS

BULB USAGE CHART

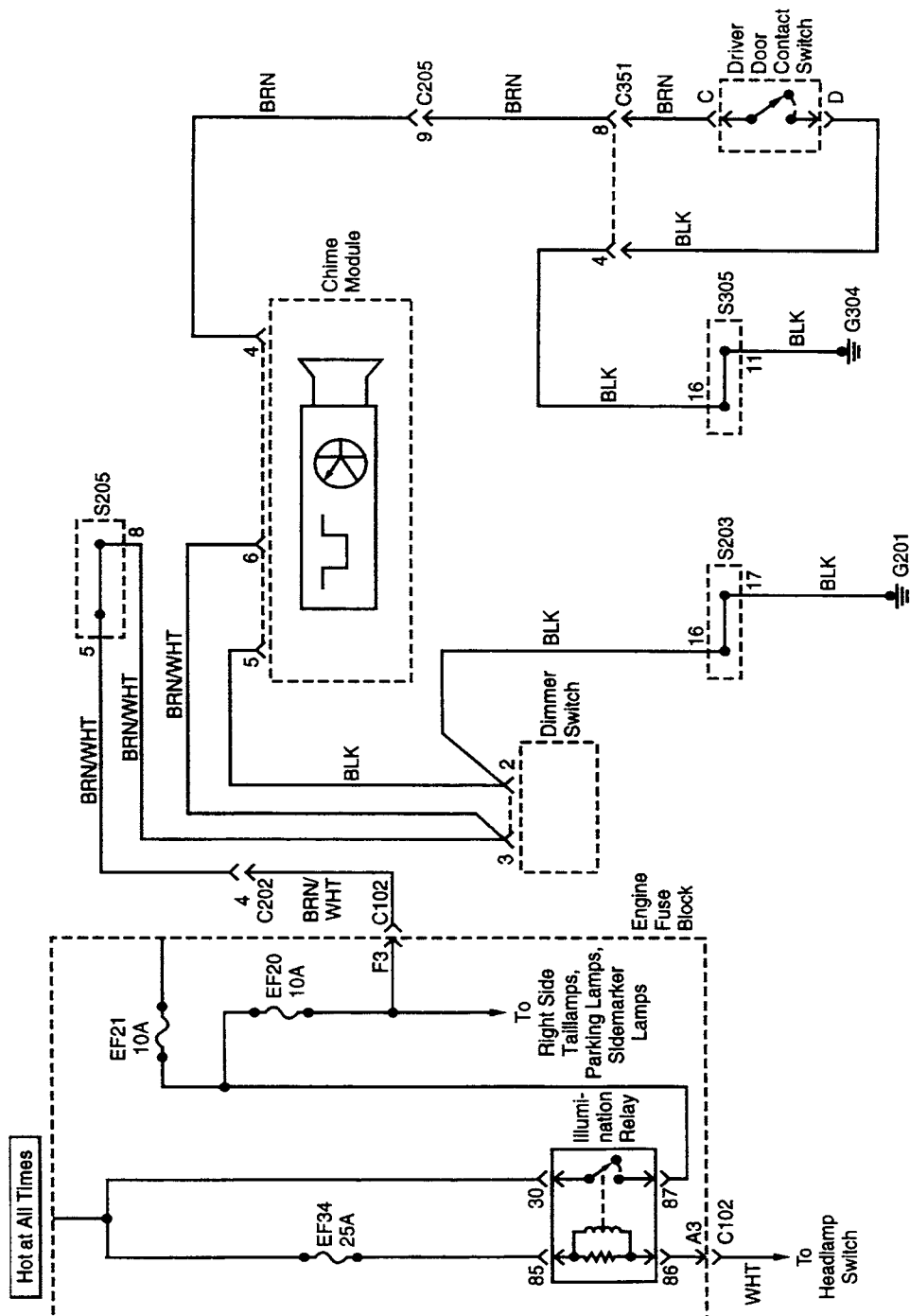
Bulb	Replacement Bulb Number
Ashtray Lamp	1.2W
Backup Lamp	27W
Center High–Mounted Stoplamp	27W
Cigar Lighter Lamp	5W
Front Door Step Lamp	5W
Front Fog Lamp	55W
Glove Box Lamp	5W
Headlamp (high/low)	65W/55W
Ignition Switch Keyhole Lamp	5W
Interior Courtesy Lamp	10W
License Plate Lamp	5W
Luggage Compartment Lamp	10W
Map Lamp	7.5W
Parking and Front Turn Signal Lamp	Double 27/8W
Rear Turn Signal Lamp	27W
Sidemarkers Lamps	5W
Taillamps/Stoplamps	Double 27/8W
Vanity Mirror Lamp	3.5W

FASTENER TIGHTENING SPECIFICATIONS

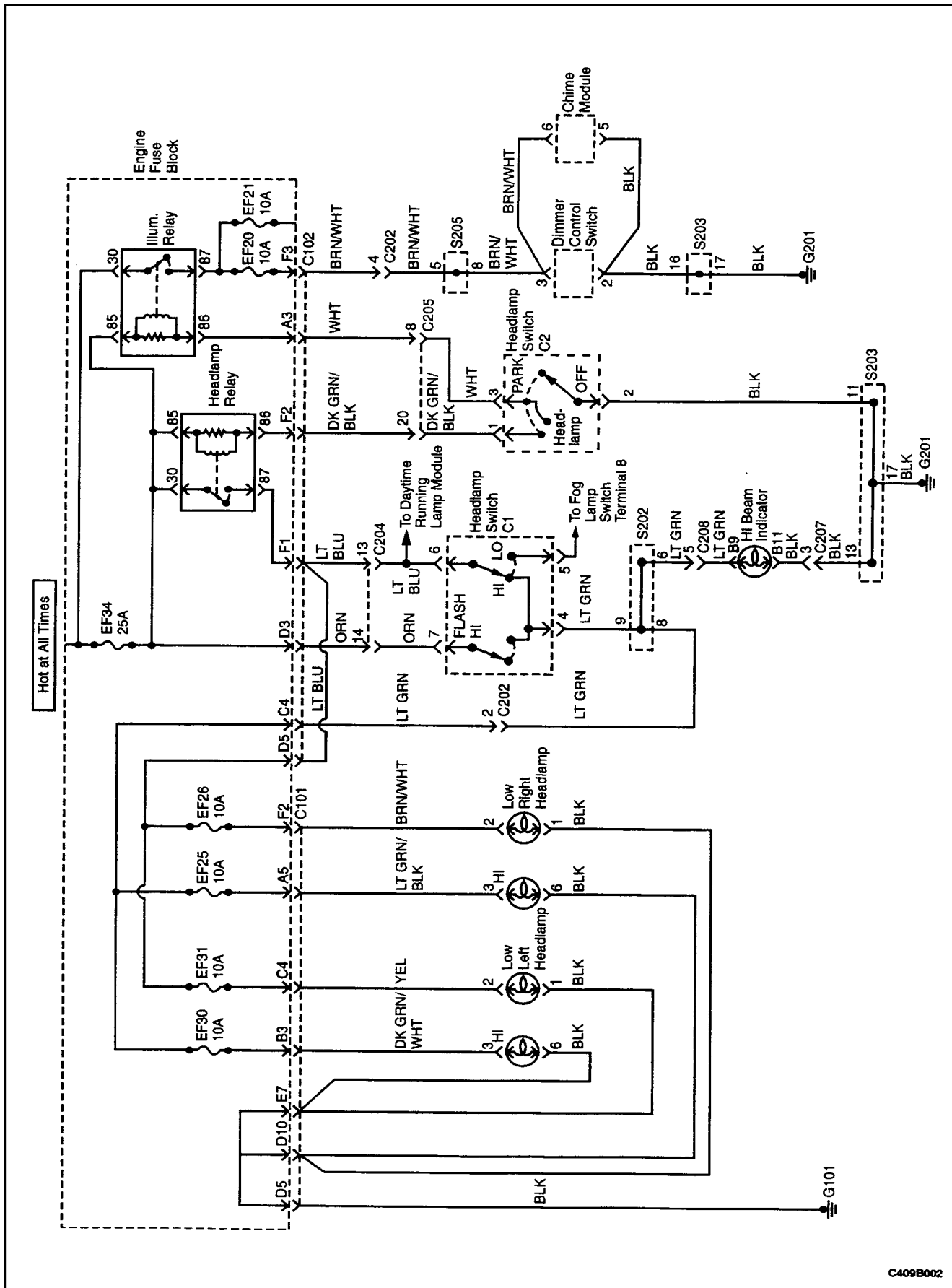
Application	N•m	Lb–Ft	Lb–In
Ashtray Housing Screws	2.5	–	22
Center High–Mounted Stoplamp Nuts	4	–	35
Daytime Running Lamp Module Screws	4	–	35
Fog Lamp Assembly Nuts	2	–	18
Front Door Trim Panel Screws	3.5	–	31
Front Turn Signal Lamp Screw	2	–	18
Headlamp Assembly Bolts	4	–	35
Ignition Switch Keyhole Lamp Screw	1.5	–	13
Interior Courtesy Lamp Housing Screw	2	–	18
License Plate Lamp Assembly Screws	2	–	18
Rear Combination Lamp Assembly Nuts	2	–	18
Steering Column Trim Cover Screws	2.5	–	22

SCHEMATIC AND ROUTING DIAGRAMS

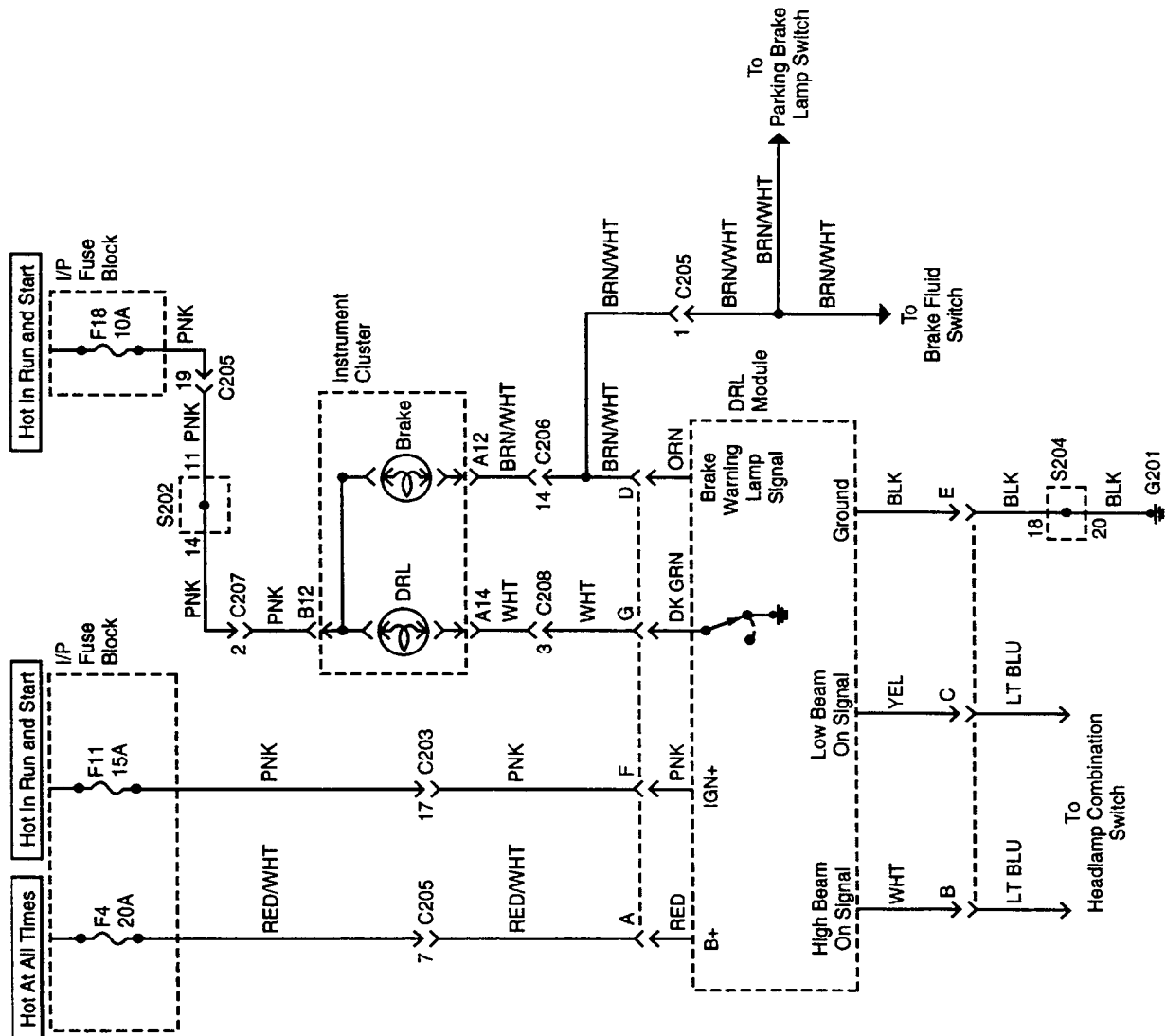
HEADLAMPS-ON REMINDER CHIME CIRCUIT



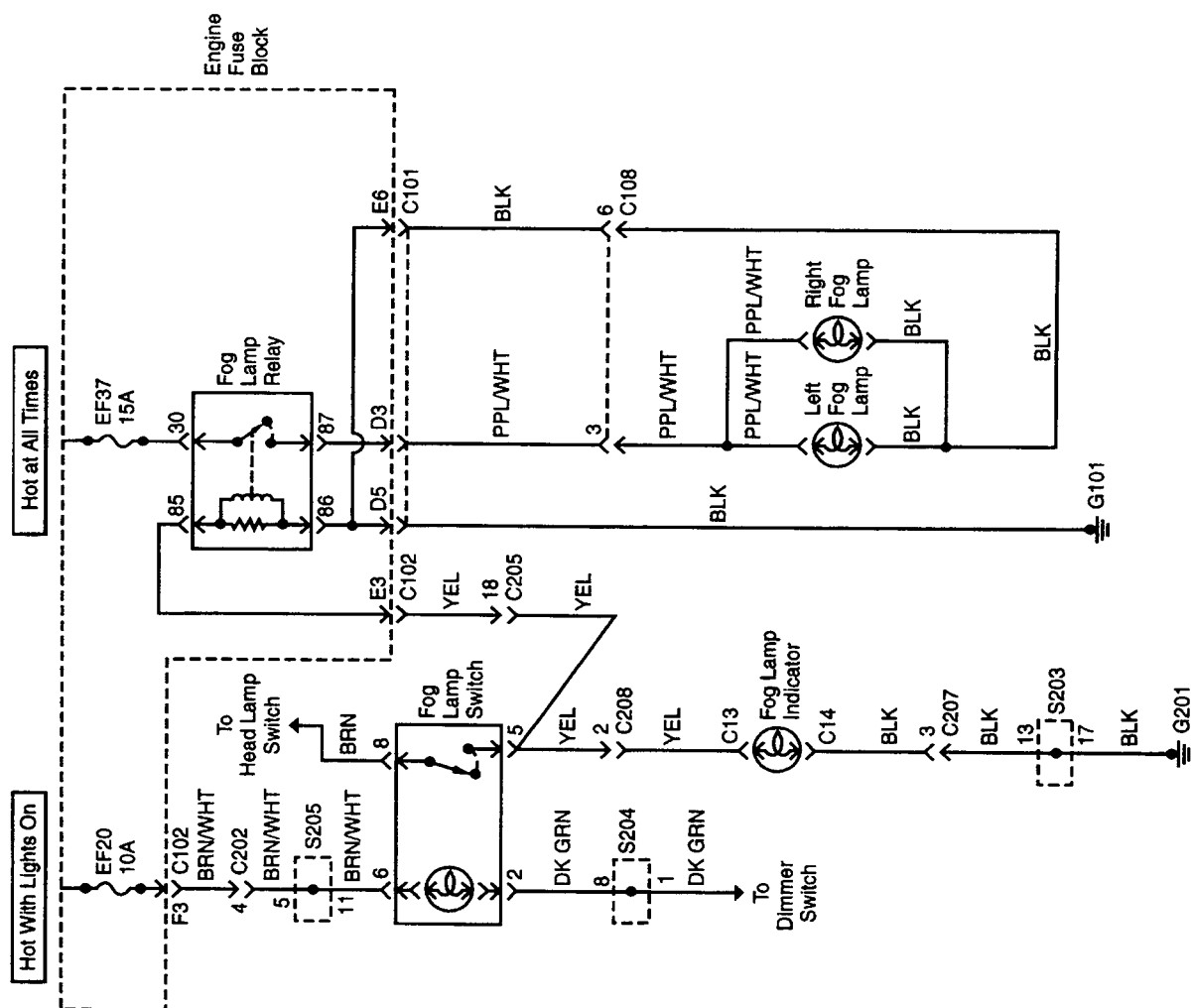
HEADLAMPS CIRCUIT



DAYTIME RUNNING LAMPS CIRCUIT

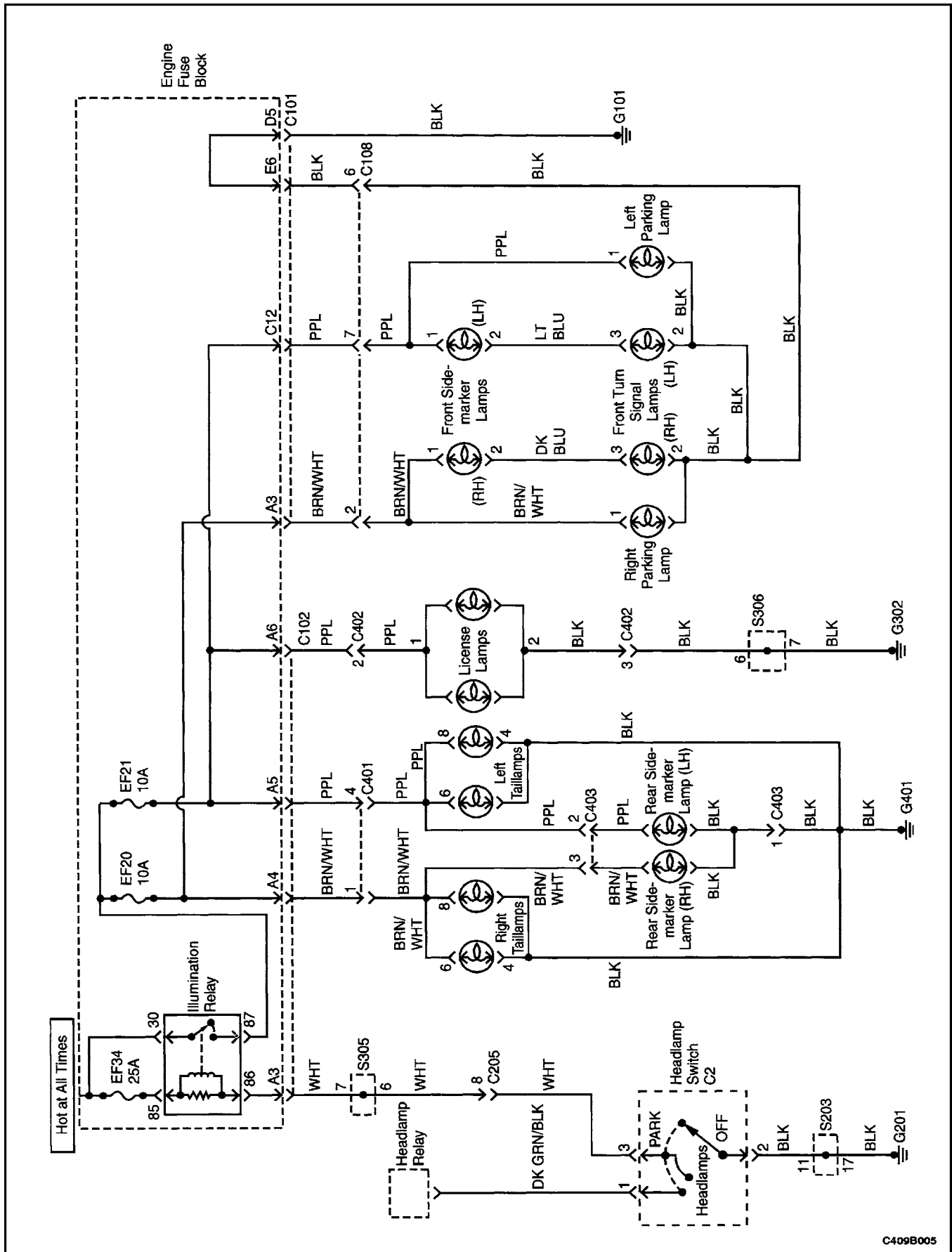


FOG LAMPS CIRCUIT

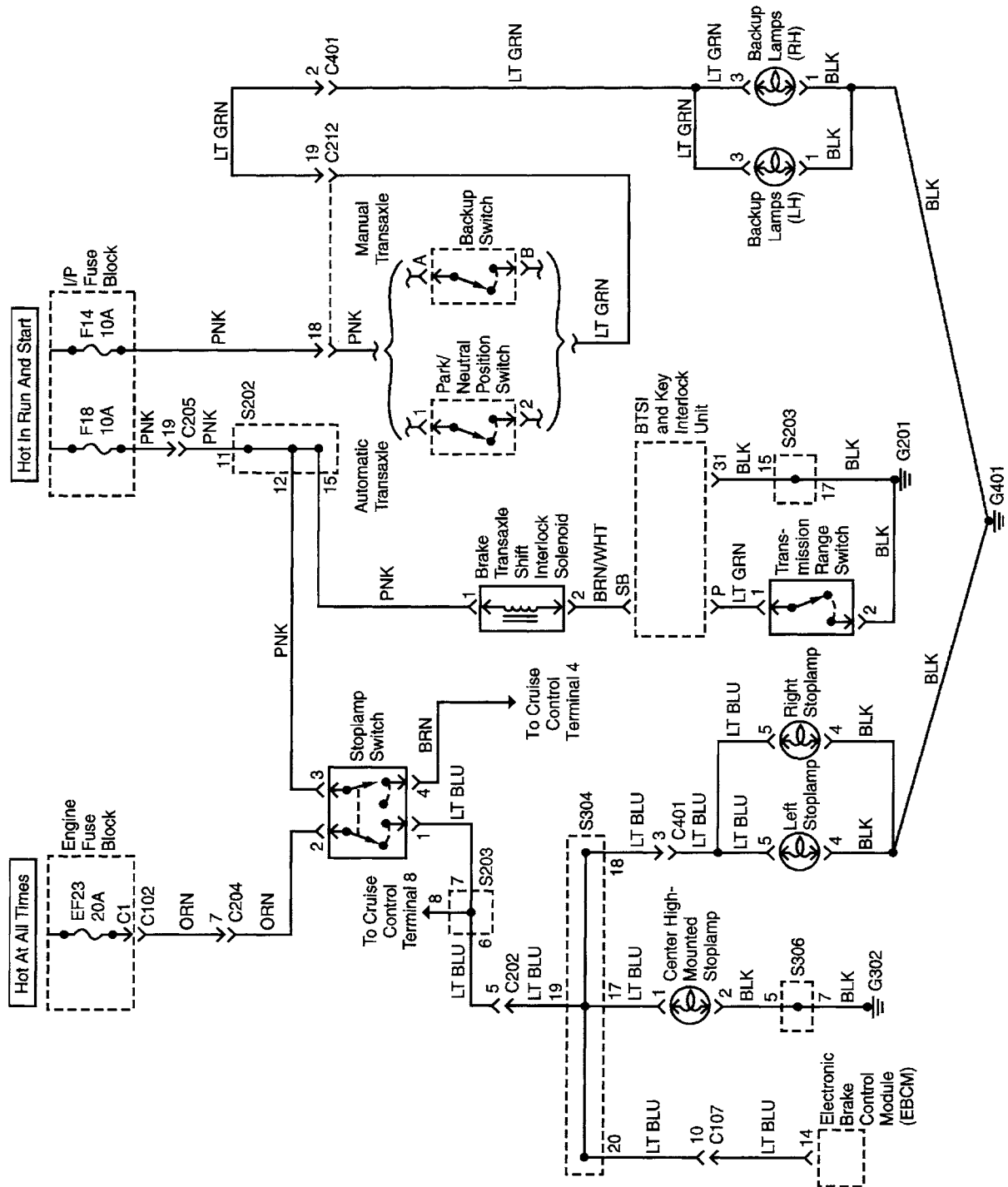


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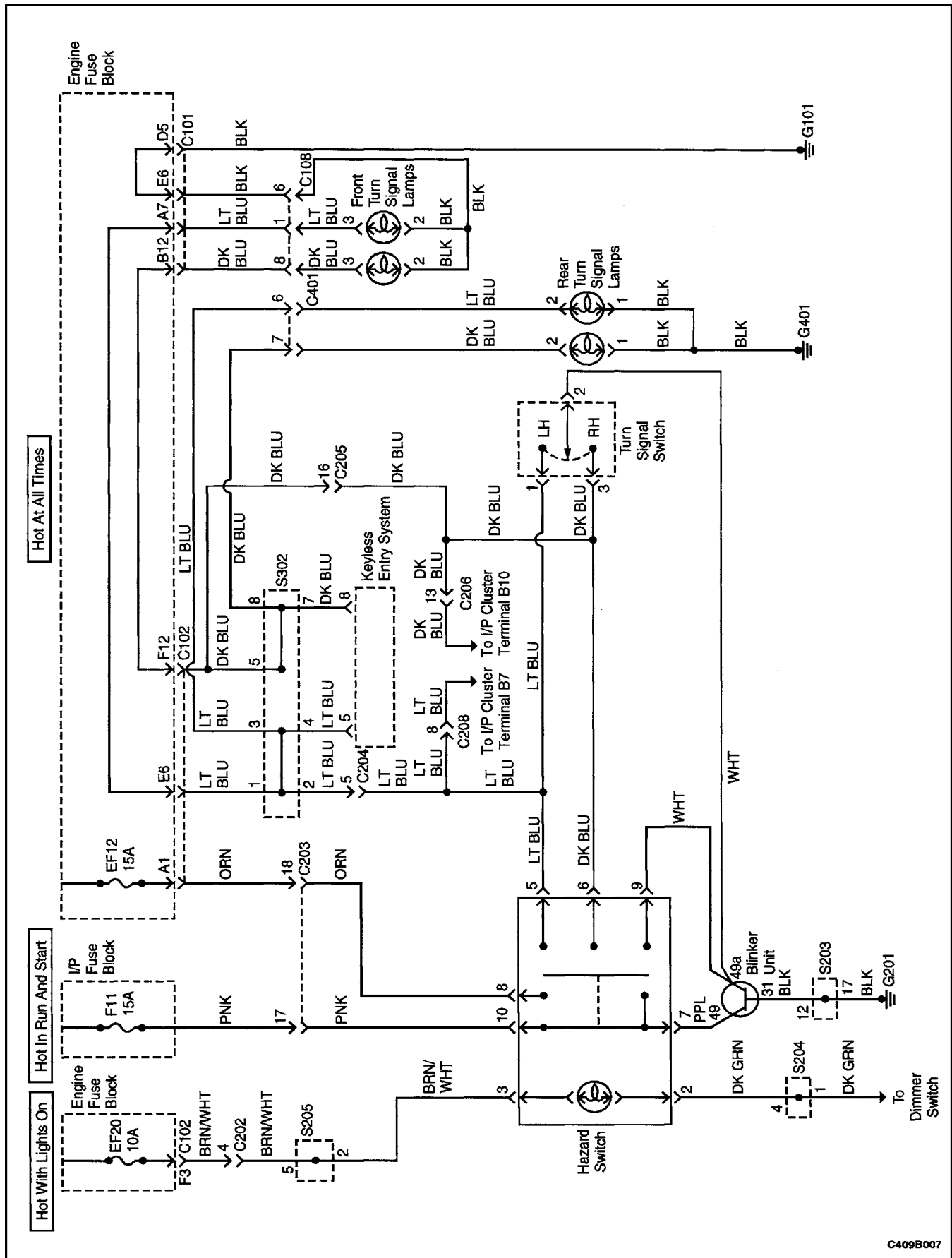
MARKER, TAIL, AND LICENSE LAMPS CIRCUIT



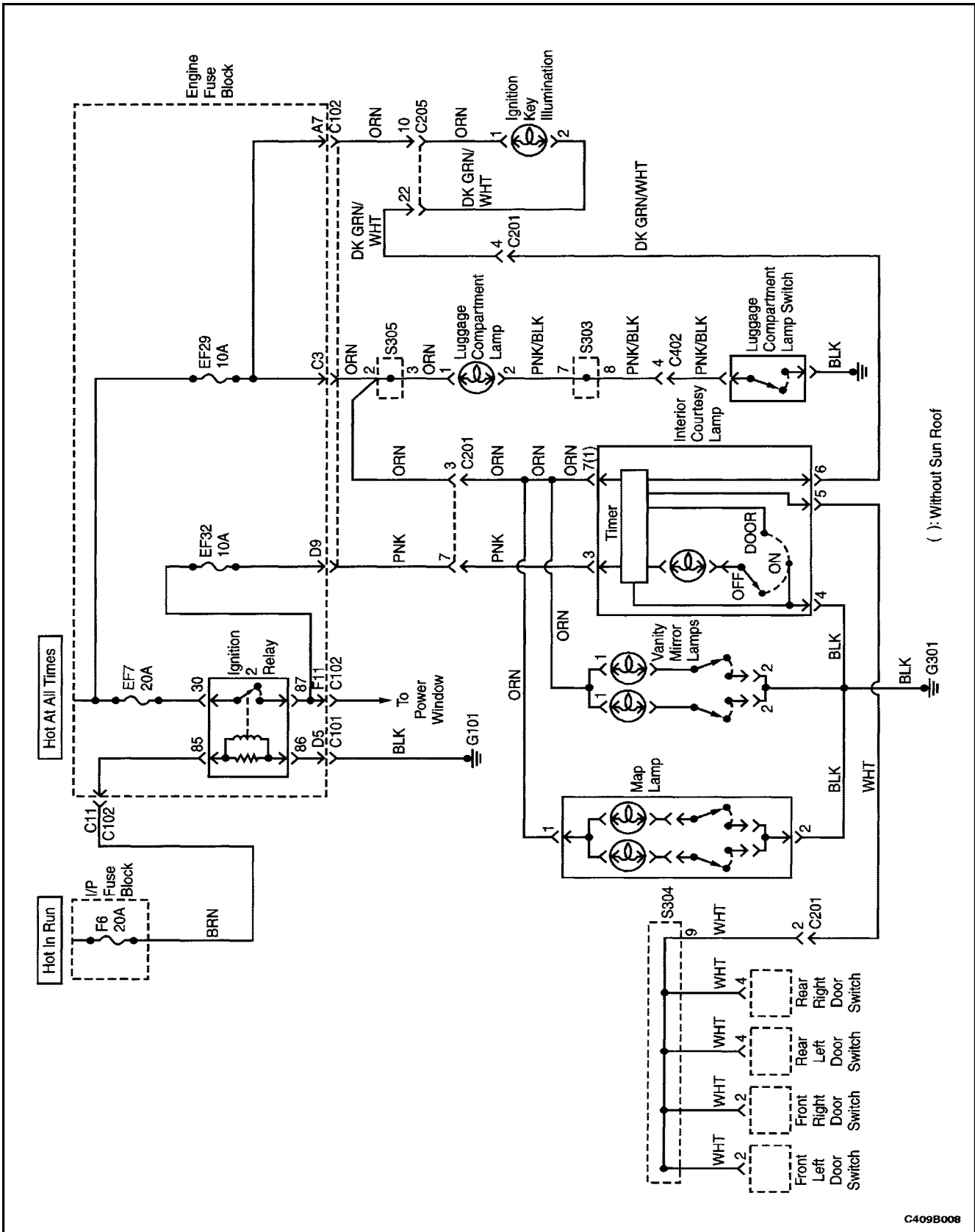
STOPLAMPS AND BACKUP LAMPS CIRCUIT



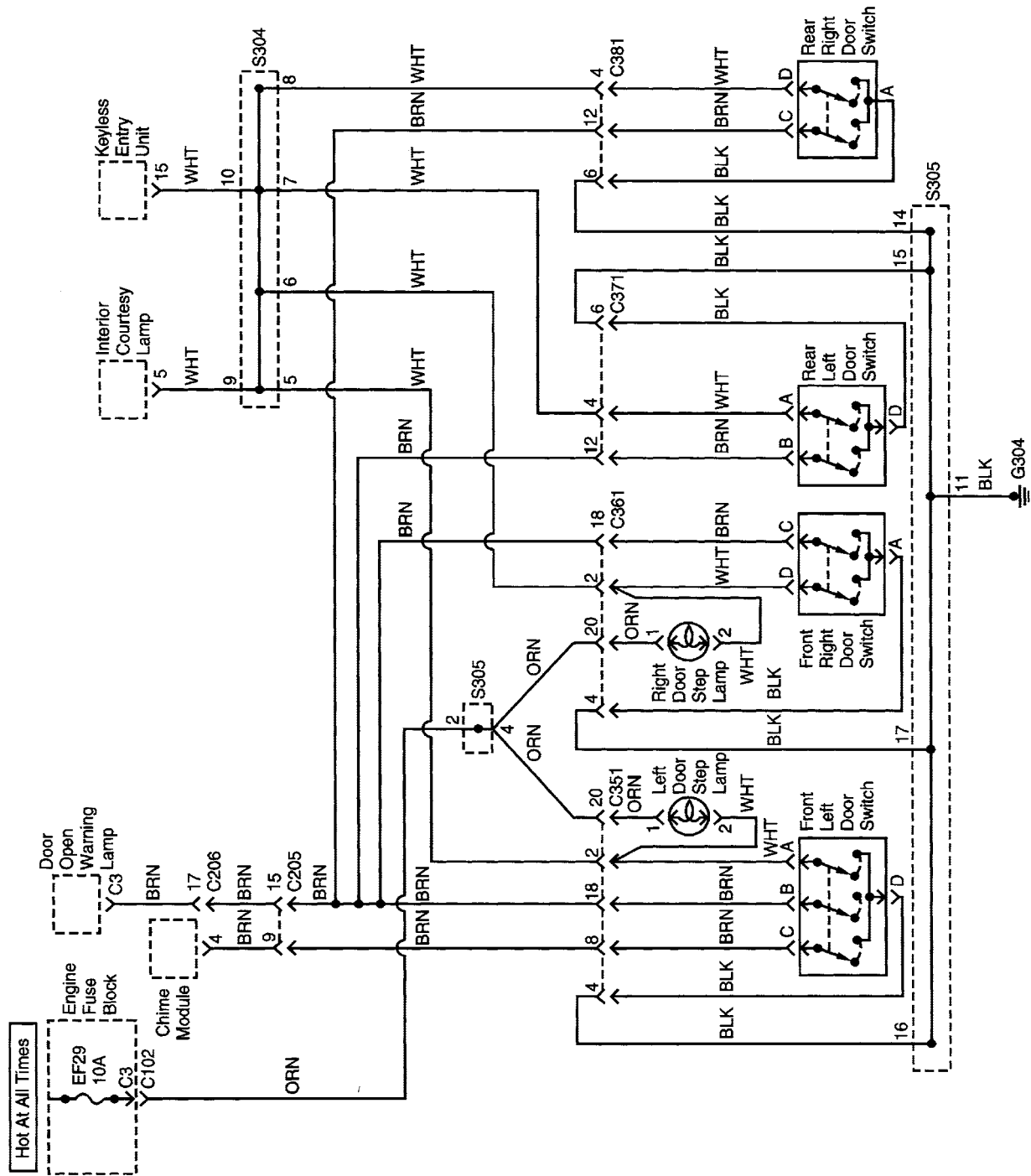
TURN AND HAZARD LAMPS CIRCUIT



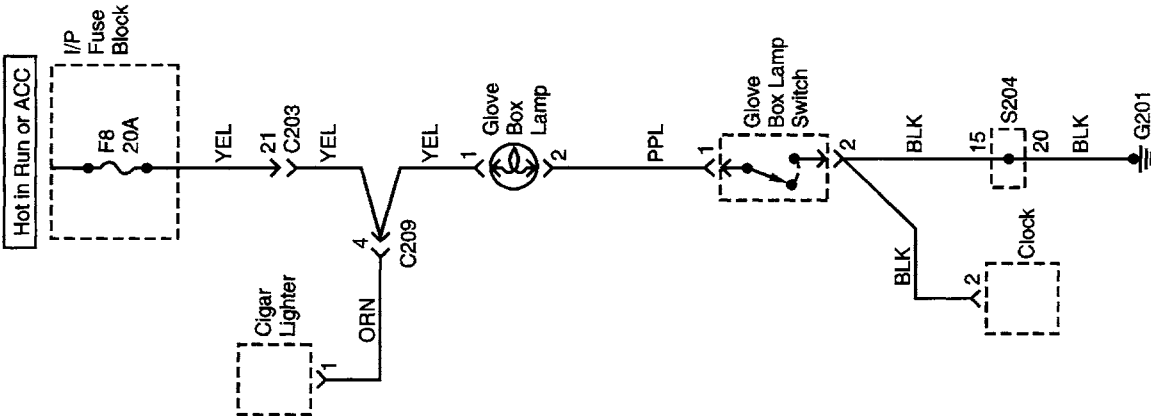
INTERIOR COURTESY AND LUGGAGE COMPARTMENT LAMPS CIRCUIT



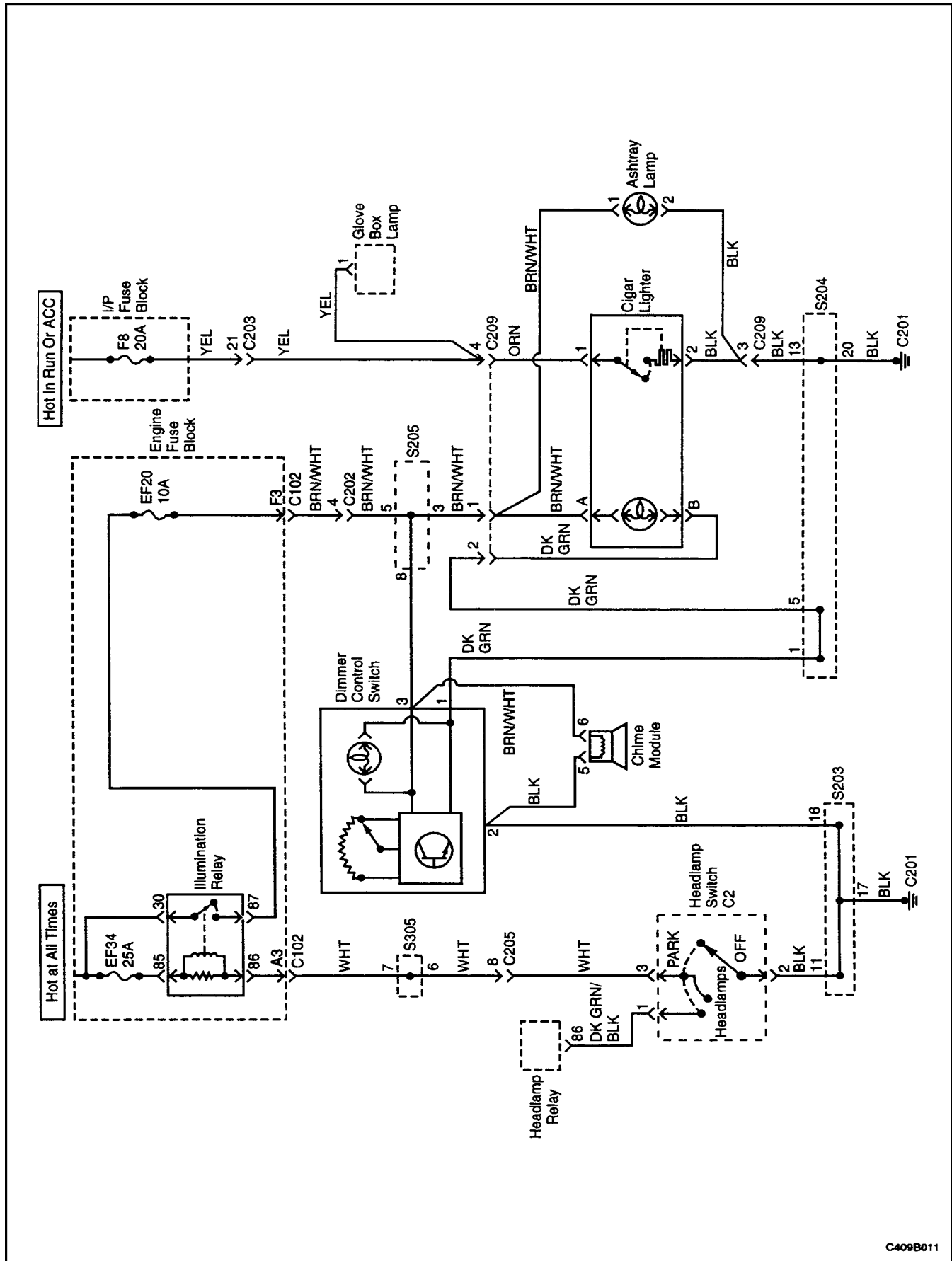
DOOR STEP LAMPS CIRCUIT



GLOVE BOX LAMP CIRCUIT



LIGHTING SYSTEMS 9B – 13



DIAGNOSIS

HEADLAMPS–ON REMINDER CHIME

Diagnostic Aids

Fuse EF20 controls the instrument cluster lighting and the right side taillamps, parking lamps, and marker lamps. It also provides the input to the chime module for the lighting reminder.

Test Description

The number below refers to Step 3 on the diagnostic table.

- The chime module is under the instrument panel on the left side.

Headlamps–On Reminder Chime Is Inoperative

Step	Action	Value(s)	Yes	No
1	1. Turn the parking lamps and the taillamps on. 2. Verify that the parking and taillamps are working on the right side of the vehicle. Are the parking lamps and taillamps working on the right side of the vehicle?		Go toStep 3	Go toStep 2
2	Repair the parking lamps and the taillamps before completing this diagnostic table. Does the headlamps–on reminder chime work after the parking lamps and the taillamps have been repaired?		System OK	Go toStep 3
3	1. Disconnect the chime module electrical connector. 2. Turn the headlamps on. 3. Check the voltage at terminal 6 of the chime module connector. Is the voltage equal to the specified value?	11–14 v	Go toStep 7	Go toStep 4
4	1. Remove the dimmer switch from the instrument panel for testing, but do not disconnect the electrical connector. 2. Turn the headlamps on. 3. Check the voltage at terminal 3 of the three–pin dimmer switch connector. Is the voltage equal to the specified value?	11–14 v	Go toStep 5	Go toStep 6
5	Repair the open circuit wire between the dimmer switch connector terminal 3 and the chime module connector terminal 6. Is the repair complete?		System OK	
6	Repair the open circuit between fuse EF20 and the dimmer switch. Is the repair complete?		System OK	
7	Use an ohmmeter to check the continuity between ground and terminal 5 of the chime module connector. Does the ohmmeter indicate the specified value?	~0Ω	Go toStep 9	Go toStep 8
8	Repair the open circuit between ground and terminal 5 of the chime module connector. Is the repair complete?		System OK	
9	1. Open the driver door. 2. Connect an ohmmeter between ground and terminal 4 of the chime module connector. Does the ohmmeter indicate the specified value?	~0Ω	Go toStep 11	Go toStep 10

Step	Action	Value(s)	Yes	No
10	Repair the open circuit between ground and terminal 4 of the chime module connector. (The door open switch should be closed when the door is open.) Is the repair complete?		System OK	
11	Replace the chime module. Is the repair complete?		System OK	

HEADLAMPS

Low-Beam Headlamps Are Inoperative, High-Beam Headlamps Are OK

Step	Action	Value(s)	Yes	No
1	Check fuses EF31 (left-side headlamps) and EF26 (right-side headlamps). Is fuse EF26 or EF31 blown?		Go to <i>Step 2</i>	Go to <i>Step 3</i>
2	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
3	Check the voltage at fuses EF26 and EF31. Does the voltage available at fuses EF26 and EF31 equal the value specified?	11–14 v	Go to <i>Step 4</i>	Go to <i>Step 9</i>
4	1. Disconnect both headlamp connectors. 2. Turn the headlamps on. 3. Select the low beams. Does the voltage at each headlamp connector terminal 2 equal the value specified?	11–14 v	Go to <i>Step 6</i>	Go to <i>Step 5</i>
5	Repair the open circuit between fuse EF26 or EF31 and the low-beam headlamps. Is the repair complete?		System OK	
6	1. Disconnect the headlamp connectors. 2. Connect an ohmmeter between ground and either headlamp connector terminal 1. Is the resistance equal to the value specified?	0 W	Go to <i>Step 8</i>	Go to <i>Step 7</i>
7	Repair the ground circuit. Is the repair complete?		System OK	
8	Replace the faulty headlamps. Is the repair complete?		System OK	
9	Check the voltage between fuses EF26 and EF31 and the headlamp relay. Does the voltage available at fuses EF26 and EF31 equal the specified value?	11–14 v	System OK	Go to <i>Step 10</i>
10	Repair the open circuit between fuses EF26 and EF31 and the headlamp relay. Is the repair complete?		System OK	

High–Beam Headlamps Are Inoperative, Low–Beam Headlamps Are OK

Step	Action	Value(s)	Yes	No
1	1. Turn the high–beam headlamps on. 2. Check the voltage at headlamp switch C1 terminal 6 with high beams selected. Does the voltage available at the headlamp switch C1 terminal 6 equal the value specified?	11–14 v	Go to	Go to <i>Step 2</i>
2	Repair the open circuit between fuse EF34 and the headlamp switch C1. Is the repair complete?		System OK	
3	Check fuses EF25 and EF30. Is fuse EF25 or EF30 blown?		Go to <i>Step 4</i>	Go to <i>Step 5</i>
4	1. Check for a short circuit. Repair it if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
5	1. Disconnect the headlamp switch. 2. Put the switch in the high–beam position. 3. Use an ohmmeter to check the continuity of the headlamp switch C1 between terminals 6 and 4. Does the ohmmeter indicate the specified value?	0Ω	Go to <i>Step 7</i>	Go to <i>Step 6</i>
6	Replace the headlamp switch. Is the repair complete?		System OK	
7	1. Disconnect the high–beam headlamp connectors. 2. Turn the high–beam headlamps on. 3. Use a voltmeter to check the voltage at terminal 3 of the headlamp connectors. Does the voltmeter indicate the specified value?	11–14 v	Go to <i>Step 9</i>	Go to <i>Step 8</i>
8	Repair the open circuit between the fuse block and the high–beam headlamps. Is the repair complete?		System OK	
9	Use an ohmmeter to check continuity between terminal 6 of the headlamp connectors and ground. Does the ohmmeter indicate the specified value?	~0Ω	Go to <i>Step 11</i>	Go to <i>Step 10</i>
10	Repair the open ground circuit. Is the repair complete?		System OK	
11	Replace the faulty high–beam headlamps. Is the repair complete?		System OK	

High-Beam and Low-Beam Headlamps Are Inoperative on Both Left and Right Sides

Diagnostic Aids: If there are several other systems inoperative with the ignition ON, such as power windows, power seats, sunroof, and front turn signals, check ground G101.

Step	Action	Value(s)	Yes	No
1	Check fuses EF34, EF30, EF25, EF31, and EF26. Are any fuses blown?		Go to <i>Step 2</i>	Go to <i>Step 3</i>
2	1. Check for a short circuit and repair it, if necessary. 2. Replace the blown fuse. Is the repair complete?		System OK	
3	Use a voltmeter to check voltage at EF 34. Does the voltmeter indicate the specified value?	11–14 v	Go to <i>Step 5</i>	Go to <i>Step 4</i>
4	Repair the open power supply circuit to fuse EF34. Is the repair complete?		System OK	
5	Turn the headlamps on. Are the parking lamps, taillamps, and license lamps working?		Go to <i>Step 6</i>	Go to <i>Step 8</i>
6	Temporarily substitute the illumination relay in place of the headlamp relay. Do the headlamps operate with the substituted relay?		Go to <i>Step 7</i>	Go to <i>Step 8</i>
7	1. Reinstall the illumination relay in its original position. 2. Replace the headlamp relay. Is the repair complete?		System OK	
8	1. Disconnect the headlamp connectors, and use an ohmmeter to check continuity between terminals 1 and 6 and ground. Repeat this procedure on the other side. 2. Connect the headlamp connectors. Does the ohmmeter indicate the specified value between each terminal and ground?	~0Ω	Go to <i>Step 10</i>	Go to <i>Step 9</i>
9	Repair the open circuit between the headlamps and ground. Is the repair complete?		System OK	
10	1. Disconnect headlamp switch connector C2. 2. Turn the headlamps on. 3. Using a voltmeter, check voltage at headlamps switch connector C2 terminal 1 (harness side). Is the voltage equal to the specified value?	11–14 v	Go to <i>Step 12</i>	Go to <i>Step 11</i>
11	Repair the open circuit between the headlamp relay and the headlamp switch C2. Is the repair complete?		System OK	
12	Use an ohmmeter to check continuity between headlamp switch connector C2, terminal 2 (harness side) and ground. Did the ohmmeter indicate the specified value?	~0Ω	Go to <i>Step 14</i>	Go to <i>Step 13</i>

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Step	Action	Value(s)	Yes	No
13	Repair the open circuit between headlamp switch connector C2 and ground. Is the repair complete?		System OK	
14	Replace the headlamp switch. Is the repair complete?		System OK	

DAYTIME RUNNING LAMPS

Diagnostic Aids

The daytime running lamp (DRL) system will not work if the parking brake is applied. The system is designed to work only when the engine is running and the parking brake re-

leased. If the parking brake circuit is shorted to ground or the switch stays closed when the engine is running, the DRL system will not work.

Daytime Running Lamps Do Not Turn on

Step	Action	Value(s)	Yes	No
1	Turn the headlamps on. Do the headlamps, parking lamps, taillamps, and instrument lamps work?		Go to <i>Step 3</i>	Go to <i>Step 2</i>
2	Repair the regular headlamp system before completing this diagnostic table. Does the DRL system work after the headlamps, exterior lamps, and instrument lamp systems have been repaired?		System OK	Go to <i>Step 3</i>
3	Check fuses F11 and F4. Is fuse F11 or F4 blown?		Go to <i>Step 4</i>	Go to <i>Step 5</i>
4	1. Check for a short circuit and repair if necessary. 2. Replace any blown fuse. Is the repair complete?		System OK	
5	1. Turn the ignition ON. 2. Check the voltage at fuses F11 and F4. Does the voltage equal the specified value?	11–14 v	Go to <i>Step 7</i>	Go to <i>Step 6</i>
6	Repair the power supply circuit for fuse F11 and/or F4. Is the repair complete?		System OK	
7	1. Disconnect the electrical connector from the DRL module. 2. Turn the ignition ON. 3. Check the voltage at terminal F of the DRL module. Is the voltage equal to the specified value?	11–14 v	Go to <i>Step 9</i>	Go to <i>Step 8</i>
8	Repair the open circuit between fuse F11 and terminal F of the DRL module connector. Is the repair complete?		System OK	
9	With the electrical connector still disconnected from the DRL module, check the voltage at terminal A of the DRL module. Is the voltage equal to the specified value?	11–14 v	Go to <i>Step 11</i>	Go to <i>Step 10</i>
10	Repair the open circuit between fuse F4 and terminal A of the DRL module connector. Is the repair complete?		System OK	
11	With the DRL module still disconnected, use an ohmmeter to check the resistance between ground and terminal E of the DRL module connector. Is the resistance equal to the specified value?	~0Ω	Go to <i>Step 13</i>	Go to <i>Step 12</i>
12	Repair the circuit between ground and terminal E of the DRL module connector. Is the repair complete?		System OK	

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Step	Action	Value(s)	Yes	No
13	1. Release the parking brake. 2. Turn the ignition switch on. 3. Observe the parking brake indicator lamp. Is the parking brake indicator lamp on?		Go to <i>Step 14</i>	Go to <i>Step 17</i>
14	Disconnect the electrical connector to the parking brake lever switch. Is the parking brake indicator lamp still on?		Go to <i>Step 15</i>	Go to <i>Step 16</i>
15	Repair the wire short to ground in the parking brake circuit. Is the repair complete?		System OK	
16	Replace the parking brake lever switch. Is the repair complete?		System OK	
17	Replace the DRL module. Is the repair complete?		System OK	

FOG LAMPS

Fog Lamps Inoperative

Step	Action	Value(s)	Yes	No
1	Check fuse EF37. Is EF37 blown?		Go toStep 2	Go toStep 3
2	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
3	Use a voltmeter or test lamp to check fuse EF37. Does the battery voltage available at fuse EF37 equal the specified value?	11–14 v	Go toStep 5	Go toStep 4
4	Repair the open circuit from the battery to fuse EF37. Is the repair complete?		System OK	
5	Remove the fog lamp relay and temporarily substitute a known good relay such as the headlamp relay or the illumination lamp relay. Do the fog lamps work with the substituted relay?		Go toStep 6	Go toStep 7
6	1. Return the substituted relay to its original position. 2. Replace the inoperative fog lamp relay. Is the repair complete?		System OK	
7	1. Return the substituted relay to its original position, but do not reinstall the fog lamp relay. 2. Using a voltmeter or test lamp, check the fog lamp relay socket terminal 30. Does the battery voltage available at the fog lamp relay socket equal the specified value?	11–14 v	Go toStep 9	Go toStep 8
8	Repair the open circuit between fuse EF37 and the fog lamp relay. Is the repair complete?		System OK	
9	At the fog lamp relay socket, use an ohmmeter or test lamp to verify that the connector for relay terminal 86 is connected to ground. Does the resistance equal the specified value?	0Ω	Go toStep 11	Go toStep 10
10	Repair the ground circuit for the fog lamp relay. Is the repair complete?		System OK	
11	With the fog lamp relay reinstalled and the switch on, test for voltage at the fog lamp connector. Does the battery voltage available at the fog lamp connector equal the specified value?	11–14 v	Go toStep 13	Go toStep 12
12	Repair the open circuit between the fog lamp relay terminal 87 and the fog lamps. Is the repair complete?		System OK	
13	Use an ohmmeter or test lamp to check the ground at the ground side of the fog lamp connector. Does the resistance equal the specified value?	0Ω	Go toStep 15	Go toStep 14

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Step	Action	Value(s)	Yes	No
14	Repair the fog lamp ground circuit. Is the repair complete?		System OK	
15	Replace the faulty fog lamp bulbs. Is the repair complete?		System OK	

TAIL/STOP/TURN/BACKUP LAMPS

Taillamps and/or Sidemarker Lamps Do Not Work

Notice : When probing a bulb socket with a voltmeter or a test lamp, do not contact the side of the socket (ground) when you are testing the positive contact at the bottom of the socket. If the voltage and the ground are both available at the bulb socket, contacting both at the same time with a test probe will cause a blown fuse.

Step	Action	Value(s)	Yes	No
1	Check the headlamps. Do the headlamps work?		Go to <i>Step 3</i>	Go to <i>Step 2</i>
2	Repair the headlamps. Are the rear combination lamps still inoperative?		Go to <i>Step 3</i>	System OK
3	1. Turn the taillamps and sidemarker lamps on. 2. Use a voltmeter to check voltage at the bulb socket positive terminal. Does voltage at the bulb socket equal the specified value?	11–14 v	Go to <i>Step 4</i>	Go to <i>Step 7</i>
4	Connect an ohmmeter between ground and the lamp socket negative terminal. Is the resistance equal to the specified value?	0Ω	Go to <i>Step 6</i>	Go to <i>Step 5</i>
5	Repair the ground circuit for the lamps. Is the repair complete?		System OK	
6	Replace the faulty bulbs. Is the repair complete?		System OK	
7	Check fuses EF34, EF20, and EF21. Is any of the fuses blown?		Go to <i>Step 8</i>	Go to <i>Step 9</i>
8	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
9	1. Turn the headlamps on. 2. Check the voltage at fuses EF21 for the left-side taillamp and sidemarker lamp and EF20 for the right-side taillamp and sidemarker lamp. Does the voltage at the fuses equal the specified value?	11–14 v	Go to <i>Step 23</i>	Go to <i>Step 10</i>
10	Check the voltage at fuse EF34. Does the voltage at fuse EF34 equal the specified value?	11–14 v	Go to <i>Step 12</i>	Go to <i>Step 11</i>
11	Repair the battery supply circuit to fuse EF34. Is the repair complete?		System OK	
12	1. Temporarily substitute the headlamp relay for the illumination relay. 2. Turn the taillamp switch on. Do the taillamps illuminate?		Go to <i>Step 13</i>	Go to <i>Step 14</i>
13	1. Return the headlamp relay to its original position. 2. Replace the illumination relay. Is the repair complete?		System OK	

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Step	Action	Value(s)	Yes	No
14	1. Remove the headlamp relay. 2. Use a voltmeter to check the illumination relay socket at the connector terminal 85. Is the voltage at the connector terminal 85 of the tail-lamp relay equal to the specified value?	11–14 v	Go to <i>Step 16</i>	Go to <i>Step 15</i>
15	Repair the open circuit between fuse EF34 and the connector for the illumination relay terminal 85. Is the repair complete?		System OK	
16	Connect an ohmmeter between ground and the illumination relay terminal 86. Is the resistance equal to the specified value?	0Ω	Go to <i>Step 18</i>	Go to <i>Step 17</i>
17	Repair the ground circuit for the illumination relay. Is the repair complete?		System OK	
18	1. Turn on the taillamp and sidemarker lamp. 2. Check the voltage at the connector for terminal 30 of the illumination relay. Is the voltage equal to the specified value?	11–14 v	Go to <i>Step 22</i>	Go to <i>Step 19</i>
19	1. Disconnect the headlamp switch connector C2. 2. On the disconnected switch, turn on the taillamps and sidemarker lamps. 3. At switch C2, use an ohmmeter to check for continuity between terminal 2 and terminal 3. Is the resistance equal to the specified value?	0Ω	Go to <i>Step 21</i>	Go to <i>Step 20</i>
20	Repair the open circuit between the headlamp switch C2 terminal 3 and terminal 86 of the illumination relay. Is the repair complete?		System OK	
21	Replace the headlamp switch. Is the repair complete?		System OK	
22	Repair the open circuit between terminal 87 of the taillamp and fuses EF20 and EF21. Is the repair complete?		System OK	
23	Repair the open circuit between the fuses EF20 and EF21 and the taillamps and/or sidemarker lamps. Is the repair complete?		System OK	

Stoplamps Do Not Work

Notice : When probing a bulb socket with a voltmeter or a test lamp, do not contact the side of the socket (ground) when you are testing the positive contact at the bottom of the socket. If the voltage and the ground are both available at the bulb socket, contacting both at the same time with a test probe will cause a blown fuse.

Step	Action	Value(s)	Yes	No
1	Check fuse EF23. Is fuse EF23 blown?		Go to <i>Step 2</i>	Go to <i>Step 3</i>
2	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
3	1. Press the brake pedal down. 2. Check the positive terminals of the bulb sockets with a test lamp. Does the test lamp illuminate?		Go to <i>Step 4</i>	Go to <i>Step 6</i>
4	Connect an ohmmeter between ground and the stoplamp ground terminal. Is the resistance equal to the specified value?	0Ω	Go to <i>Step 6</i>	Go to <i>Step 5</i>
5	Repair the ground circuit. Is the repair complete?		System OK	
6	1. Disconnect the wiring connector from the stoplamp switch. 2. Press the brake pedal down. 3. Use an ohmmeter to check continuity between terminals 2 and 1. Is the resistance equal to the specified value?	0Ω	Go to <i>Step 8</i>	Go to <i>Step 7</i>
7	Replace the stoplamp switch. Is the repair complete?		System OK	
8	1. Disconnect the stoplamp switch electrical connector. 2. Check the voltage at terminal 2. Does the voltmeter show the specified value?	11–14 v	Go to <i>Step 10</i>	Go to <i>Step 9</i>
9	Repair the open circuit between the fuse EF23 and the stoplamp switch. Is the repair complete?		System OK	
10	Repair the open circuit between the stoplamp switch and the stoplamps. Is the repair complete?		System OK	

Backup Lamps Inoperative

Step	Action	Value(s)	Yes	No
1	Check fuse F14. Is fuse F14 blown.?		Go toStep 2	Go toStep 3
2	1. Check for a short circuit and repair it, if necessary. 2. Replace fuse F14. Is the repair complete?		System OK	
3	Use a voltmeter to verify that battery voltage is available at fuse F14. Does the voltmeter indicate the specified value?	11–14 v	Go toStep 5	Go toStep 4
4	Repair the power supply circuit for fuse F14. Is the repair complete?		System OK	
5	1. Remove and examine the backup lamp bulbs. 2. Test the bulbs by connecting themto the vehicle battery with jumperwires. Are the bulbs defective?		Go toStep 6	Go toStep 7
6	Replace the defective bulbs. Is the repair complete?		System OK	
7	1. Reinstall the backup lamps after testing. 2. Turn the ignition ON. 3. Disconnect the backup switch connector. 4. Check the voltage at terminal A of the backup switch (or terminal 1 of the park/neutral position switch if the vehicle has an automatic transaxle). Does the voltmeter indicate the specified value?	11–14 v	Go toStep 9	Go toStep 8
8	Repair the open circuit between fuse F14 and the backup switch. Is the repair complete?		System OK	
9	1. Turn the ignitionON. 2. Apply the parking brake. 3. Block thewheels to prevent the vehicle from-moving. 4. Put the transaxle inREVERSE. 5. Use a voltmeter to check voltage at terminalB of the backup switch (or terminal 2 of the park/neutral position switch if the vehicle has an automatic transaxle). Does the voltmeter indicate the specified value?	11–14 v	Go toStep 11	Go toStep 10
10	Replace the backup switch. Is the repair complete?		System OK	
11	1. Remove one of the backup lamps. 2. Turn the ignition ON. 3. Apply the parking brake. 4. Block thewheels to prevent the vehicle from-moving. 5. Put the transaxle in REVERSE. 6. Use a voltmeter to check voltage at the positive terminal of the backup lamp socket. Does voltage at the lamp socket equal the specified value?	11–14 v	Go toStep 12	Go toStep 13

Step	Action	Value(s)	Yes	No
12	Repair the ground circuit of the backup lamps. Is the repair complete?		System OK	
13	Repair the open circuit between the backup lamps and the backup switch. Is the repair complete?		System OK	

Turn Signal Lamps and Hazard Lamps Do Not Work

Notice : When probing a bulb socket with a voltmeter or a test lamp, do not contact the side of the socket (ground) when you are testing the positive contact at the bottom of the socket. If the voltage and the ground are both available at the bulb socket, contacting both at the same time with a test probe will cause a blown fuse.

Step	Action	Value(s)	Yes	No
1	Check fuses EF20, EF12 and F11. Is any fuse blown?		Go toStep 2	Go toStep 3
2	Check for a short circuit and repair it, if necessary. Replace the fuse. Is the repair complete?		System OK	
3	1. Turn the ignition on. 2. Check the voltage at fuse EF20, EF12 and F11. Does the battery voltage available at these fuses equal the specified value?	11–14 v	Go toStep 4	Go toStep 7
4	1. Turn the hazard lamp switch on. 2. Remove each of the inoperative lamps from its socket. 3. Test each lamp socket positive terminal with a voltmeter. Does the battery voltage pulsing at the turn–signal, hazard–lamp socket positive terminal equal the specified value?		Go toStep 5	Go toStep 9
5	At each bulb socket, use an ohmmeter to check the ground circuit. Is the resistance equal to the specified value?	0Ω	Go toStep 6	Go toStep 8
6	Replace any faulty turn signal/ hazard bulbs. Is the repair complete?		System OK	
7	Repair the power supply circuit to fuses. Is the repair complete?		System OK	
8	Repair the open ground circuit. Is the repair complete?		System OK	
9	1. Turn on the hazard switch. 2. Test the blinker unit connector terminal 49a with voltmeter. Does the battery voltage pulsing at the blinker unit terminal 49a equal the specified value?	11–14 v	Go toStep 15	Go toStep 10
10	1. Turn on the hazard switch. 2. Test the blinker unit connector terminal 49 with a voltmeter. Does the battery voltage available at the blinker unit terminal 49 equal the specified value?	11–14 v	Go toStep 11	Go toStep 14
11	1. Disconnect the blinker unit from the connector. 2. Use an ohmmeter to check between ground and the connector for terminal 31 of the blinker unit. Is the resistance equal to the specified value?	0–0.5 W	Go toStep 13	Go toStep 12
12	Repair the blinker unit ground connection. Is the repair complete?		System OK	
13	Replace faulty blinker unit. Is the repair complete?		System OK	

Step	Action	Value(s)	Yes	No
14	1. Disconnect the hazard switch connector. 2. Check for voltage at terminal 8. 3. Turn the ignition ON. 4. Check for voltage at terminal 10. Does the battery voltage available at both terminals equal the specified value?	11–14 v	Go to <i>Step 15</i>	Go to <i>Step 19</i>
15	1. Remove the hazard switch. 2. Turn the hazard switch to the off position. 3. Check for continuity between terminals 7 and 10. 4. Turn the hazard switch on. 5. Check for continuity between terminals 7 and 8. Do both tests show the specified value?	0Ω	Go to <i>Step 18</i>	Go to <i>Step 16</i>
16	1. Remove the hazard switch. 2. Turn the hazard switch to the on position. 3. Use an ohmmeter to check for continuity between terminals 5, 6, and 9. Does the continuity between terminals 5, 6, and 9 equal the specified value?	0Ω	System OK	Go to <i>Step 17</i>
17	Replace the faulty hazard switch. Is the repair complete ?		System OK	
18	Repair the open circuit between hazard switch terminal 7 and blinker unit terminal 49. Is the repair complete?		System OK	
19	Repair the open circuit between the hazard switch and the fuses EF20, EF12, or F11. Is the repair complete?		System OK	

Hazard Lamps Do Not Operate, Turn Signals Are OK

Step	Action	Value(s)	Yes	No
1	Check fuse EF12. fuse EF12 blown?		Go toStep 2	Go toStep 3
2	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
3	Use a voltmeter to check for power to fuse EF12. Does the battery voltage available at fuse EF12 equal the value specified?	11–14 v	Go toStep 5	Go toStep 4
4	Repair the power supply circuit to fuse EF12. Is the repair complete?		System OK	
5	1. Disconnect the hazard switch connector. 2. Use a voltmeter to check power to the hazard switch terminal 8. Does the battery voltage available at connector terminal 8 equal the value specified?	11–14 v	Go toStep 6	Go toStep 9
6	1. Remove the hazard switch and disconnect it for testing. 2. Turn the hazard switch to the on position. 3. Test with an ohmmeter between terminals 8 and 7. Is the resistance equal to the specified value?	0Ω	Go toStep 7	Go toStep 10
7	1. With the hazard switch still removed and disconnected for testing, turn the hazard switch to the on position. 2. Use an ohmmeter to check between terminals 5, 6, and 9. Is the resistance equal to the specified value?	0Ω	Go toStep 8	Go toStep 10
8	Repair the open circuit between the hazard switch connector and splice S203. Is the repair complete?		System OK	
9	Repair the open circuit between the hazard switch connector terminal 8 and fuse EF12. Is the repair complete?		System OK	
10	Replace the faulty hazard switch. Is the repair complete?		System OK	

INTERIOR COURTESY AND LUGGAGE COMPARTMENT LAMPS

Interior Courtesy Lamp Inoperative

CAUTION : Always make sure there is an electrical load, such as a lamp bulb, in any circuit between battery terminals. Do not make a short circuit between battery terminals with a jumper wire, or hazardous sparking will result.

1. Bulb test. Clip one end of a jumper wire to the negative battery terminal. Clip the other end of the jumper wire onto one end of the bulb. Take the end of the bulb without the jumper attached and touch it to the positive battery terminal.

Test Description

The number below refers to Step 1 on the diagnostic table.

Step	Action	Value(s)	Yes	No
1	1. Remove the interior courtesy lamp bulb and inspect the filament. 2. If the filament is not broken, test the bulb using the vehicle's battery and a jumper wire. Does the bulb pass the visual and physical checks?		Go to Step 3	Go to Step 2
2	Replace the bulb. Is the repair complete?		System OK	
3	1. Reinstall the interior courtesy lamp bulb. 2. Check fuses EF7 and EF32. Is either fuse EF7 or EF32 blown?		Go to Step 4	Go to Step 5
4	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
5	Check the voltage at fuses EF7 and EF32. Does the voltage at fuses EF7 and EF32 equal the specified value?	11–14 v	Go to Step 7	Go to Step 6
6	Repair the open circuit between the battery and fuses EF7 and EF32. Is the repair complete?		System OK	
7	1. Disconnect the interior courtesy lamp electrical connector. 2. Check the voltage at connector terminal 3. Does the voltage at connector terminal 3 equal the value specified?	11–14 v	Go to Step 8	Go to Step 9
8	Repair the open circuit between fuse EF32 and the interior courtesy lamp terminal 3. Is the repair complete?		System OK	
9	Use an ohmmeter to check the resistance between ground and terminal 4 of the interior courtesy lamp connector on the harness side. Is the resistance equal to the specified value?	0Ω	Go to Step 10	Go to Step 11
10	Replace the interior courtesy lamp switch assembly. Is the repair complete?		System OK	
11	Repair the ground circuit for the interior courtesy lamp. Is the repair complete?		System OK	

Luggage Compartment Lamp Inoperative

CAUTION : Always make sure there is an electrical load, such as a lamp bulb, in any circuit between battery terminals. Do not make a short circuit between battery terminals with a jumper wire, or hazardous sparking will result.

The number below refers to Step 1 on the diagnostic table.

1. Bulb test. Clip one end of a jumper wire to the negative battery terminal. Clip the other end of the jumper wire onto one end of the bulb. Take the end of the bulb without the jumper attached and touch it to the positive battery terminal.

Step	Action	Value(s)	Yes	No
1	1. Remove the luggage compartment lamp bulb and inspect the filament. 2. If the filament is not broken, test the bulb using the vehicle's battery and a jumper wire. Does the bulb pass the visual and physical check?		Go toStep 3	Go toStep 2
2	Replace the bulb. Is the repair complete?		System OK	
3	1. Reinstall the luggage compartment lamp bulb. 2. Check fuse EF29. Is fuse EF29 blown?		Go toStep 4	Go toStep 5
4	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
5	Check the voltage at fuseEF29. Does the voltage at fuseEF29 equal the specified value?	11–14 v	Go toStep 7	Go toStep 6
6	Repair the open circuit between the battery and fuse EF29. Is the repair complete?		System OK	
7	1. Disconnect the luggage compartment lamp electrical connector. 2. Check the voltage at the ORN wire. Does the voltage at theORNwire equal the specified value?	11–14 v	Go toStep 8	Go toStep 9
8	Repair the open circuit between fuse EF29 and the luggage compartment lamp. Is the repair complete?		System OK	
9	1. Reconnect the luggage compartment lamp. 2. Remove the luggage compartment lamp switch. 3. With a voltmeter or test lamp, test the circuit wire, terminal 2, at the luggage compartment lamp switch. Does the voltage at the luggage compartment lamp switch equal the specified value?	11–14 v	Go toStep 11	Go toStep 10
10	Repair the open circuit between the luggage compartment lamp and the luggage compartment lamp switch. Is the repair complete?		System OK	
11	Use an ohmmeter to check the resistance between ground and the luggage compartment lamp switch. Is the resistance equal to the specified value?	0Ω	Go toStep 12	Go toStep 13

Step	Action	Value(s)	Yes	No
12	Replace the luggage compartment lamp switch. Is the repair complete?		System OK	
13	Repair the ground circuit for the luggage compartment lamp switch. Is the repair complete?		System OK	

Ignition Key Illumination Lamp Is Inoperative

There is a timer in the interior courtesy lamp that will only supply a ground to the key illumination lamp for a few seconds after a door is opened and closed.

Diagnostic Aids

In a vehicle equipped with a sunroof, the interior courtesy lamp is near the rearview mirror and also serves as a map lamp. In a non-sunroof vehicle, the interior courtesy lamp is in the roof in the middle of the passenger compartment. There are separate map lamps near the rearview mirror.

Test Description

The number below refers to Step 5 on the diagnostic table.

5. The resistance of the key illumination bulb and attached harness is approximately 14.1 ohms.

Step	Action	Value(s)	Yes	No
1	1. Set the switch on the courtesy lamp so that it comes on when a door is opened. 2. Check the function of the courtesy lamp. Is the courtesy lamp operating?		Go to Step 3	Go to Step 2
2	Repair the interior courtesy lamp system. Does the key illumination lamp function?		System OK	Go to Step 3
3	1. Remove the lower steering column cover to gain access to the connectors for the ignition switch. 2. Disconnect the connector to the key illumination lamp. 3. Check the voltage at terminal 1 of the key illumination lamp connector. Is the voltage equal to the specified value?	11–14 v	Go to Step 5	Go to Step 4
4	Repair the open circuit between fuse EF29 and the ignition key illumination lamp connector. Is the repair complete?		System OK	
5	1. Remove the key illumination lamp and the attached wires and connector. 2. Use a vehicle battery and jumper wires to directly power the illumination lamp through its attached connector and wires. Does the key illumination lamp turn on when it is directly connected to power and ground from a battery?		Go to Step 9	Go to Step 6
6	Check the key illumination lamp bulb. Is the bulb defective?		Go to Step 7	Go to Step 8
7	Replace the key illumination lamp bulb. Is the repair complete?		System OK	
8	Replace the lamp socket and the attached wires and connector. Is the repair complete?		System OK	
9	1. Remove the courtesy lamp. 2. Disconnect the electrical connector of the courtesy lamp. 3. Connect an ohmmeter between key illumination connector terminal 2 and the interior courtesy lamp connector terminal 6. Does the ohmmeter indicate the specified value?	~0Ω	Go to Step 11	Go to Step 10

Step	Action	Value(s)	Yes	No
10	Repair the open circuit between the key illumination connector and the courtesy lamp connector. Is the repair complete?		System OK	
11	Replace the courtesy lamp. Is the repair complete?		System OK	

Vanity Mirror Lighting Is Inoperative

Diagnostic Aids

If the vanity mirror lighting is working on one side of a mirror but not on the other side, check the lamp bulb. If the vanity mirror lighting is working on one side of the car but not on the other side, begin the diagnostic table at Step 3.

Test Description

The numbers below refer to steps on the diagnostic table.

1. In a vehicle equipped with a sunroof, the interior courtesy lamp is near the rearview mirror. It also serves as a map lamp. In a non-sunroof vehicle, the interior courtesy lamp is in the roof in the middle of the passenger compartment. There are separate map lamps near the rearview mirror. The vanity mirror lamps have the same fuse and ground as the courtesy lamp.
2. The resistance of a vanity mirror lamp bulb is about 4.2 ohms.

Step	Action	Value(s)	Yes	No
1	Check the operation of the courtesy lamp. Does the courtesy lamp operate?		Go to Step 3	Go to Step 2
2	Repair the interior courtesy lamp system before completing this diagnostic table. Does the key illumination lamp function after the courtesy lamp system has been repaired?		System OK	Go to Step 3
3	1. Remove the sun visor. 2. Check the voltage at terminal 1 of the wire harness connector for the vanity mirror. Does the voltmeter indicate the specified value?	11–14 v	Go to Step 5	Go to Step 4
4	Repair the open circuit between fuse EF29 and terminal 1 of the vanity mirror connector. Is the repair complete?		System OK	
5	Connect an ohmmeter between ground and terminal 2 of the vanity mirror connector. Does the ohmmeter indicate the specified value?	~0Ω	Go to Step 7	Go to Step 6
6	Repair the open circuit between terminal 2 of the vanity mirror connector and ground. Is the repair complete?		System OK	
7	Check the lamp bulbs. Are the lamp bulbs OK?		Go to Step 9	Go to Step 8
8	Replace any faulty lamp bulbs. Is the repair complete?		System OK	
9	Replace the sun visor. Is the repair complete?		System OK	

DOOR STEP LAMPS

Door Step Lamps Inoperative

CAUTION : Always make sure there is an electrical load, such as a lamp bulb, in any circuit between battery terminals. Do not make a short circuit between battery terminals with a jumper wire, or hazardous sparking will result.

1. Bulb test. Clip one end of a jumper wire to the negative battery terminal. Clip the other end of the jumper wire onto one end of the bulb. Take the end of the bulb without the jumper attached and touch it to the positive battery terminal.

Test Description

The number below refers to Step 1 on the diagnostic table.

Step	Action	Value(s)	Yes	No
1	1. Remove the door step lamp bulb and inspect the filament. 2. If the filament is not broken, test the bulb using the vehicle's battery and a jumper wire. Does the bulb pass the visual and physical check?		Go toStep 3	Go toStep 2
2	Replace the bulb. Is the repair complete?		System OK	
3	1. Reinstall the door step lamp bulb. 2. Check fuse EF29.		Go toStep 4	Go toStep 5
4	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
5	Check the voltage at fuse EF29. Does the voltage at fuse EF29 equal the specified value?	11–14 v	Go toStep 7	Go toStep 6
6	Repair the open circuit between the battery and fuse EF29. Is the repair complete?		System OK	
7	1. Disconnect the doorstep lamp electrical connector. 2. Check the voltage at terminal 20 of connectors C351 and C361. Does the voltage at terminal 20 of connectors C351 and C361 equal the specified value?	11–14 v	Go toStep 8	Go toStep 9
8	Repair the open circuit between fuse EF29 and the door step lamp. Is the repair complete?		System OK	
9	1. Reconnect the door step lamp. 2. Remove the front door switch. 3. With a voltmeter or test lamp, test the circuit wire, terminal D, at the front door switch. Does the voltage at the front door switch equal the specified value?	11–14 v	Go toStep 11	Go toStep 10
10	Repair the open circuit between the door step lamp and the front door switch. Is the repair complete?		System OK	
11	Use an ohmmeter to check the resistance between ground and the circuit wire at the front door switch connector on the harness side. Is the resistance equal to the specified value?	0Ω	Go toStep 12	Go toStep 13

Step	Action	Value(s)	Yes	No
12	Replace the front door switch. Is the repair complete?		System OK	
13	Repair the ground circuit for the front door switch. Is the repair complete?		System OK	

GLOVE BOX LAMP

Glove Box Lamp Inoperative

CAUTION : Always make sure there is an electrical load, such as a lamp bulb, in any circuit between battery terminals. Do not make a short circuit between battery terminals with a jumper wire, or hazardous sparking will result.

1. Bulb test. Clip one end of a jumper wire to the negative battery terminal. Clip the other end of the jumper wire onto one end of the bulb. Take the end of the bulb without the jumper attached and touch it to the positive battery terminal.

Test Description

The number below refers to Step 1 on the diagnostic table.

Step	Action	Value(s)	Yes	No
1	1. Remove the glove box lamp bulb and inspect the filament. 2. If the filament is not broken, test the bulb using the vehicle's battery and a jumper wire. Does the bulb pass the visual and physical check?		Go toStep 3	Go toStep 2
2	Replace the bulb. Is the repair complete?		System OK	
3	1. Reinstall the glove box lamp bulb. 2. Check fuse F8. Is fuse F8 blown?		Go toStep 4	Go toStep 5
4	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
5	Check the voltage at fuse F8. Does the voltage at fuse F8 equal the specified value?	11–14 v	Go toStep 7	Go toStep 6
6	Repair the open circuit between the battery and fuse F8. Is the repair complete?		System OK	
7	1. Disconnect the glove box lamp electrical connector. 2. Check the voltage at terminal 1 of the glove box lamp. Does the voltage at terminal 1 of the glove box lamp equal the specified value?	11–14 v	Go toStep 8	Go toStep 9
8	Repair the open circuit between fuse F8 and the glove box lamp. Is the repair complete?		System OK	

Step	Action	Value(s)	Yes	No
9	1. Connect the glove box lamp. 2. Remove the glove box lamp switch. 3. With a voltmeter or test lamp, test terminal 1 of the glove box lamp switch at the glove box switch. Does the voltage at terminal 1 of the glove box lamp switch equal the specified value?	11–14 v	Go to <i>Step 11</i>	Go to <i>Step 10</i>
10	Repair the open circuit between the glove box lamp and the glove box lamp switch. Is the repair complete?		System OK	
11	Use an ohmmeter to check the resistance between ground and terminal 2 of the glove box lamp switch connector on the harness side. Is the resistance equal to the specified value?	0Ω	Go to <i>Step 12</i>	Go to <i>Step 13</i>
12	Replace the glove box lamp switch. Is the repair complete?		System OK	
13	Repair the ground circuit for the glove box lamp switch. Is the repair complete?		System OK	

ASHTRAY LAMP

Notice : When probing a bulb socket with a voltmeter or a test lamp, do not allow the probe to touch both the positive and the negative contacts at the same time, which will blow a fuse.

Step	Action	Value(s)	Yes	No
1	Check fuses EF34 and EF20. Is either fuse EF34 or EF20 blown?		Go to <i>Step 2</i>	Go to <i>Step 3</i>
2	1. Check for a short circuit to EF34 and EF20 and repair if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
3	1. Turn the light switch on. 2. Remove the ashtray lamp from the socket. 3. Use a voltmeter to check battery voltage available at the ashtray lamp socket. Does the battery voltage match the value specified?		Go to <i>Step 5</i>	Go to <i>Step 4</i>
4	Repair the open circuit between the ashtray lamp socket and fuse EF20. Is the repair complete?		System OK	
5	1. Turn the light switch on. 2. Using an ohmmeter, check the ground circuit to the lamp socket. Does the resistance equal the value specified?	~0Ω	Go to <i>Step 7</i>	Go to <i>Step 6</i>
6	Repair the open ground circuit between the ashtray lamp socket and ground. Is the repair complete?		System OK	
7	Replace the ashtray lamp. Is the repair complete?		System OK	

CIGAR LIGHTER**Cigar Lighter Inoperative**

Step	Action	Value(s)	Yes	No
1	Check fuse F8. Is the fuse blown?		Go toStep 2	Go toStep 3
2	1. Check for a short circuit and repair it, if necessary. 2. Replace the fuse. Is the repair complete?		System OK	
3	1. Turn the ignition key to ACC. 2. Use a voltmeter to check for voltage at fuse F8. Does the battery voltage available at the fuse F8 match the value specified?	11–14 v	Go toStep 5	Go toStep 4
4	Repair the open power supply circuit for fuse F8. Is the repair complete?		System OK	
5	1. Remove the electrical connector from the back of the cigar lighter. 2. Turn the ignition key to ACC. 3. Use a voltmeter to check the voltage at terminal 1 of the cigar lighter. Does the battery voltage available at terminal 1 of the cigar lighter match the value specified?	11–14 v	Go toStep 7	Go toStep 6
6	Repair the open circuit between the fuse F8 and the cigar lighter. Is the repair complete?		System OK	
7	With the ignition key still in the ACC position, use an ohmmeter to check continuity between terminal 2 of the cigar lighter connector and ground. Does the battery voltage match the value specified?	11–14 v	Go toStep 9	Go toStep 8
8	Repair the open ground circuit. Is the repair complete?		System OK	
9	Replace the cigar lighter. Is the repair complete?		System OK	