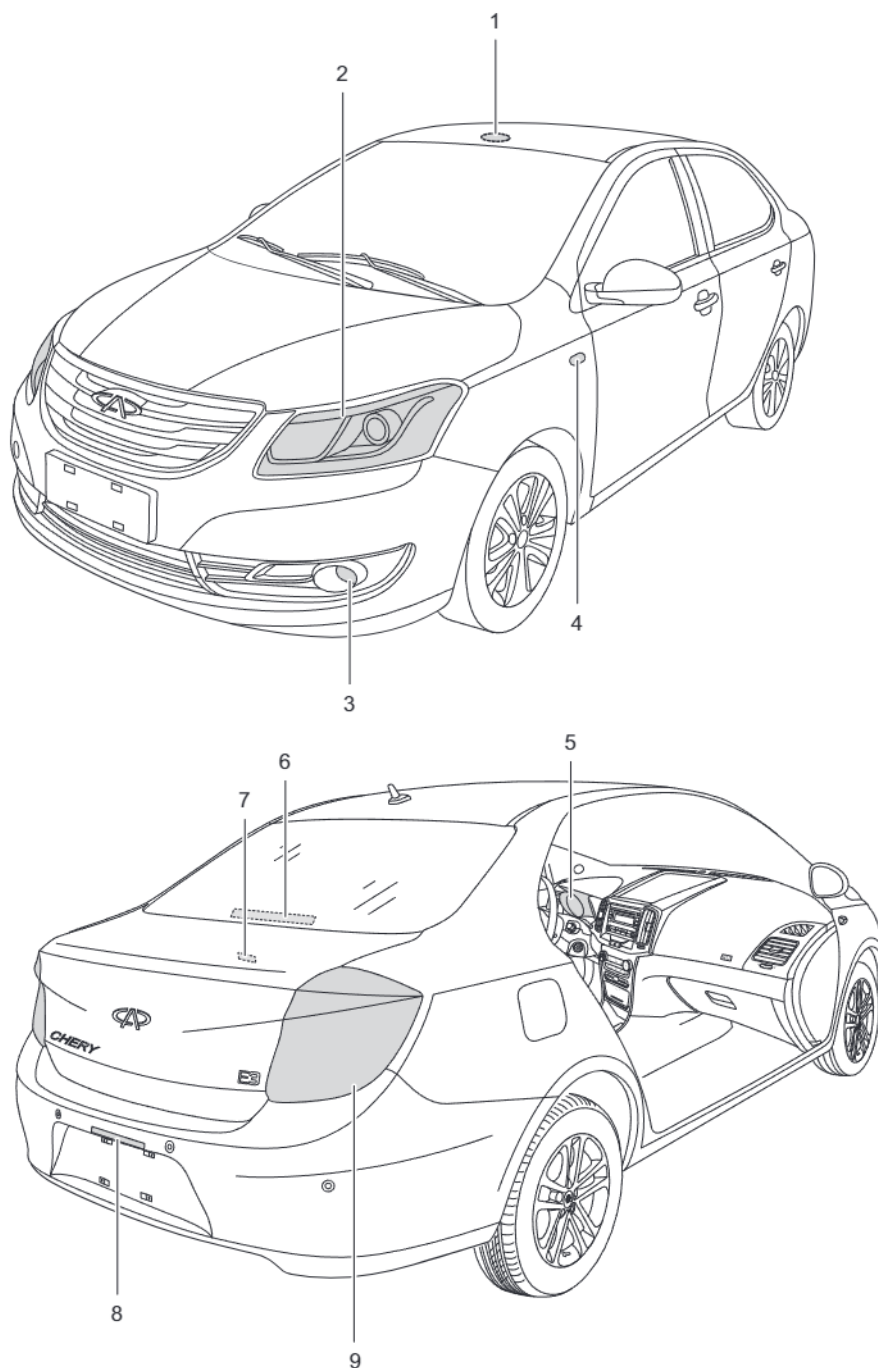


LIGHTING SYSTEM

GENERAL INFORMATION	33-3	Removal	33-61
Light Position Diagram	33-3	Inspection	33-62
System Assembly Diagram	33-5	Installation	33-64
Description	33-6	Headlight Leveling Switch	33-65
Specifications	33-6	Removal	33-65
Tools	33-7	Inspection	33-66
Circuit Diagram	33-8	Installation	33-66
DIAGNOSIS & TESTING	33-19	Front Combination Light	33-67
Problem Symptoms Table	33-19	Removal	33-67
High Beam Light/Low Beam Light/ Front Fog Light Relay Inspection	33-21	Installation	33-67
Intermittent DTC Troubleshooting	33-21	Adjustment	33-67
Ground Inspection	33-21	Rear Combination Light	33-71
Diagnostic Trouble Code Chart	33-22	Removal	33-71
System Diagnostic	33-22	Installation	33-71
Diagnosis Procedure	33-24	License Plate Light	33-72
B1001-18	33-26	Removal	33-72
B1001-19	33-26	Installation	33-72
B1002-18	33-26	Side Turn Signal Light	33-73
B1002-19	33-26	Removal	33-73
B1003-11	33-33	Installation	33-73
B1003-13	33-33	Front Fog Light	33-74
B1005-12	33-39	Removal	33-74
B1005-13	33-39	Installation	33-74
B1006-12	33-39	High Mounted Stop Light	33-75
B1006-13	33-39	Removal	33-75
B100A-12	33-43	Installation	33-75
B100A-13	33-43	Dome Light Assembly	33-76
B1007-12	33-47	Removal	33-76
B1007-13	33-47	Inspection	33-77
B1008-12	33-51	Installation	33-77
B1008-13	33-51	Back-up Light Switch	33-78
B103E-18	33-55	Removal	33-78
B103E-19	33-55	Inspection	33-78
B103F-18	33-58	Installation	33-79
B103F-19	33-58	Hazard Warning Light Switch	33-80
ON-VEHICLE SERVICE	33-61	Removal	33-80
Combination Switch	33-61	Inspection	33-80
		Installation	33-81

GENERAL INFORMATION

Light Position Diagram

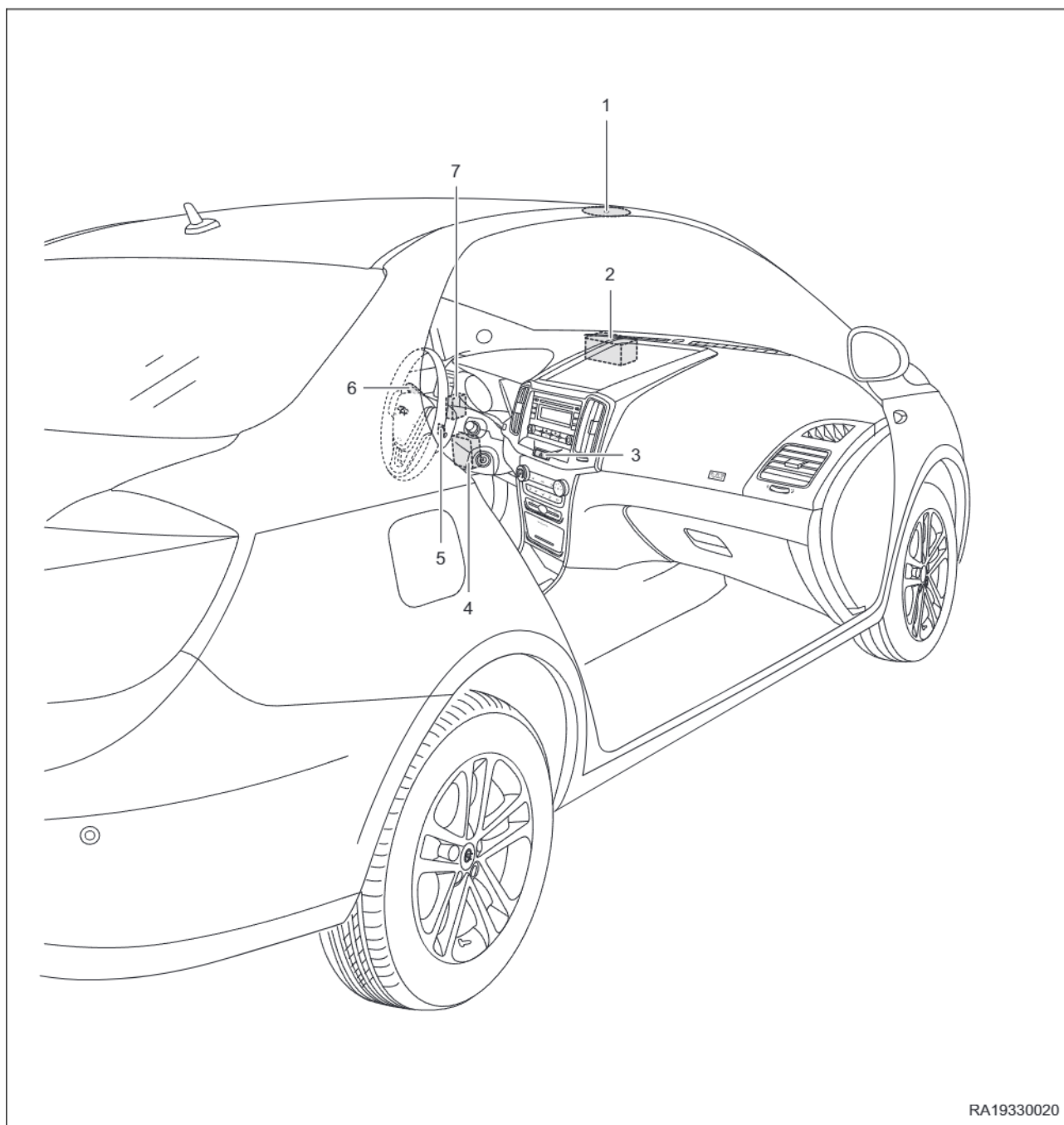


33

RA19330010

1 - Interior Front Dome Light	2 - Front Combination Light (Low Beam Light, High Beam Light, Position Light, Turn Signal Light)
3 - Front Fog Light	4 - Side Turn Signal Light
5 - Instrument Panel Backlight	6 - High Mounted Stop Light
7 - Luggage Compartment Light	8 - License Plate Light
9 - Rear Combination Light (Including Turn Signal Light, Position Light, Brake Light, Rear Fog Light, Back-up Light)	

System Assembly Diagram



33

1 - Interior Front Dome Light Switch	2 - Engine Compartment Fuse and Relay Block
3 - Hazard Warning Light Switch	4 - Body Control Module (BCM)
5 - Headlight Leveling Switch	6 - Combination Switch
7 - Instrument Panel Fuse and Relay Block	

Description

The lighting system on this model consists of vehicle lighting device and light signal device, which are used for normal operation of vehicle to ensure safety when driving at night or in fog.

The lighting system consists of front combination light (including low beam light, high beam light, position light, turn signal light), rear combination light (including turn signal light, position light, brake light, rear fog light, back-up light), license plate light, side turn signal light, high mounted stop light, interior front dome light and instrument panel backlight. The combination lights use semi-closed structure for easy inspection and repair.

Specifications

Bulb Specifications

Bulb Name	Nominal Light Source (Model/Type)
Headlight	H1
Front Position Light	LED
Front Turn Signal Light	HY21
Brake Light	LED
Rear Fog Light	P21W
License Plate Light	C5W
High Mounted Stop Light	LED
Rear Position Light	LED
Rear Turn Signal Light	PY21W
Back-up Light	P21W
Side Turn Signal Light	WY5W

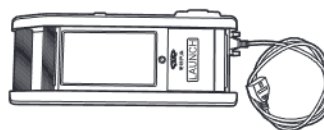
Torque Specifications

Description	Torque (N·m)
Front Combination Light Fixing Bolt	3.5 ± 0.5
Rear Combination Light Fixing Nut	3.5 ± 0.5
Dome Light Fixing Screw	2 ± 1
High Mounted Stop Light Fixing Screw	2 ± 1
Back-up Light Switch	25 ± 2

Tools

Special Tool

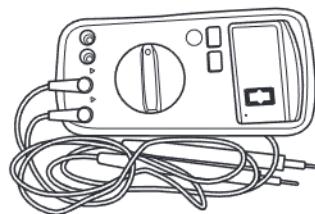
X-431 3G Diagnostic Tester



RCH0000001

General Tool

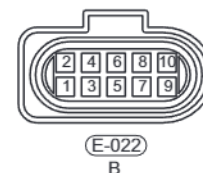
Digital Multimeter



RCH0000002

33

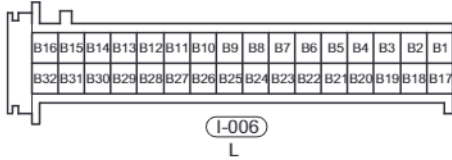
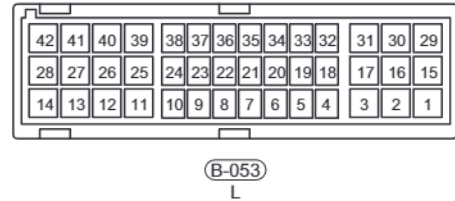
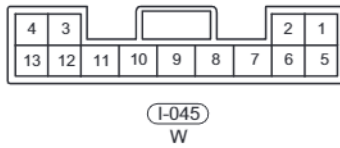
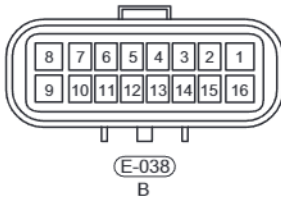
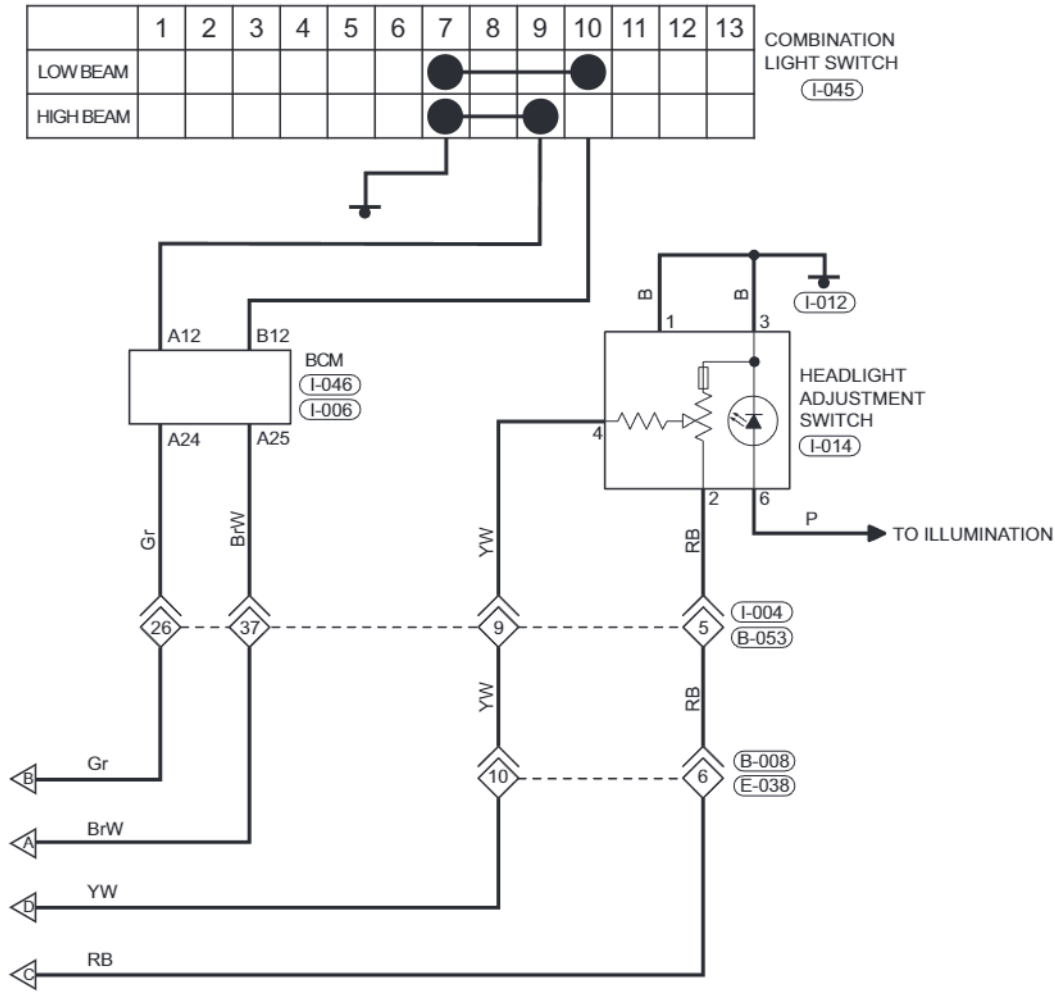
High/Low Beam Light (Page 1 of 2)



33-8



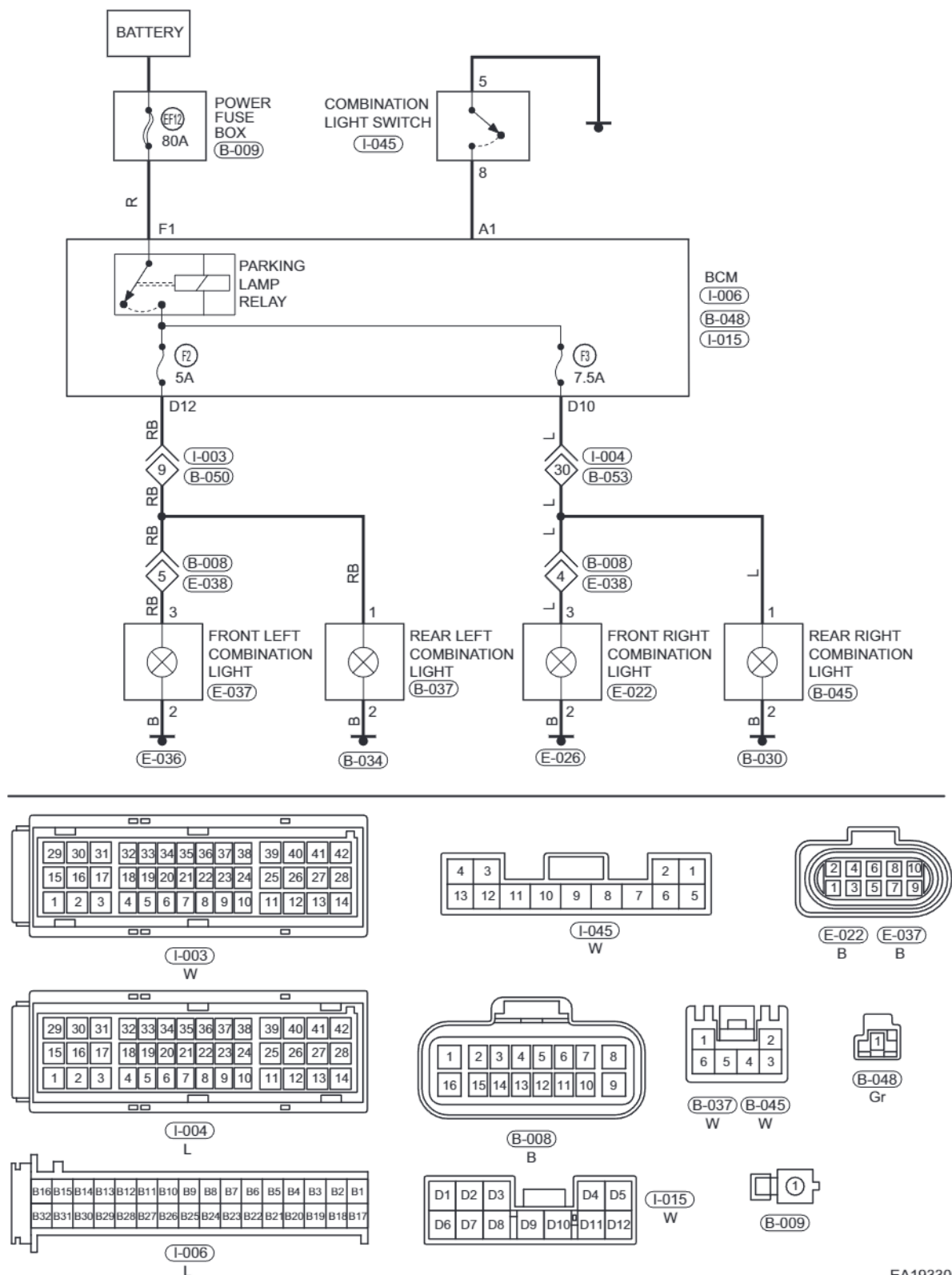
High/Low Beam Light (Page 2 of 2)



EA19330020

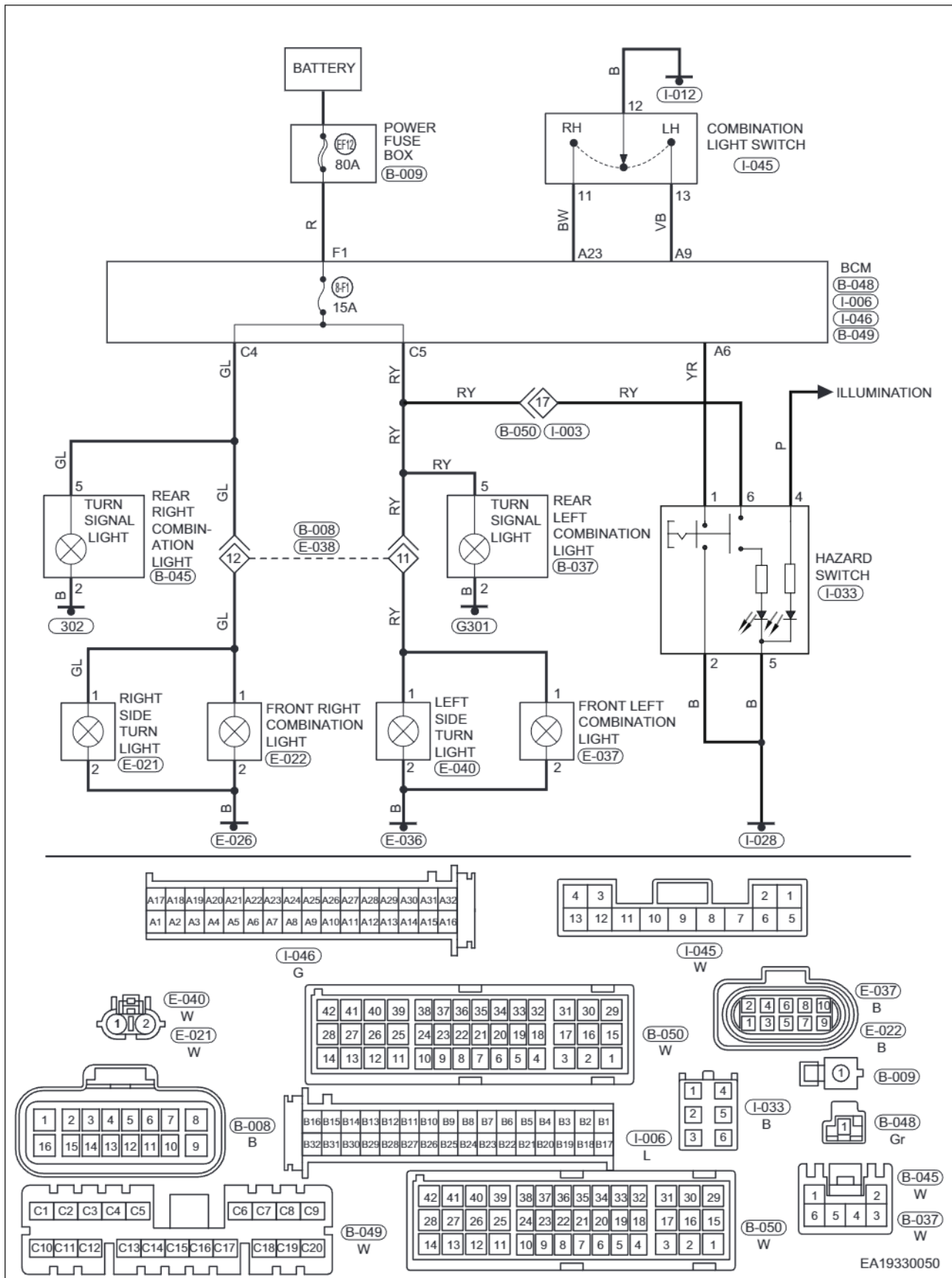
Position Light

33



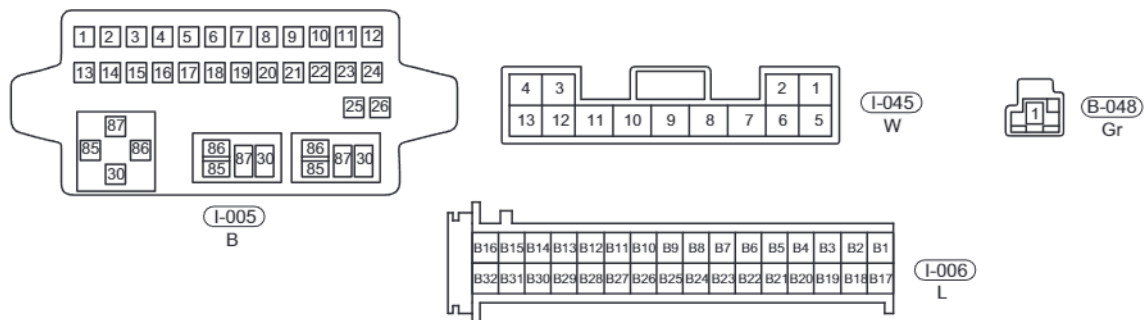
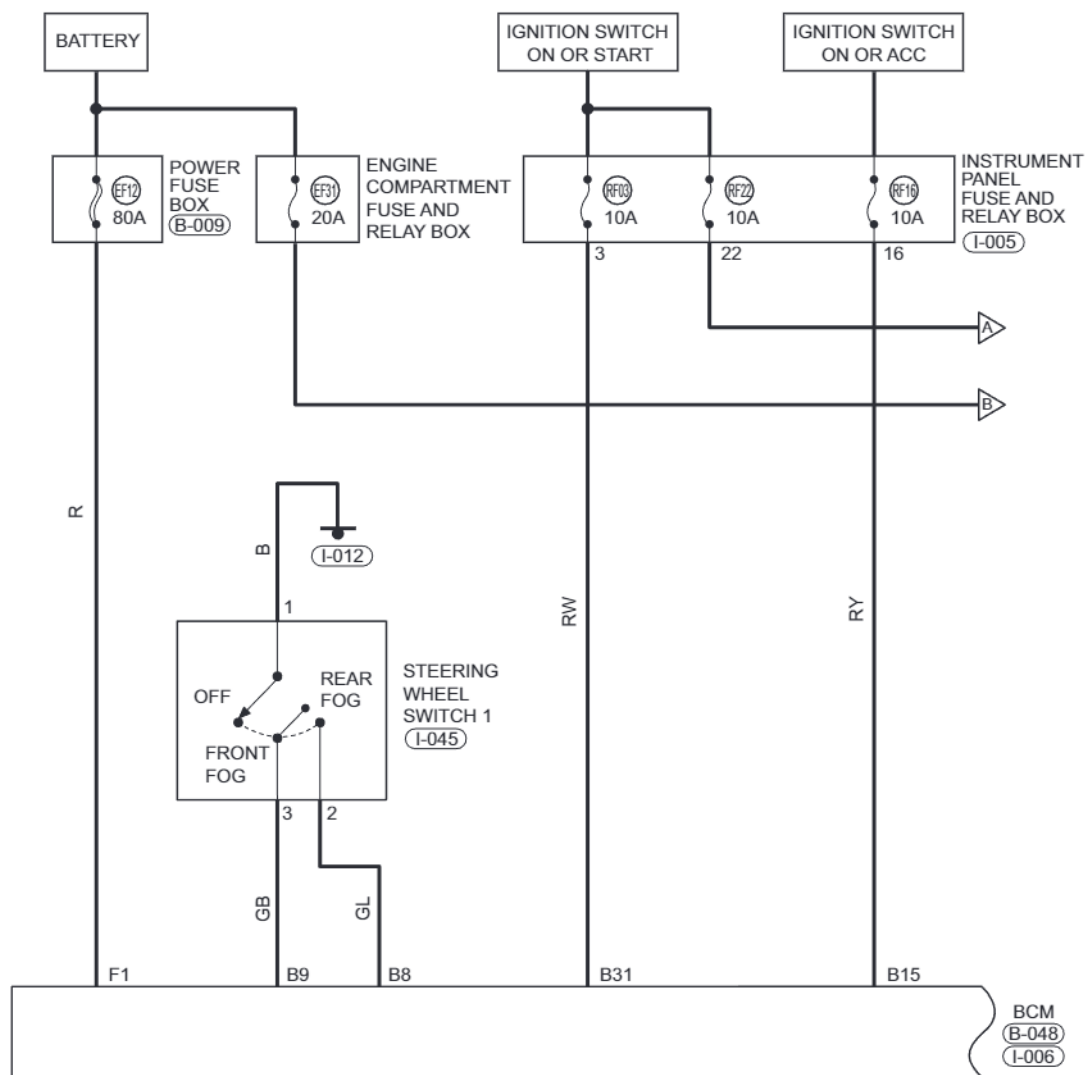
EA19330060

Turn Signal Light



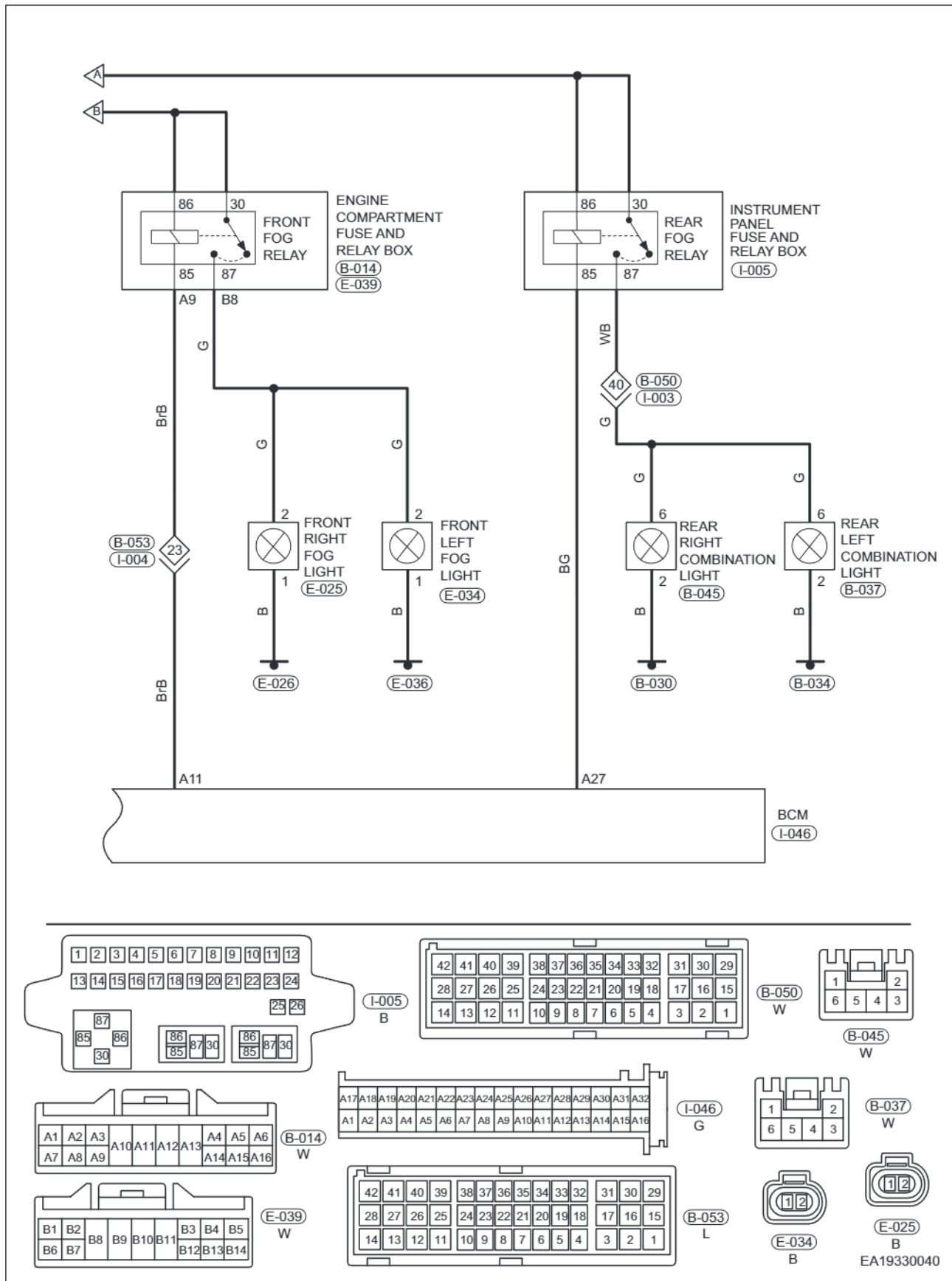
Fog Light (Page 1 of 2)

33



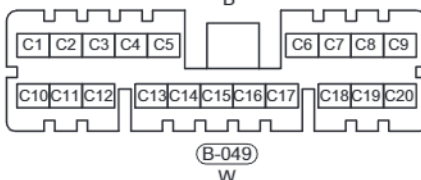
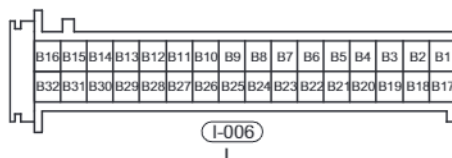
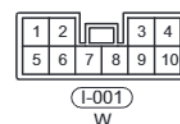
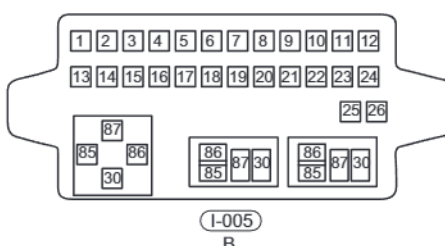
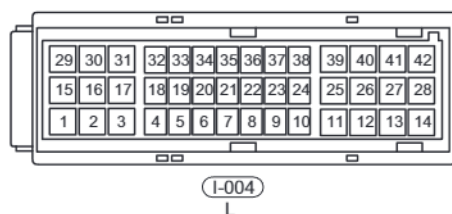
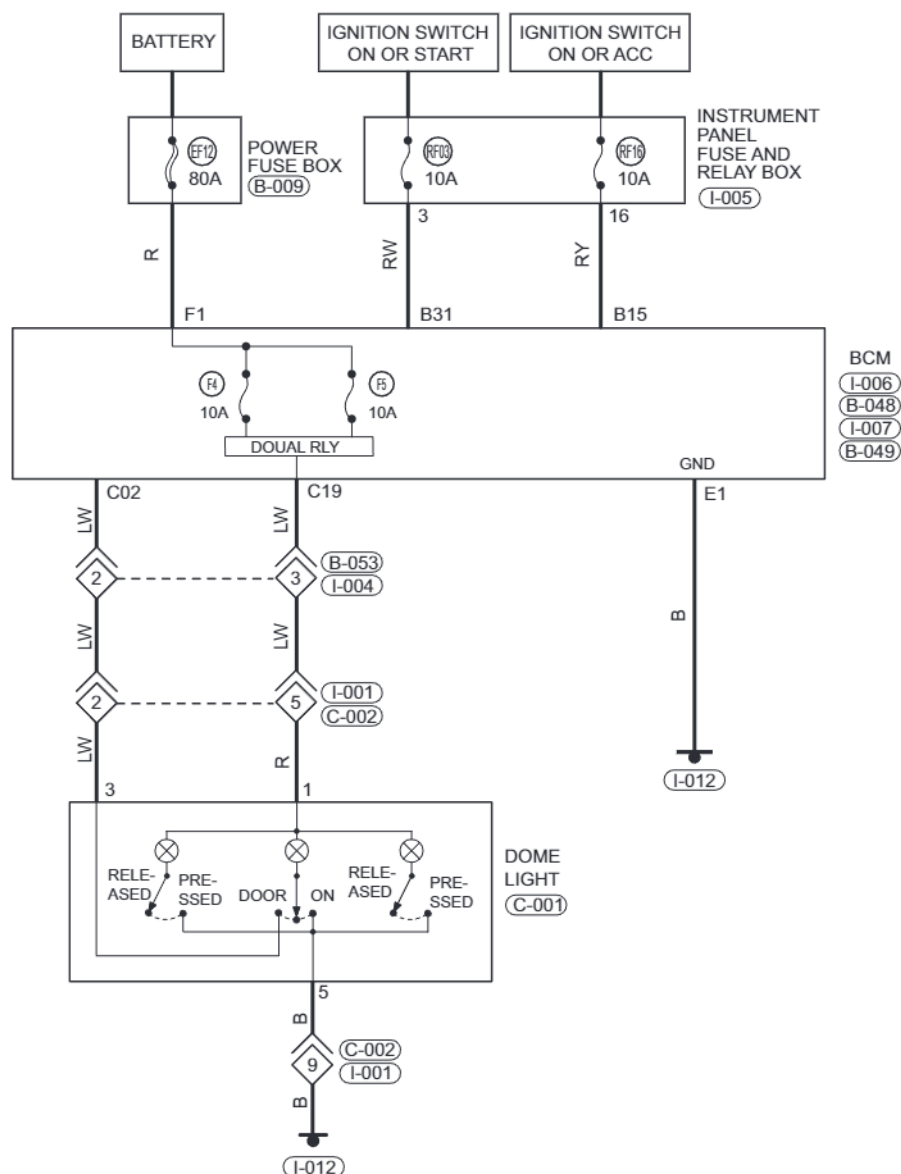
EA19330030

Fog Light (Page 2 of 2)



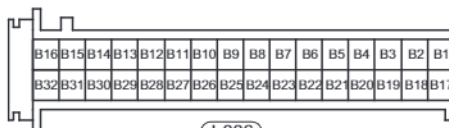
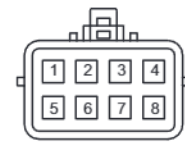
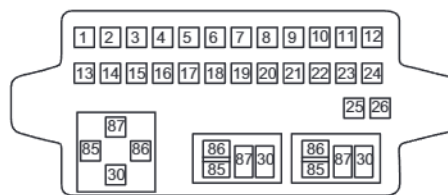
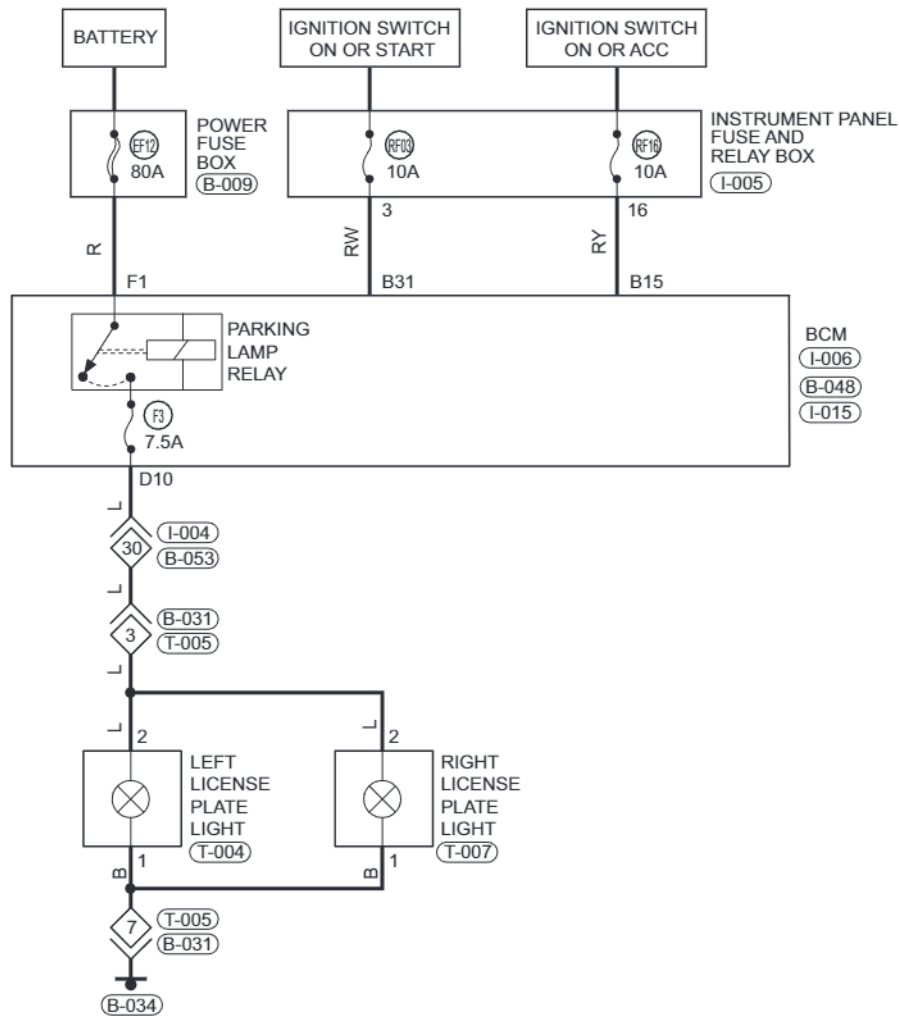
Interior Light

33



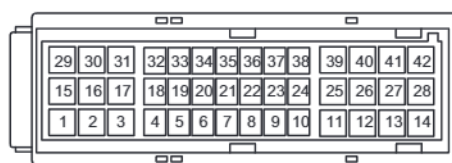
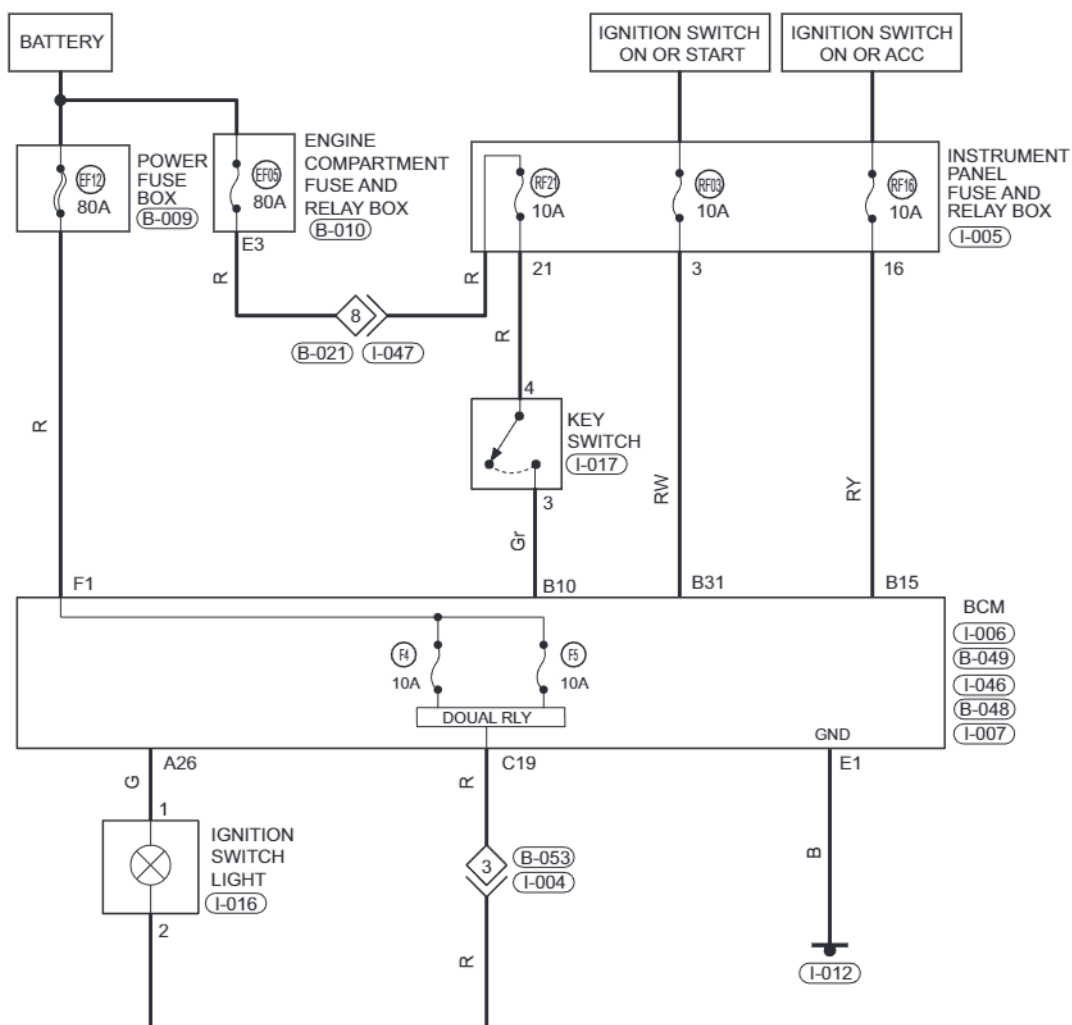
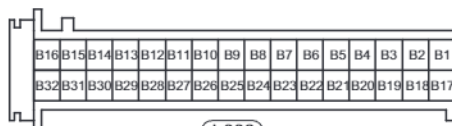
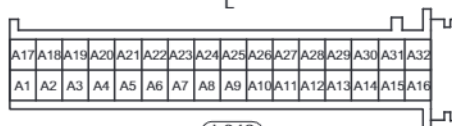
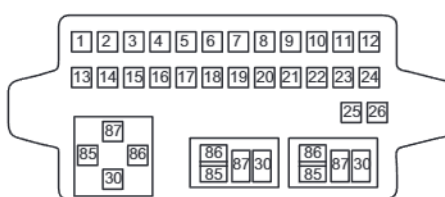
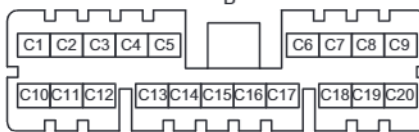
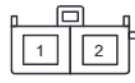
EA19330100

License Plate Light



EA19330070

Ignition Illumination

I-004
LI-006
LI-046
GI-005
BB-049
WI-016
WI-017
WI-007
BB-010
WB-021
W

B-009

B-048
Gr

I-012

I-004

I-005

I-006

I-007

I-008

I-009

I-010

I-011

I-012

I-013

I-014

I-015

I-016

I-017

I-018

I-019

I-020

I-021

I-022

I-023

I-024

I-025

I-026

I-027

I-028

I-029

I-030

I-031

I-032

I-033

I-034

I-035

I-036

I-037

I-038

I-039

I-040

I-041

I-042

I-043

I-044

I-045

I-046

I-047

I-048

I-049

I-050

I-051

I-052

I-053

I-054

I-055

I-056

I-057

I-058

I-059

I-060

I-061

I-062

I-063

I-064

I-065

I-066

I-067

I-068

I-069

I-070

I-071

I-072

I-073

I-074

I-075

I-076

I-077

I-078

I-079

I-080

I-081

I-082

I-083

I-084

I-085

I-086

I-087

I-088

I-089

I-090

I-091

I-092

I-093

I-094

I-095

I-096

I-097

I-098

I-099

I-100

I-101

I-102

I-103

I-104

I-105

I-106

I-107

I-108

I-109

I-110

I-111

I-112

I-113

I-114

I-115

I-116

I-117

I-118

I-119

I-120

I-121

I-122

I-123

I-124

I-125

I-126

I-127

I-128

I-129

I-130

I-131

I-132

I-133

I-134

I-135

I-136

I-137

I-138

I-139

I-140

I-141

I-142

I-143

I-144

I-145

I-146

I-147

I-148

I-149

I-150

I-151

I-152

I-153

I-154

I-155

I-156

I-157

I-158

I-159

I-160

I-161

I-162

I-163

I-164

I-165

I-166

I-167

I-168

I-169

I-170

I-171

I-172

I-173

I-174

I-175

I-176

I-177

I-178

I-179

I-180

I-181

I-182

I-183

I-184

I-185

I-186

I-187

I-188

I-189

I-190

I-191

I-192

I-193

I-194

I-195

I-196

I-197

I-198

I-199

I-200

I-201

I-202

I-203

I-204

I-205

I-206

I-207

I-208

I-209

I-210

I-211

I-212

I-213

I-214

I-215

I-216

I-217

I-218

I-219

I-220

I-221

I-222

I-223

I-224

I-225

I-226

I-227

I-228

I-229

I-230

I-231

I-232

I-233

I-234

I-235

I-236

I-237

I-238

I-239

I-240

I-241

I-242

I-243

I-244

I-245

I-246

I-247

I-248

I-249

I-250

I-251

I-252

I-253

I-254

I-255

I-256

I-257

I-258

I-259

I-260

I-261

I-262

I-263

I-264

I-265

I-266

I-267

I-268

I-269

I-270

I-271

I-272

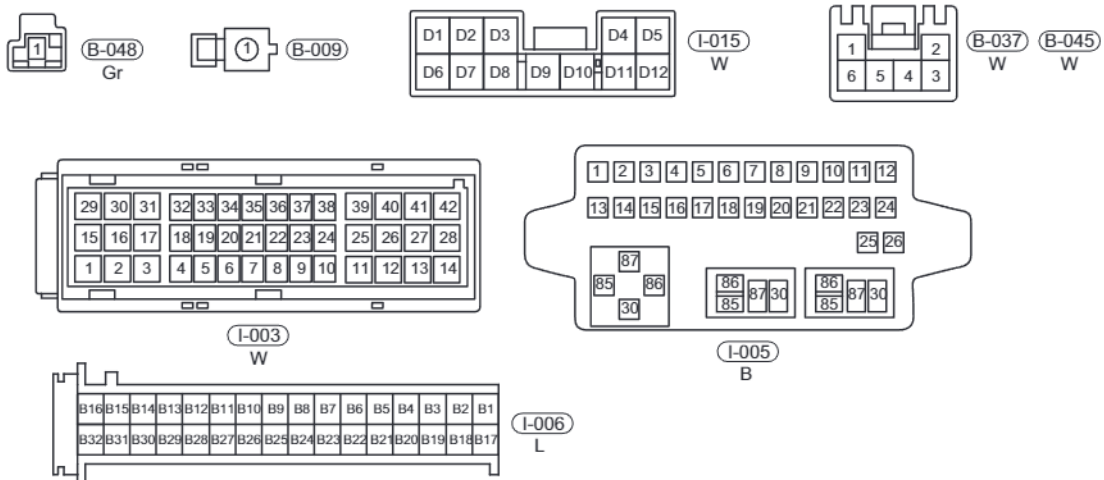
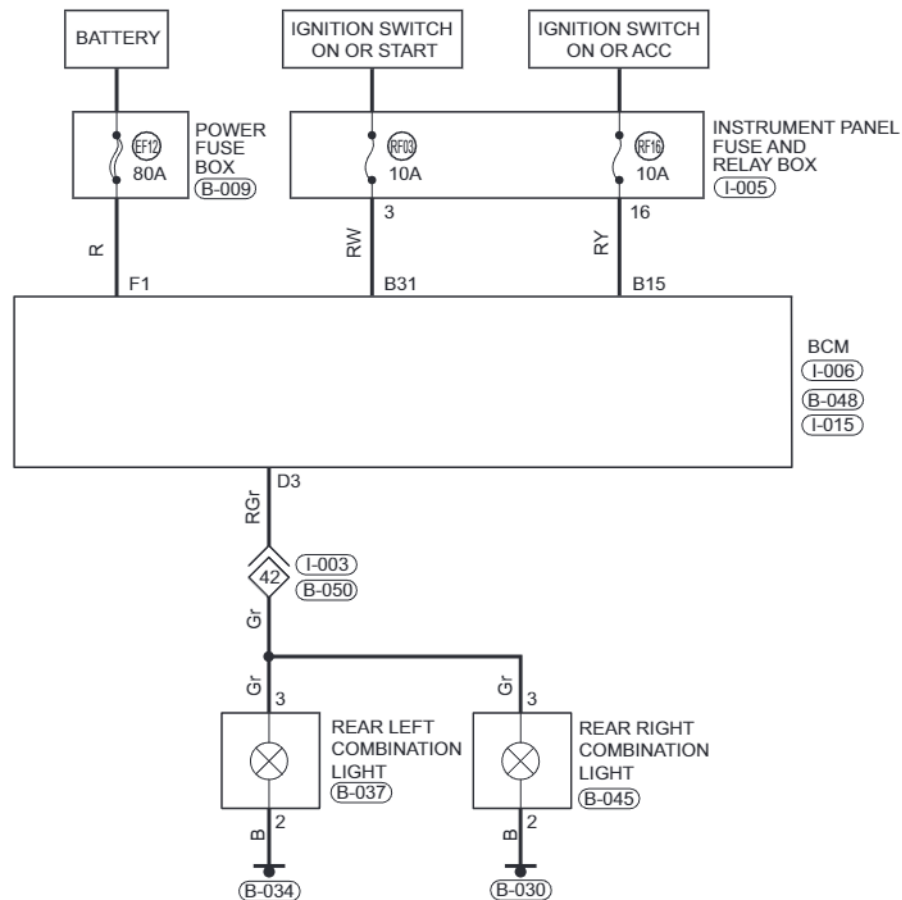
I-273

I-274

I-275

Back-up Light

33

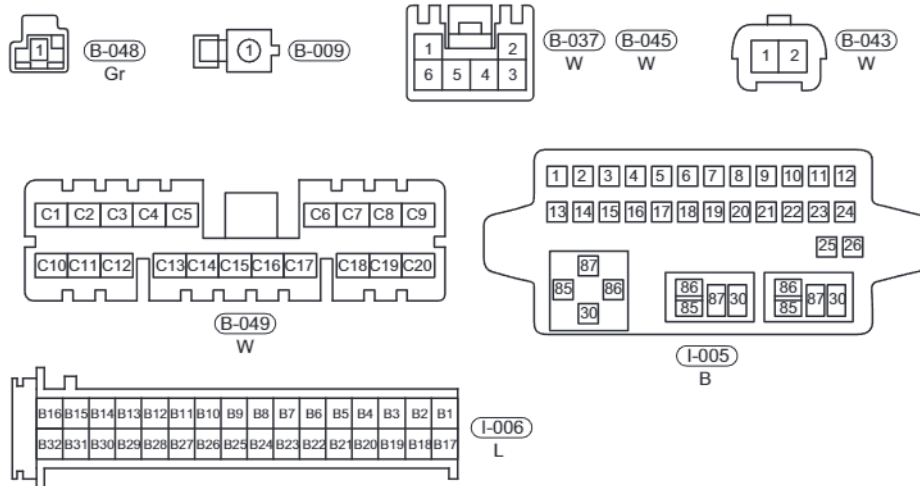
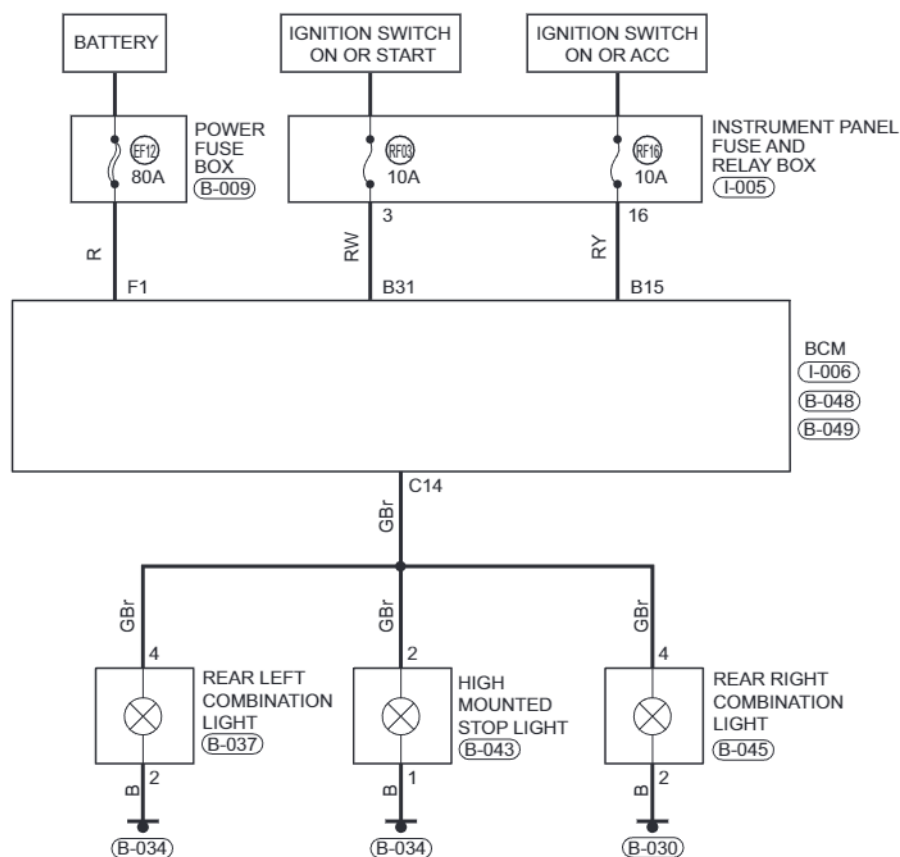


EA19330080



Brake Light

33



EA19330090

DIAGNOSIS & TESTING

Problem Symptoms Table

HINT:

Use the table below to help determine the cause of problem symptoms. Check each suspected area in sequence. Repair or replace the faulty components, or adjust them as necessary.

Position Light, Low Beam Light, High Beam Light

Symptom	Suspected Area	See page
"Low beam" does not come on (one side)	Fuse	49-27
	Low beam bulb	-
	Wire harness or connector	-
"Low beam" does not come on (both sides)	Fuse	49-27
	Low beam bulb	-
	Combination switch	33-61
	Low beam relay	33-21
	Wire harness	-
	Body Control Module (BCM)	-
"High beam" does not come on (one side)	Bulb	-
	Fuse	49-27
	Wire harness or connector	-
"High beam" does not come on (both sides)	Bulb	-
	Fuse	49-27
	Combination switch	33-61
	High beam relay	33-21
	Wire harness	-
	Body Control Module (BCM)	-
Position light does not come on (both sides)	Fuse	49-29
	Position light bulb (both sides)	-
	Wire harness or connector	-
	Combination switch	33-61
	Body Control Module (BCM)	-
Position light does not come on (one side)	Fuse	49-29
	Position light bulb	-
	Wire harness or connector	-

Rear Fog Light

Symptom	Possible Cause	See page
Rear fog light does not come on	Fuse	49-28
	Rear fog light bulb	-
	Combination switch	33-61
	Wire harness or connector	-
	Body Control Module (BCM)	-

Turn Signal Light and Hazard Warning Light**33**

Symptom	Possible Cause	See page
Hazard warning light and turn signal light do not come on	Bulb	-
	Wire harness or connector	-
	Hazard warning light switch	33-80
	Combination switch	33-61
Hazard warning light does not come on (turn signal light is normal)	Hazard warning light switch	33-80
	Wire harness or connector	-
Turn signal light does not come on (hazard warning light is normal)	Combination switch	33-61
	Wire harness or connector	-

Brake Light

Symptom	Possible Cause	See page
Brake light does not come on (all)	Bulb	-
	Brake light switch	25-22
	Wire harness or connector	-
Only one brake light does not come on	Bulb	-
	Wire harness or connector	-

Interior Front Dome Light (w/Map Light)

Symptom	Possible Cause	See page
Dome light does not come on	Dome light bulb	-
	Wire harness or connector	-
	Fuse	49-29
	Dome light assembly	33-76
	Body Control Module (BCM)	-

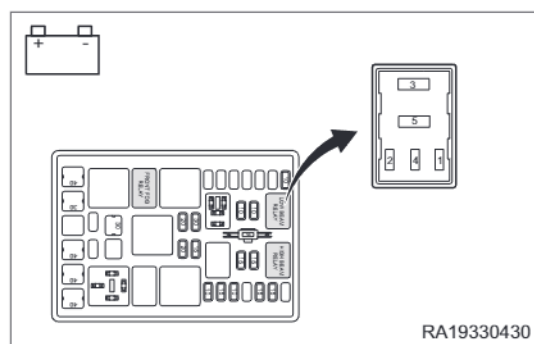
Back-up Light

Symptom	Possible Cause	See page
Back-up light does not come on (all)	Back-up light bulb	-
	Back-up light switch	33-78
	Wire harness or connector	-

High Beam Light/Low Beam Light/Front Fog Light Relay Inspection

1. Remove the integration relay from the engine compartment fuse and relay box.
2. Measure the resistance according to the table below.

Multimeter Connection	Measurement Condition	Specified Condition
Terminal 3 - Terminal 5	When battery voltage is not applied between terminal 2 and terminal 1	No continuity
Terminal 3 - Terminal 5	When battery voltage is applied between terminal 2 and terminal 1	Continuity



If the result is not as specified, replace the integration relay.

Intermittent DTC Troubleshooting

If the malfunction is intermittent, perform the followings:

- Check if the connectors are loose.
- Check if the wire harnesses are worn, pierced, pinched or partially broken.
- Wiggle the related wire harness and connector and observe if the signal is interrupt in the related circuit during testing.
- If possible, try to duplicate the conditions under which the DTC was set.
- Look for the data that has changed or the DTC to reset during the wiggle test.
- Look for broken, bent, protruded or corroded terminals.
- Check the installation of components such as the combination switch and each light assembly for damage, foreign matter, etc. that will cause incorrect signals.

Ground Inspection

A good connection to the ground is necessary to ensure the circuits operate normally. If the ground point in circuit is usually exposed to a corrosive environment where it is wet and full of dust, the metal corrosion will affect the continuity of circuit, resulting in various electrical system malfunctions.

As the control circuit is very sensitive, a loose or corroded line can affect the transmission of various signals in the electronically controlled circuit seriously. Perform the followings when checking the ground connection:

1. Remove the ground nut.
2. Check all the matching surfaces for tarnish, dirt, rust, etc.
3. Clean as necessary to ensure that the contacting is in a good condition.
4. Reinstall the ground nut securely.
5. Check if the add-on accessories interfere with the ground circuit.

6. If several wire harnesses are crimped into one ground eyelet terminal, check if the wire harnesses are installed correctly. Make sure all the wire harnesses are clean, securely fastened and providing a good ground path.

Diagnostic Trouble Code Chart

B1001-18	Left Turn Lights Control Circuit Current Below Threshold
B1001-19	Left Turn Lights Control Circuit Current Above Threshold
B1002-18	Right Turn Lights Control Circuit Current Below Threshold
B1002-19	Right Turn Lights Control Circuit Current Above Threshold
B1003-11	Park Light Control Circuit Short to Ground
B1003-13	Park Light Control Circuit Open
B1005-12	Low Beam Control Circuit Short to Battery
B1005-13	Low Beam Control Circuit Open
B1006-12	High Beam Control Circuit Short to Battery
B1006-13	High Beam Control Circuit Open
B1007-12	Front Fog Control Circuit Short to Battery
B1007-13	Front Fog Control Circuit Open
B1008-12	Rear Fog Control Circuit Short to Battery
B1008-13	Rear Fog Control Circuit Open
B100A-12	Dome Lights Control Circuit Short to Battery
B100A-13	Dome Lights Control Circuit Open
B103E-18	Brake Light Control Circuit Current Below Threshold
B103E-19	Brake Light Control Circuit Current Above Threshold
B103F-18	Reverse Light Control Circuit Current Below Threshold
B103F-19	Reverse Light Control Circuit Current Above Threshold

System Diagnostic

- Description
 - Lighting system data and Diagnostic Trouble Codes (DTCs) can be read from the Data Link Connector (DLC) of vehicle. When the system seems to be malfunctioning, use the intelligent tester to check for malfunctions and repair.
- Check the battery voltage.
Standard voltage:
11 to 14 V
If the voltage is below 11 V, replace or recharge the battery before proceeding to the next step.

DTC Check/Clear

- Check the DTCs.
 - Connect the intelligent tester to the DLC.
 - Turn the ignition switch to ON (IG) and turn the intelligent tester on.
 - Select the following menu items to read the current malfunctions: A19/BCM/Read fault code/Read present fault code.
 - Read the DTCs by following the prompts on the tester screen.

2. Clear the DTCs.
 - a. Connect the intelligent tester to the DLC3.
 - b. Turn the ignition switch to ON (IG) and turn the intelligent tester on.
 - c. Select the following menu items: A19/BCM/Erase fault code.
 - d. Clear the DTCs by following the directions on the tester screen.

Data List/Active Test

1. Read the Data List.

HINT:

Using the intelligent tester Data List to perform Active Tests allows the values or states of item to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent problems or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

CAUTION

- In the table below, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

- a. Connect the intelligent tester to the DLC3.
- b. Turn the ignition switch to ON (IG) and turn the intelligent tester on.
- c. Select the following menu items: A19/BCM/Read datastream/Input status (Light).
- d. Read the Data List according to the display on the tester.

Tester Display	Measurement Item/Range	Normal Condition
Left Hand Turn Light	Left turn signal On or Off	Left turn signal On: Active Left turn signal Off: Inactive
Right Hand Turn Light	Right turn signal On or Off	Right turn signal On: Active Right turn signal Off: Inactive
Front Fog Light	Front fog light signal On or Off	Front fog light signal On: Active Front fog light signal Off: Inactive
Rear Fog Light	Rear fog light signal On or Off	Rear fog light signal On: Active Rear fog light signal Off: Inactive
Position Light	Position light signal On or Off	Position light signal On: Active Position light signal Off: Inactive
Low Beam	Low beam light signal On or Off	Low beam light signal On: Active Low beam light signal Off: Inactive
High Beam	High beam light signal On or Off	High beam light signal On: Active High beam light signal Off: Inactive

2. Perform the Active Test.

HINT:

Using the intelligent tester to perform Active Tests allows items to be tested without removing any parts. This non-intrusive functional inspection can be very useful because intermittent problems may be discovered before parts or wiring is disturbed. Perform the Active Test early in troubleshooting is one way to save diagnostic time. The Data List information can be displayed when performing the Active Test.

- Connect the intelligent tester to the DLC3.
- Turn the ignition switch to ON (IG) and turn the intelligent tester on.
- Select the following menu items: A19/BCM/Action Test.
- Perform the Active Test according to the tester display.

Test Part	Control Range
Left Hand Turn Light	Active/Inactive
Right Hand Turn Light	Active/Inactive
Position Light	Active/Inactive
Low Beam	Active/Inactive
High Beam	Active/Inactive
Front Fog Light	Active/Inactive
Rear Fog Light	Active/Inactive
Dome Lamp	Active/Inactive
Security Indicator	Active/Inactive

33

Diagnosis Procedure

HINT:

Perform troubleshooting according to the procedures below.

1 Vehicle brought to workshop

NEXT

2 Check battery voltage

Standard voltage: 11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding to next step.

NEXT

3 Check for DTCs (current DTC and history DTC)

DTC
occurs

For current DTC, go to step 4

No
DTC

For history DTC, go to step 5

4	Diagnostic Trouble Code (DTC) chart
---	-------------------------------------

NEXT

5	Circuit inspection
---	--------------------

NEXT

6	Repair or replace
---	-------------------

NEXT

7	Clear DTCs (current DTC and history DTC)
---	--

NEXT

8	Check for DTCs (current DTC and history DTC)
---	--

DTC output

Go to step 4

NO DTC output

Go to the next step

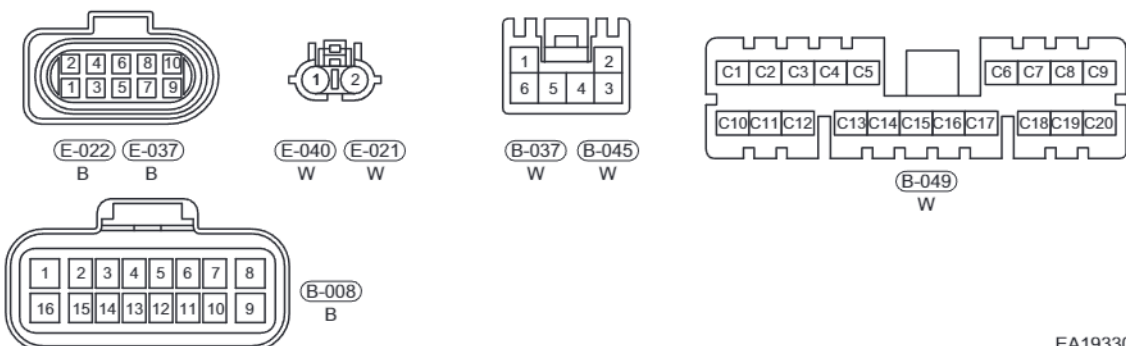
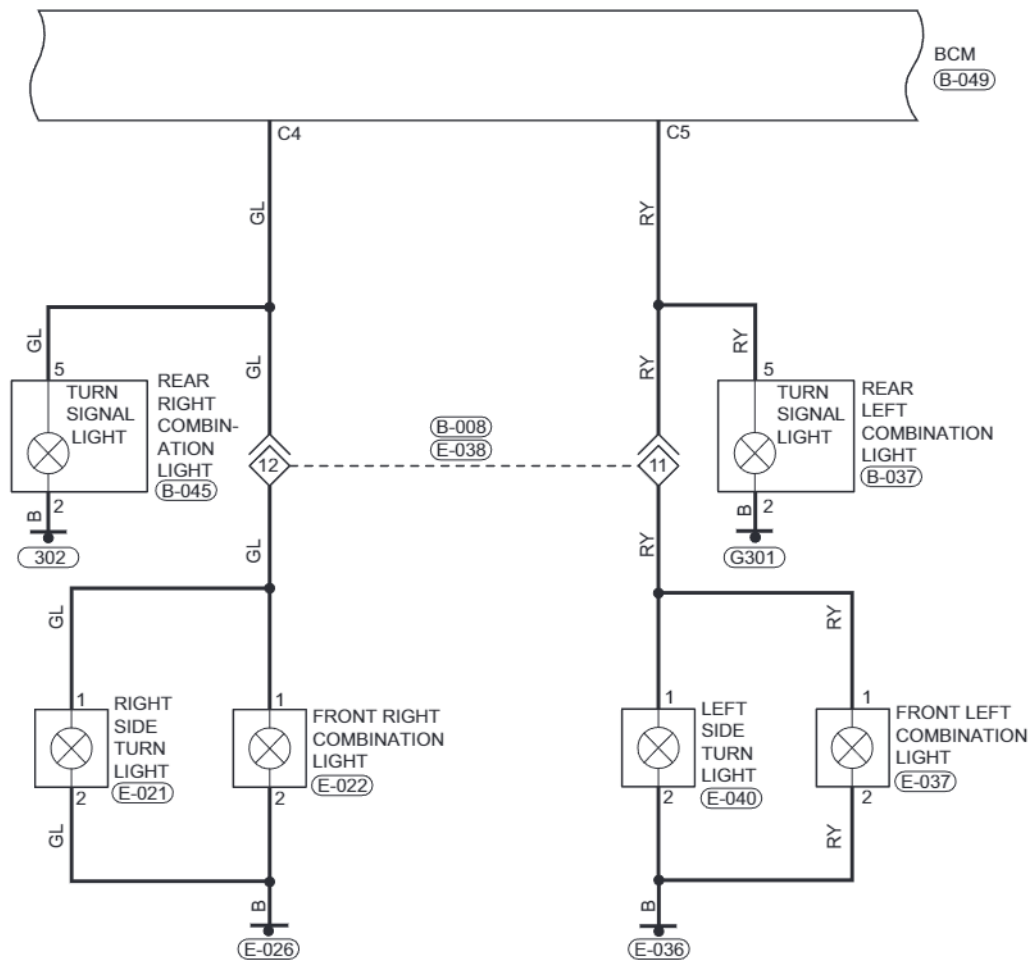
9	Confirmation test
---	-------------------

NEXT

10	End
----	-----

33

DTC	B1001-18	Left Turn Lights Control Circuit Current Below Threshold
DTC	B1001-19	Left Turn Lights Control Circuit Current Above Threshold
DTC	B1002-18	Right Turn Lights Control Circuit Current Below Threshold
DTC	B1002-19	Right Turn Lights Control Circuit Current Above Threshold



EA19330850

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1001-18	Left Turn Lights Control Circuit Current Below Threshold	Ignition switch ON	- Bulb - Wire harness or connector - BCM
B1001-19	Left Turn Lights Control Circuit Current Above Threshold		
B1002-18	Right Turn Lights Control Circuit Current Below Threshold		
B1002-19	Right Turn Lights Control Circuit Current Above Threshold		

1 Check turn signal light bulb

- a. Remove the turn signal light bulb, and check if the turn signal light bulb filament is blown.

NG

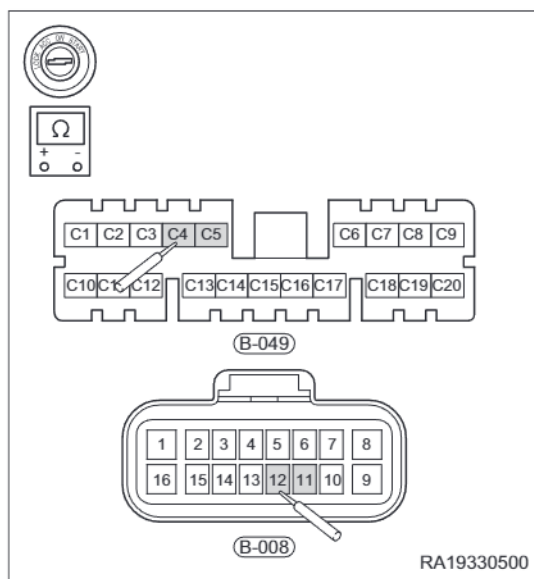
Replace turn signal light bulb

OK

2 Check interior wire harness

- a. Turn the ignition switch off.
 b. Disconnect the negative battery cable.
 c. Disconnect the BCM connector B-049 and interior wire harness connector B-008.
 d. Check for continuity between the terminals C4 and C5 of BCM connector B-049 and the terminals 12 and 11 of interior wire harness connector B-008 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-049 (C4) - B-008 (12)	Always	Continuity
B-049 (C5) - B-008 (11)	Always	Continuity

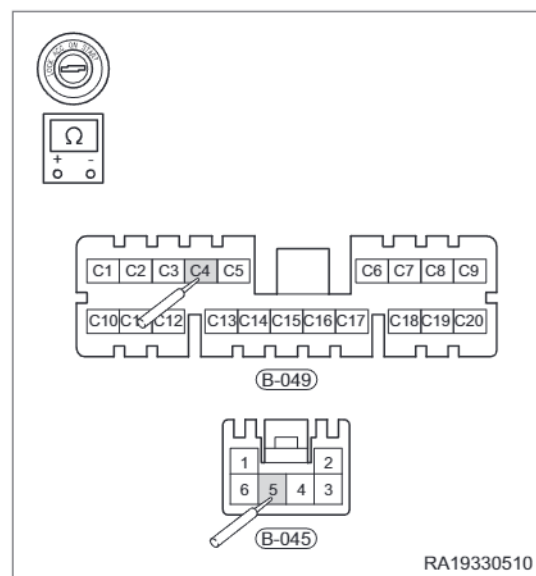


- e. Disconnect the BCM connector B-049 and interior wire harness connectors B-045 and B-037.
- f. Check for continuity between the terminal C4 of BCM connector B-049 and the terminal 5 of interior wire harness connector B-045, and between the terminal C5 of BCM connector B-049 and the terminal 5 of interior wire harness connector B-037 according to the table below.

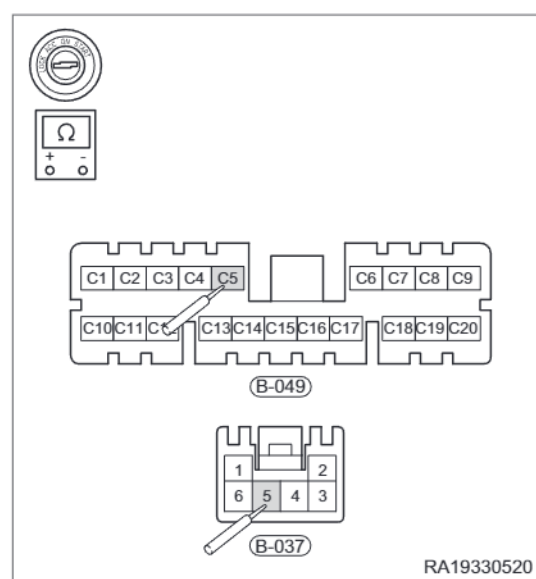
Multimeter Connection	Condition	Specified Condition
B-049 (C4) - B-045 (5)	Always	Continuity
B-049 (C5) - B-037 (5)	Always	Continuity

NG

Replace interior wire harness



33



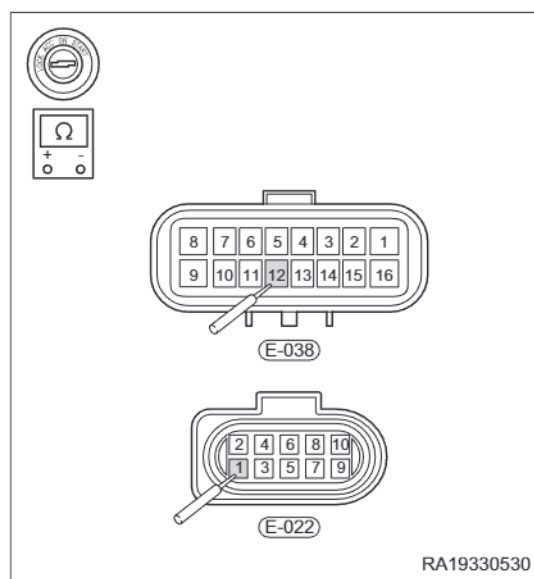
OK

3

Check engine compartment wire harness

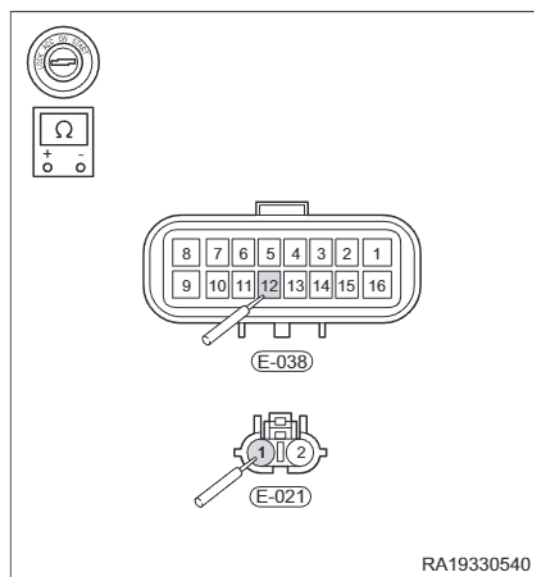
- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the engine compartment wire harness connectors E-038, E-022, E-040, E-021 and E-037.
- Check for continuity between the terminal 12 of engine compartment wire harness connector E-038 and the terminal 1 of engine compartment wire harness connector E-022 according to the table below.

Multimeter Connection	Condition	Specified Condition
E-038 (12) - E-022 (1)	Always	Continuity



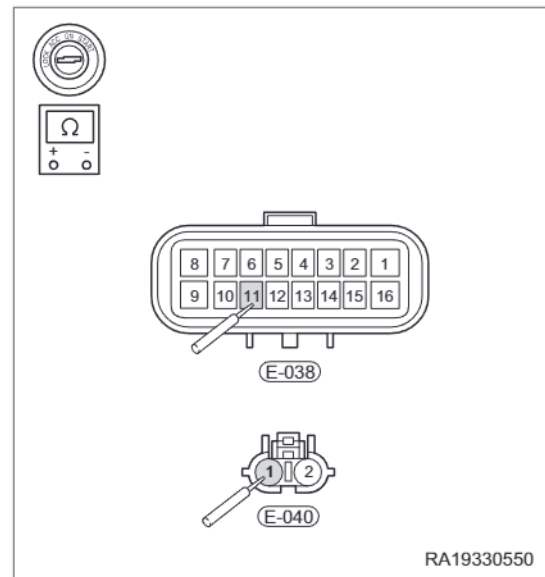
- Check for continuity between the terminal 12 of engine compartment wire harness connector E-038 and the terminal 1 of engine compartment wire harness connector E-021 according to the table below.

Multimeter Connection	Condition	Specified Condition
E-038 (12) - E-021 (1)	Always	Continuity



- f. Check for continuity between the terminal 11 of engine compartment wire harness connector E-038 and the terminal 1 of engine compartment wire harness connector E-040 according to the table below.

Multimeter Connection	Condition	Specified Condition
E-038 (11) - E-040 (1)	Always	Continuity



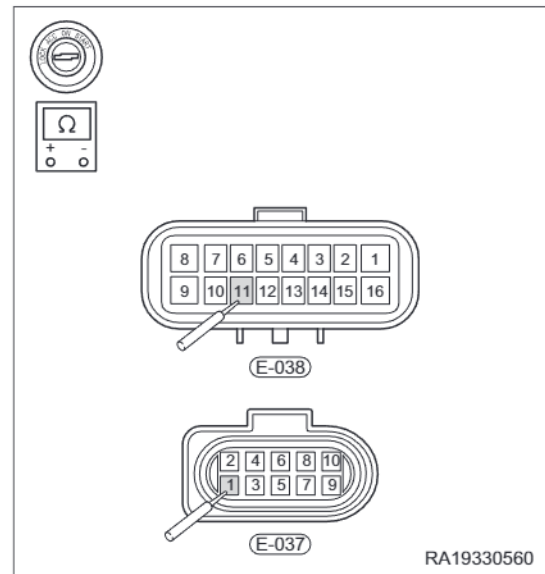
33

- g. Check for continuity between the terminal 11 of engine compartment wire harness connector E-038 and the terminal 1 of engine compartment wire harness connector E-037 according to the table below.

Multimeter Connection	Condition	Specified Condition
E-038 (11) - E-037 (1)	Always	Continuity

NG

Replace engine compartment wire harness



OK

4

Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B1001-18, B1001-19, B1002-18, B1002-19 are output	NG
No DTC is output	OK

NG

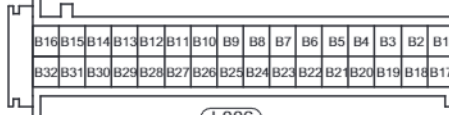
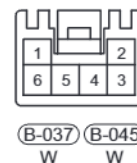
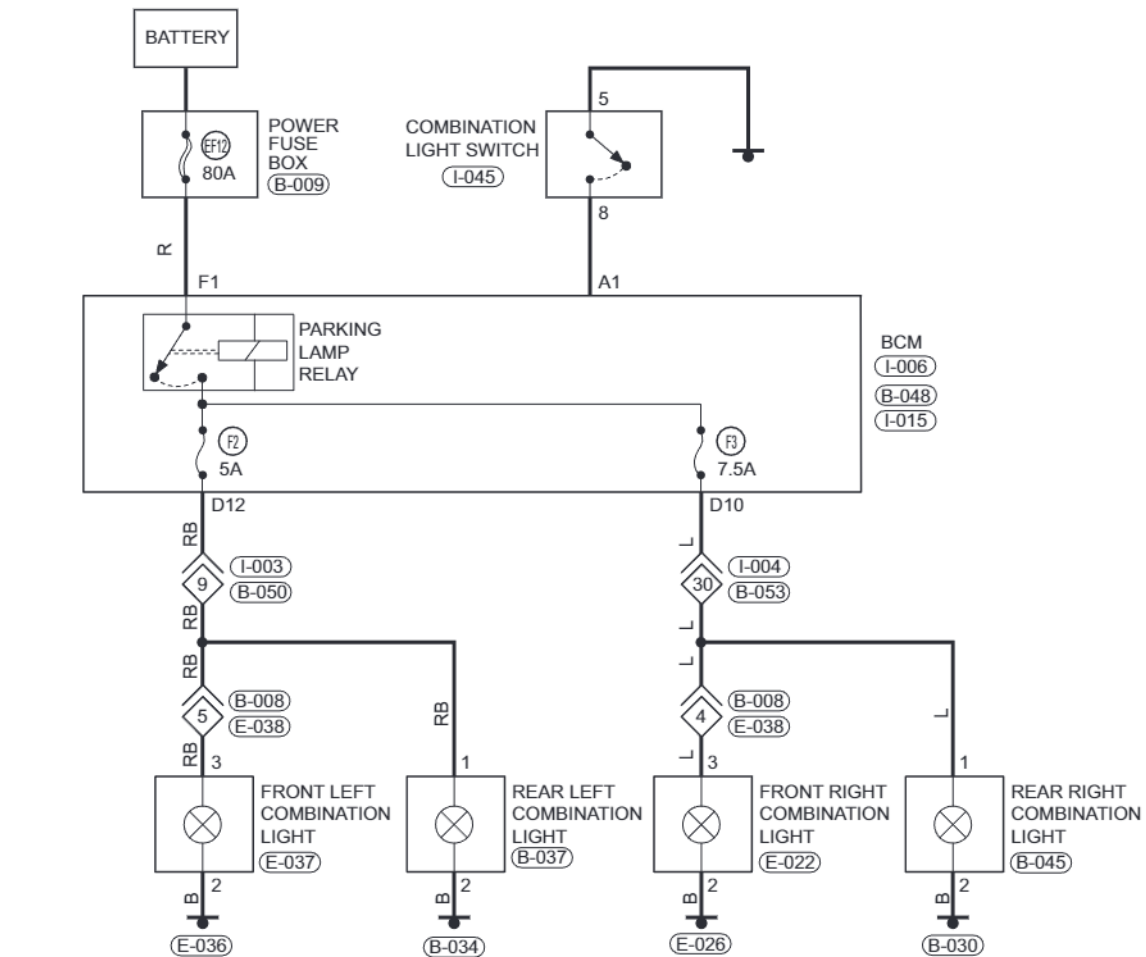
Replace BCM

OK

System is normal

DTC	B1003-11	Park Light Control Circuit Short to Ground
-----	----------	--

DTC	B1003-13	Park Light Control Circuit Open
-----	----------	---------------------------------



EA19330060

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1003-11	Park Light Control Circuit Short to Ground	Ignition switch ON	- Fuse - Wire harness or connector - BCM
B1003-13	Park Light Control Circuit Open		

1 Check fuse

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Remove the BCM fuses F2 and F3.
- Check the BCM fuses F2 and F3 (See page 49-29).

NG

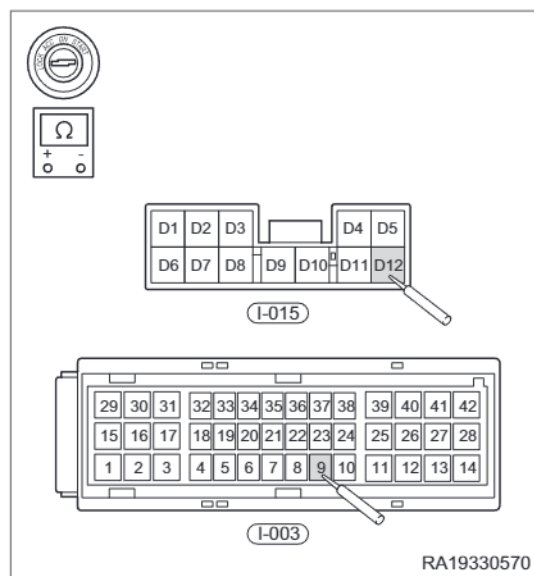
Replace fuses F2 and F3

OK

2 Check instrument panel wire harness

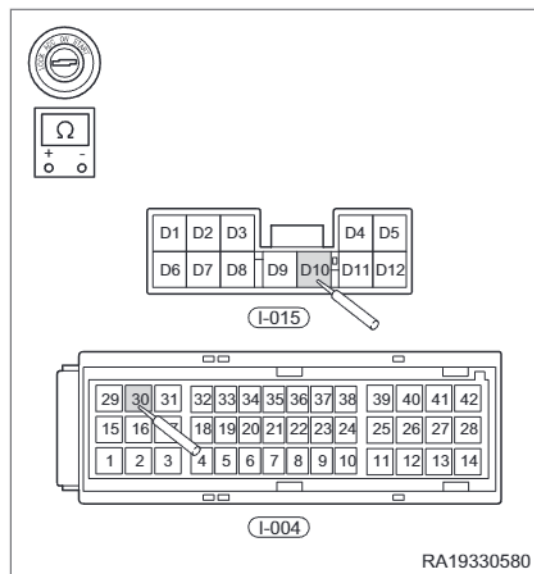
- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the BCM connector I-015 and instrument panel wire harness connectors I-003 and I-004.
- Check for continuity between the terminal D12 of BCM connector I-015 and the terminal 9 of instrument panel wire harness connector I-003 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-015 (D12) - I-003 (9)	Always	Continuity



- e. Check for continuity between the terminal D10 of BCM connector I-015 and the terminal 30 of instrument panel wire harness connector I-004 according to the table below.

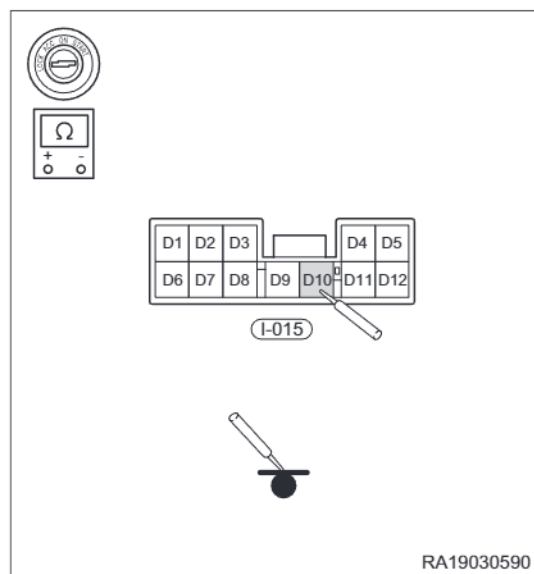
Multimeter Connection	Condition	Specified Condition
I-015 (D10) - I-004 (30)	Always	Continuity



33

- f. Check for continuity between the terminal D10 of BCM connector I-015 and the body ground according to the table below.

Multimeter Connection	Condition	Specified Condition
I-015 (D10) - Body ground	Always	Continuity

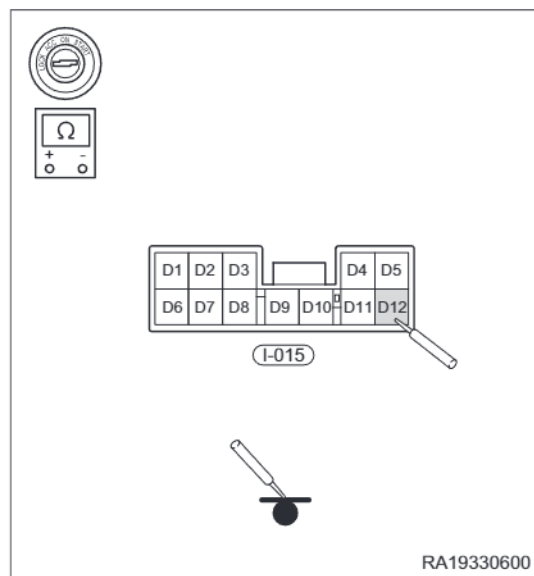


- g. Check for continuity between the terminal D12 of BCM connector I-015 and the body ground according to the table below.

Multimeter Connection	Condition	Specified Condition
I-015 (D12) - Body ground	Always	Continuity

NG

Replace instrument panel wire harness

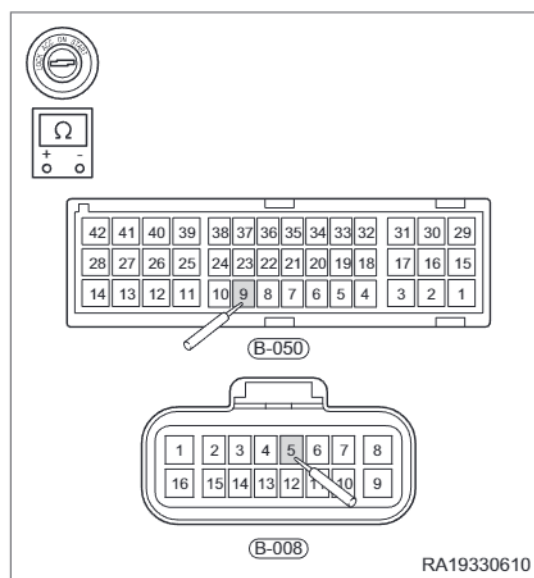


3 Check interior wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-050, B-053, B-008, B-037 and B-045.
- Check for continuity between the terminal 9 of interior wire harness connector B-050 and the terminal 5 of interior wire harness connector B-008 according to the table below.

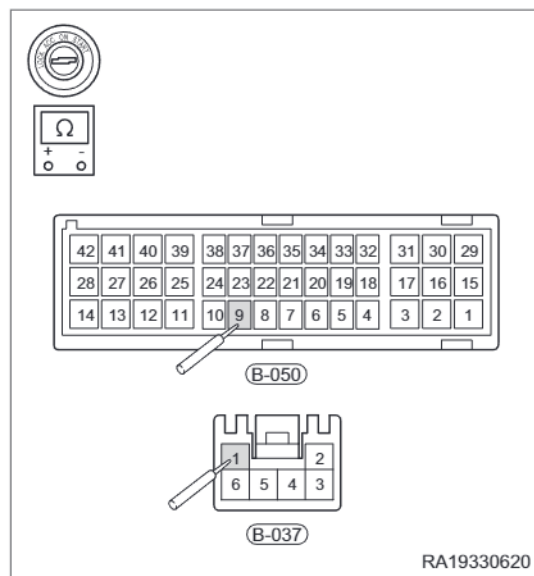
33

Multimeter Connection	Condition	Specified Condition
B-050 (9) - B-008 (5)	Always	Continuity



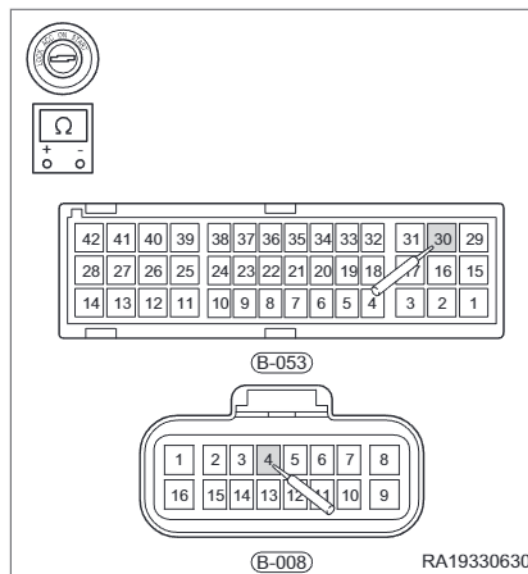
- Check for continuity between the terminal 9 of interior wire harness connector B-050 and the terminal 1 of interior wire harness connector B-037 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-050 (9) - B-037 (1)	Always	Continuity



- f. Check for continuity between the terminal 30 of interior wire harness connector B-053 and the terminal 4 of interior wire harness connector B-008 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-053 (30) - B-008 (4)	Always	Continuity

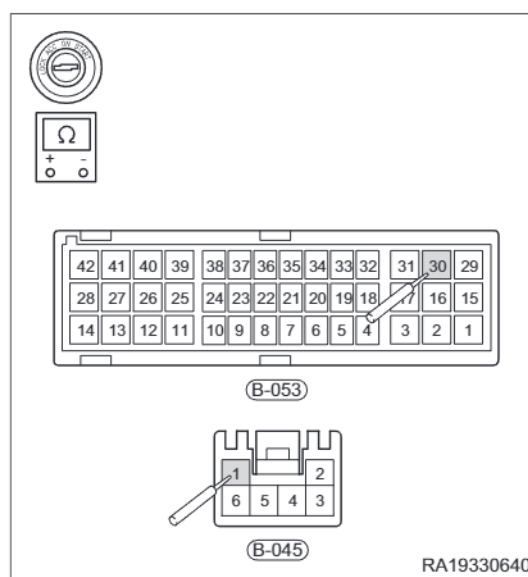


- g. Check for continuity between the terminal 30 of interior wire harness connector B-053 and the terminal 1 of interior wire harness connector B-045 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-053 (30) - B-045 (1)	Always	Continuity

NG

Replace interior wire harness



OK

4

Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B1003-11, B1003-13 are output	NG
No DTC is output	OK

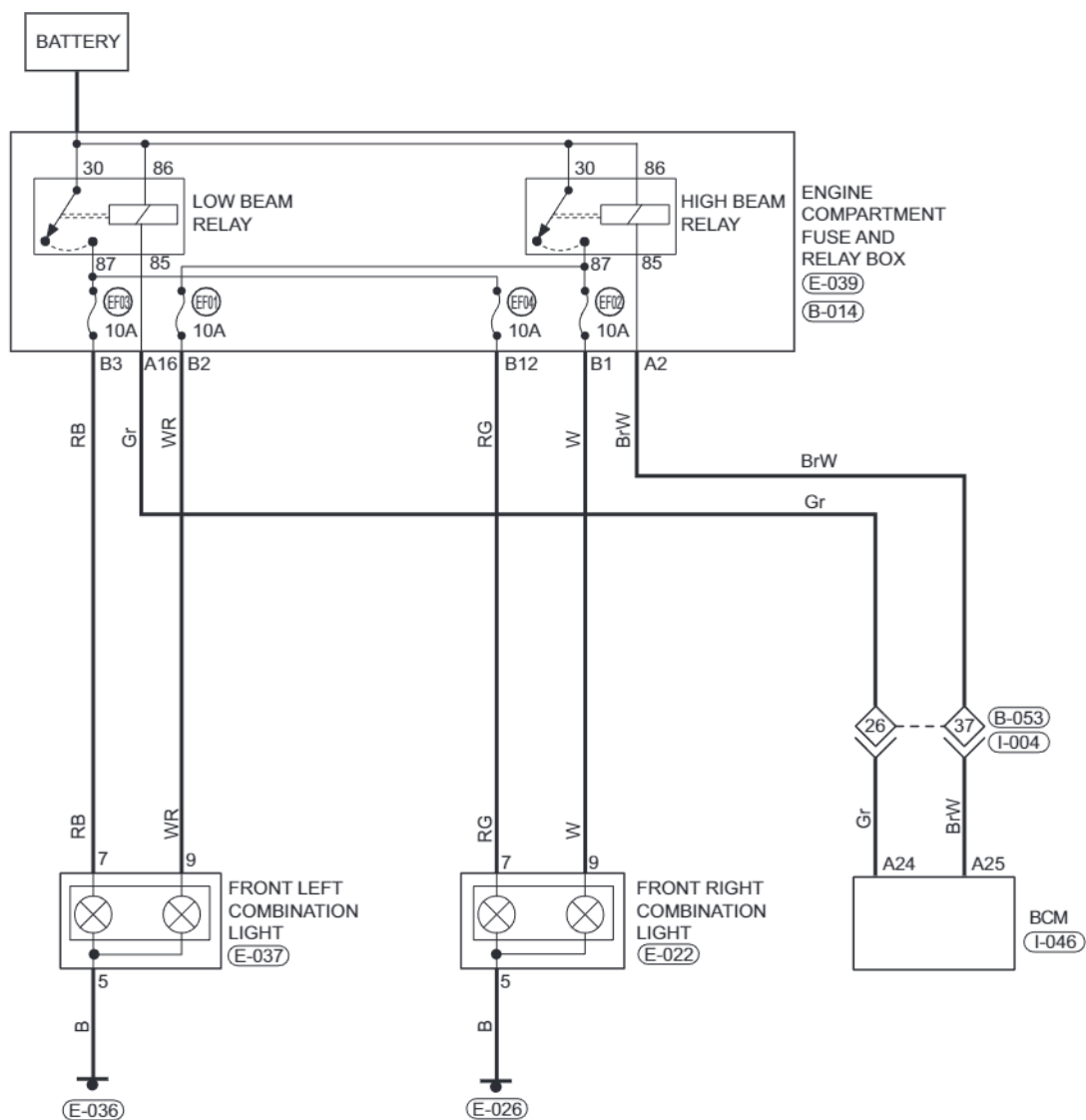
NG

Replace BCM

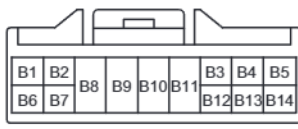
OK

System is normal

DTC	B1005-12	Low Beam Control Circuit Short to Battery
DTC	B1005-13	Low Beam Control Circuit Open
DTC	B1006-12	High Beam Control Circuit Short to Battery
DTC	B1006-13	High Beam Control Circuit Open



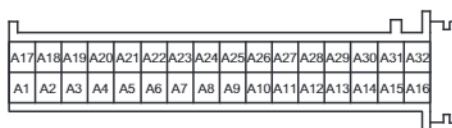
(B-014)
W



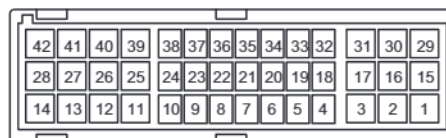
(E-039)
W



(E-022) (E-037)
B B



(I-046)
G



(B-053)
L

EA19330870

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1005-12	Low Beam Control Circuit Short to Battery	Ignition switch ON	- Wire harness or connector - BCM
B1005-13	Low Beam Control Circuit Open		
B1006-12	High Beam Control Circuit Short to Battery		
B1006-13	High Beam Control Circuit Open		

1 Check instrument panel wire harness

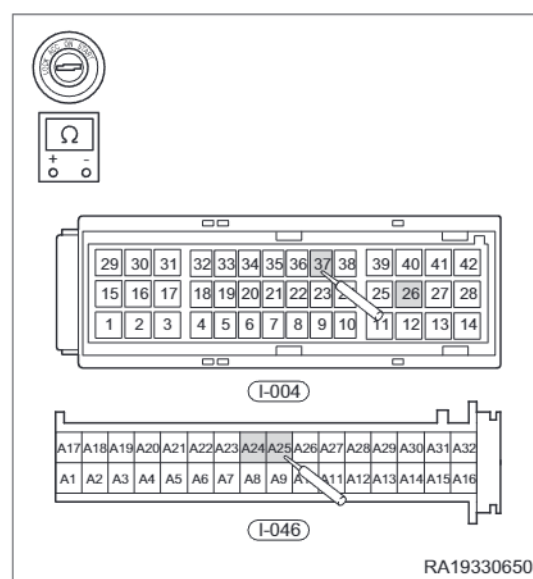
33

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connector I-004 and BCM connector I-046.
- Check for continuity between the terminals 26 and 37 of instrument panel wire harness connector I-004 and the terminals A24 and A25 of BCM connector I-046 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-004 (26) - I-046 (A24)	Always	Continuity
I-004 (37) - I-046 (A25)	Always	Continuity

NG

Replace instrument panel wire harness



OK

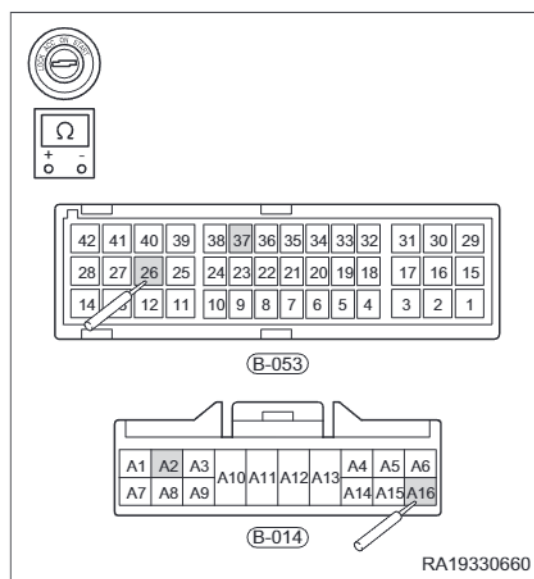
2 Check interior wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-014 and B-053.
- Check for continuity between the terminals A16 and A2 of interior wire harness connector B-014 and the terminals 26 and 37 of interior wire harness connector B-053 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-014 (A16) - B-053 (26)	Always	Continuity
B-014 (A2) - B-053 (37)	Always	Continuity

NG

Replace interior wire harness



OK

3 Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B1005-12, B1005-13, B1006-12, B1006-13 are output	NG
No DTC is output	OK

NG

Replace BCM

OK

System is normal

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B100A-12	Dome Lights Control Circuit Short to Battery	Ignition switch ON	- Fuse - Wire harness or connector - BCM
B100A-13	Dome Lights Control Circuit Open		

1 Check fuse

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Remove the BCM fuse F5.
- Check the BCM fuse F5 (See page 49-29).

NG

Replace fuse

OK

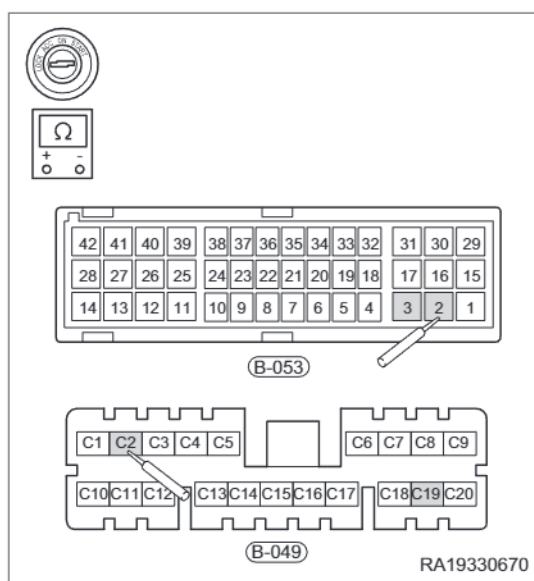
2 Check interior wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-049 and B-053.
- Check for continuity between the terminals C2 and C19 of interior wire harness connector B-049 and the terminals 2 and 3 of interior wire harness connector B-053 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-049 (C2) - B-053 (2)	Always	Continuity
B-049 (C19) - B-053 (3)	Always	Continuity

NG

Replace interior wire harness



OK

3 Check instrument panel wire harness

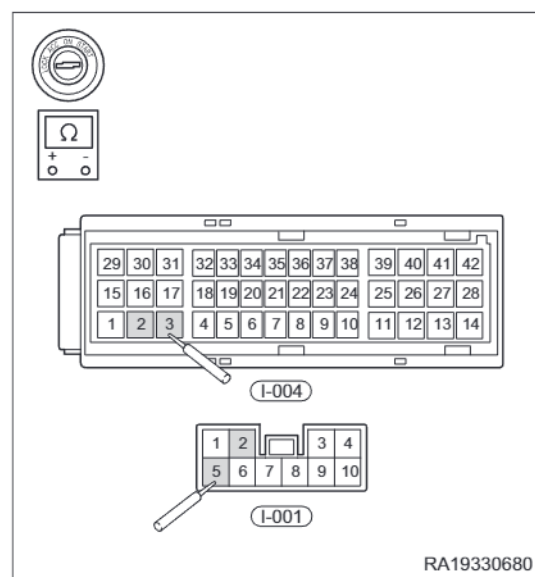
- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connectors I-004 and I-001.
- Check for continuity between the terminals 2 and 3 of instrument panel wire harness connector I-004 and the terminals 2 and 5 of instrument panel wire harness connector I-001 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-004 (2) - I-001 (2)	Always	Continuity
I-004 (3) - I-001 (5)	Always	Continuity

NG

Replace instrument panel wire harness

OK



33

4 Check roof wire harness

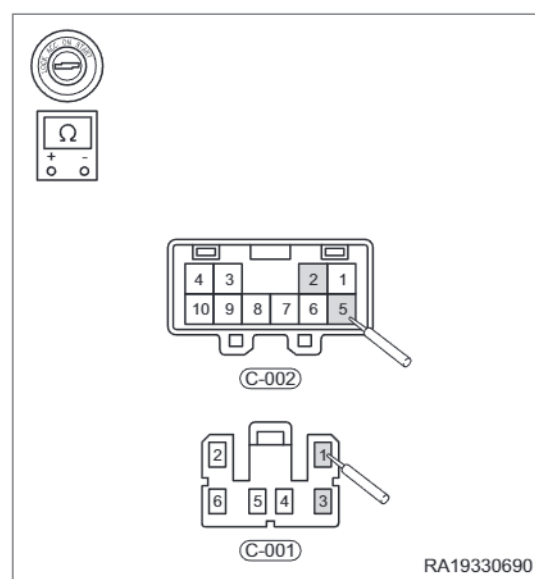
- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the roof wire harness connectors C-002 and C-001.
- Check for continuity between the terminals 2 and 5 of roof wire harness connector C-002 and the terminals 3 and 1 of roof wire harness connector C-001 according to the table below.

Multimeter Connection	Condition	Specified Condition
C-002 (2) - C-001 (3)	Always	Continuity
C-002 (5) - C-001 (1)	Always	Continuity

NG

Replace roof wire harness

OK



5 Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.



33 - LIGHTING SYSTEM

- d. Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- e. Turn the ignition switch to LOCK and wait for a few seconds.
- f. Turn the ignition switch to ON.
- g. Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B1003-11, B1003-13 are output	NG
No DTC is output	OK

NG

Replace BCM

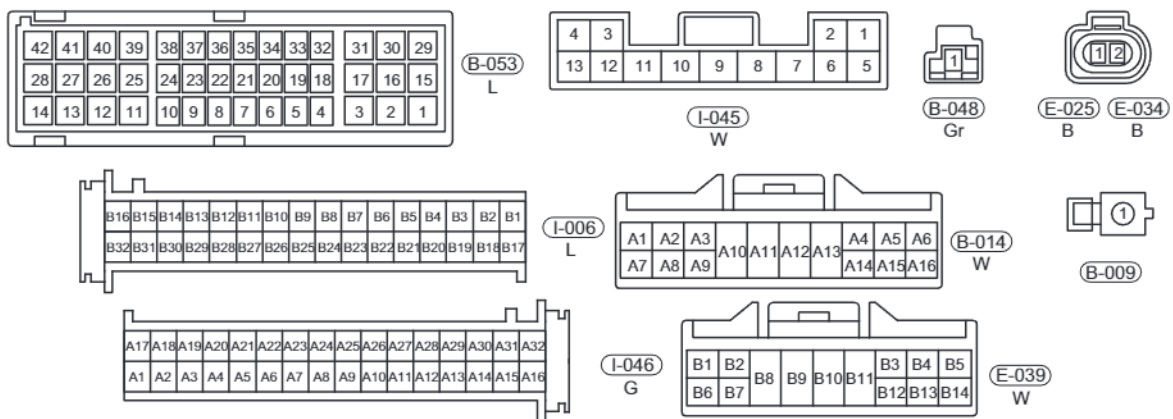
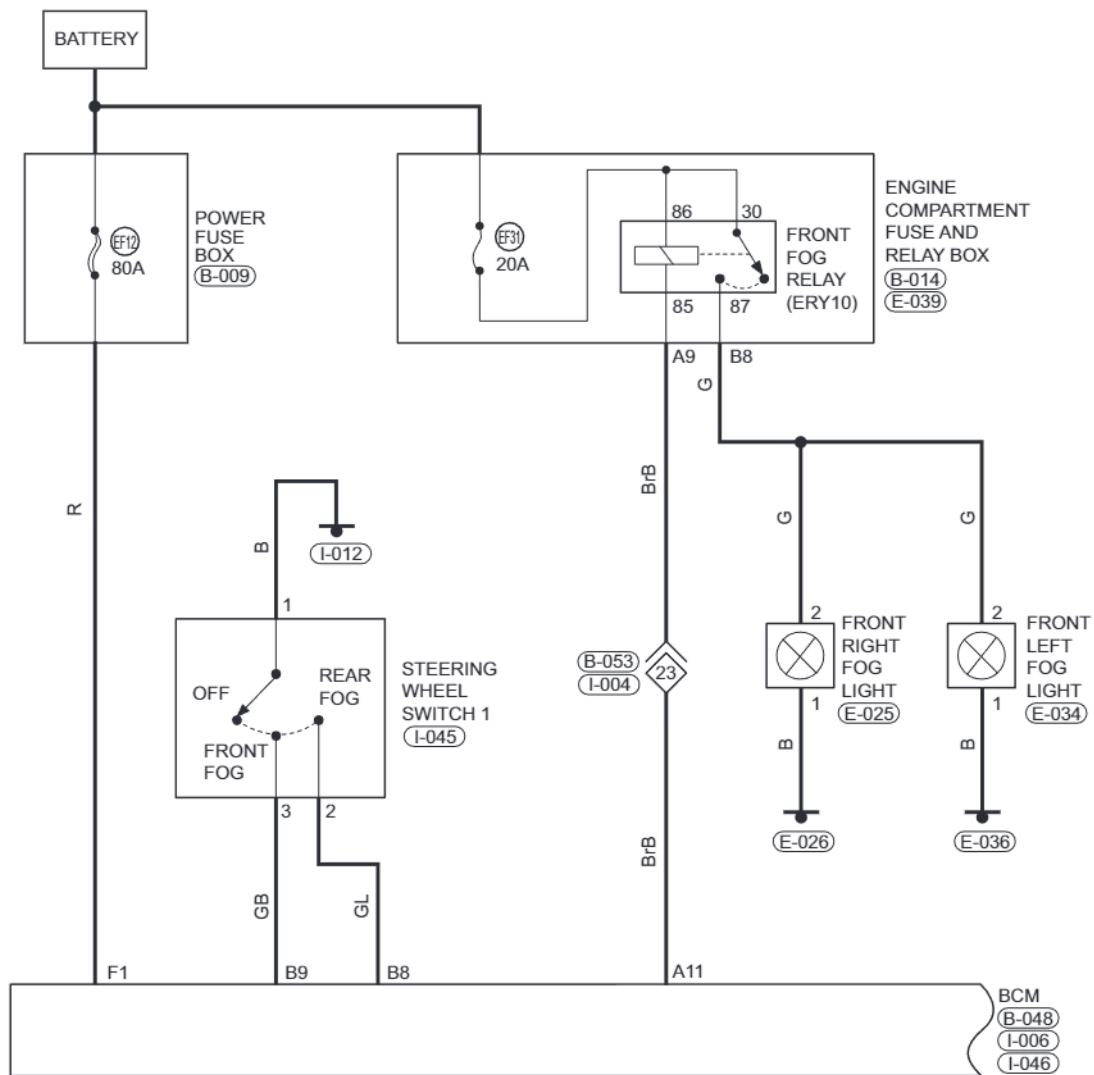
OK

33

System is normal

DTC	B1007-12	Front Fog Control Circuit Short to Battery
-----	----------	--

DTC	B1007-13	Front Fog Control Circuit Open
-----	----------	--------------------------------



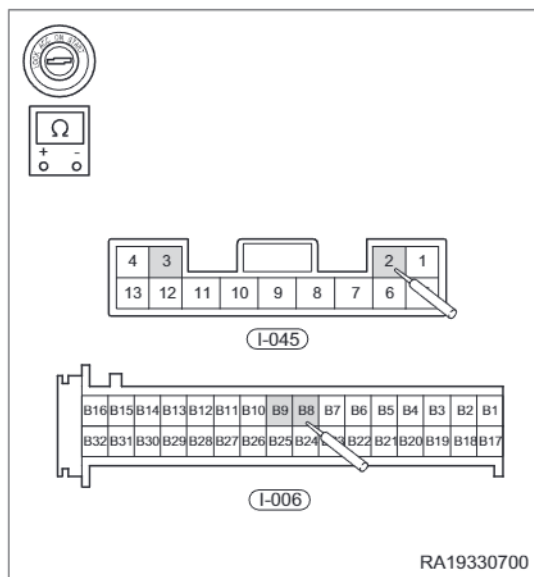
EA19330890

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1007-12	Front Fog Control Circuit Short to Battery	Ignition switch ON	- Wire harness or connector - BCM
B1007-13	Front Fog Control Circuit Open		

1 Check instrument panel wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connectors I-045 and I-006.
- Check for continuity between the terminals 2 and 3 of instrument panel wire harness connector I-045 and the terminals B8 and B9 of instrument panel wire harness connector I-006 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-045 (2) - I-006 (B8)	Always	Continuity
I-045 (3) - I-006 (B9)	Always	Continuity

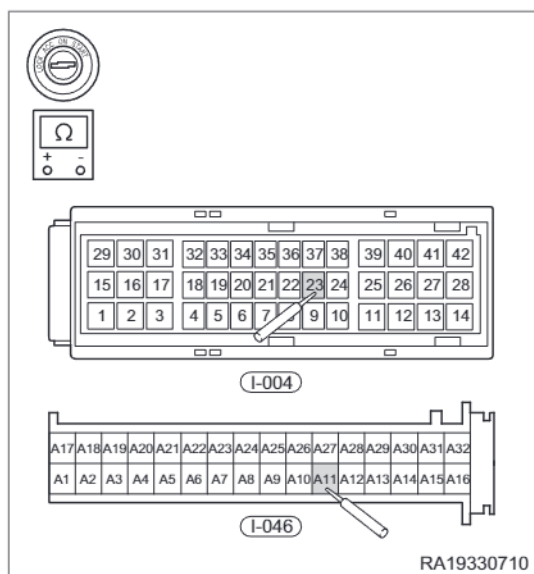


- Disconnect the instrument panel wire harness connectors I-004 and I-046.
- Check for continuity between the terminal 23 of instrument panel wire harness connector I-004 and the terminal A11 of instrument panel wire harness connector I-046 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-004 (23) - I-046 (A11)	Always	Continuity

NG

Replace instrument panel wire harness



OK

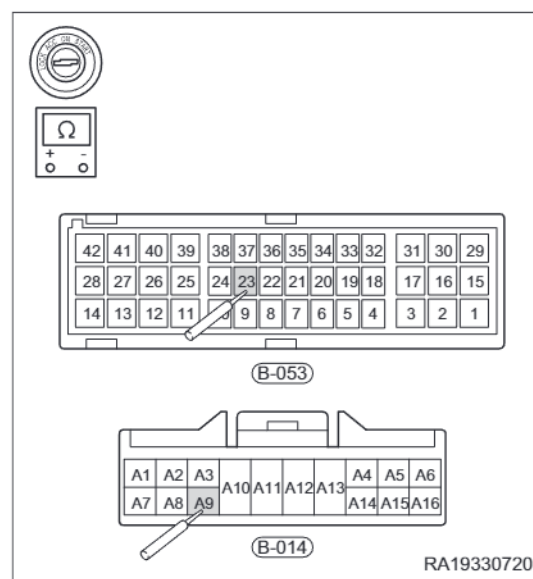
2 Check interior wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-053 and B-014.
- Check for continuity between the terminal 23 of interior wire harness connector B-053 and the terminal A9 of interior wire harness connector B-014 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-053 (23) - B-014 (A9)	Always	Continuity

NG

Replace interior wire harness

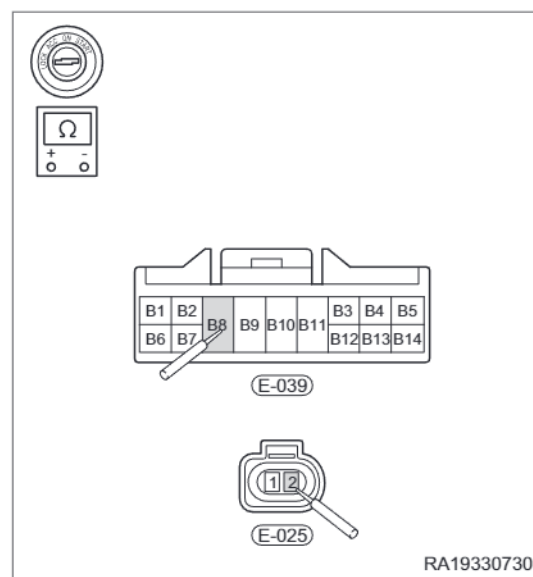


OK

3 Check engine compartment wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the engine compartment wire harness connectors E-039, E-025 and E-034.
- Check for continuity between the terminal B8 of engine compartment wire harness connector E-039 and the terminal 2 of engine compartment wire harness connector E-025 according to the table below.

Multimeter Connection	Condition	Specified Condition
E-039 (B8) - E-025 (2)	Always	Continuity



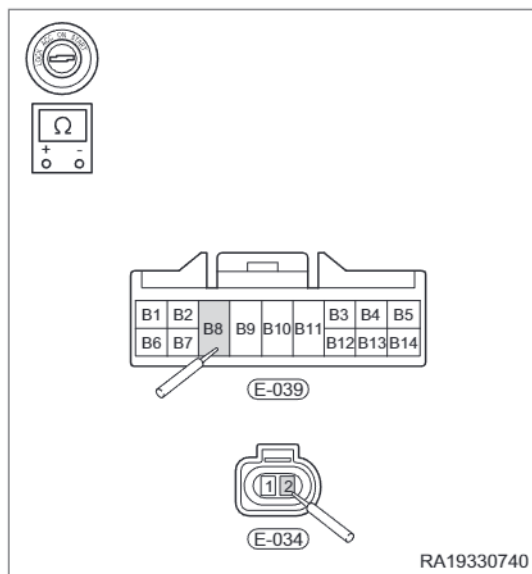
33

- e. Check for continuity between the terminal B8 of engine compartment wire harness connector E-039 and the terminal 2 of engine compartment wire harness connector E-034 according to the table below.

Multimeter Connection	Condition	Specified Condition
E-039 (B8) - E-034 (2)	Always	Continuity

NG

Replace interior wire harness



OK

4

Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B1007-12, B1007-13 are output	NG
No DTC is output	OK

NG

Replace BCM

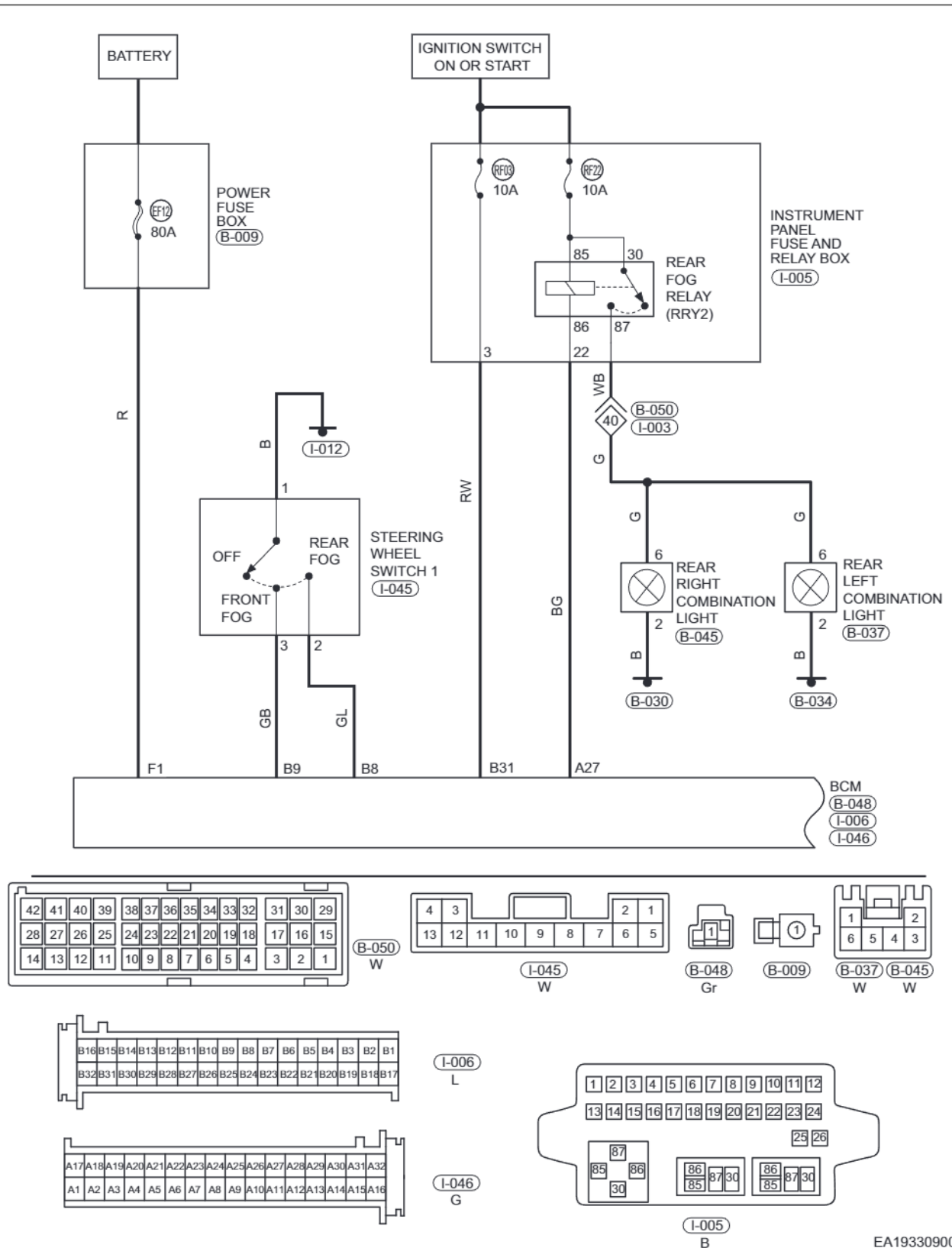
OK

System is normal

DTC	B1008-12	Rear Fog Control Circuit Short to Battery
-----	----------	---

DTC	B1008-13	Rear Fog Control Circuit Open
-----	----------	-------------------------------

33

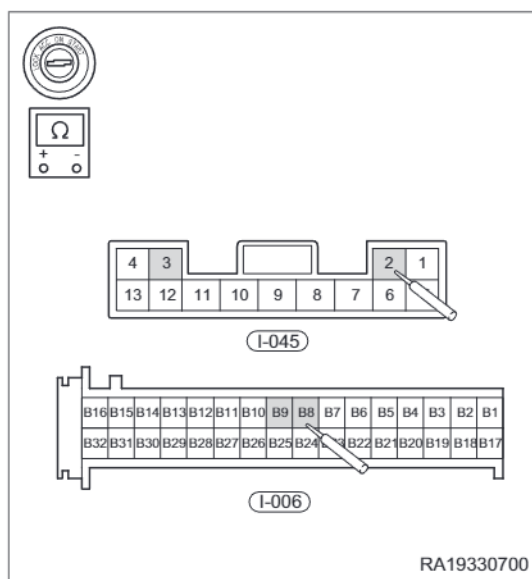


DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B1008-12	Rear Fog Control Circuit Short to Battery	Ignition switch ON	- Wire harness or connector - BCM
B1008-13	Rear Fog Control Circuit Open		

1 Check instrument panel wire harness

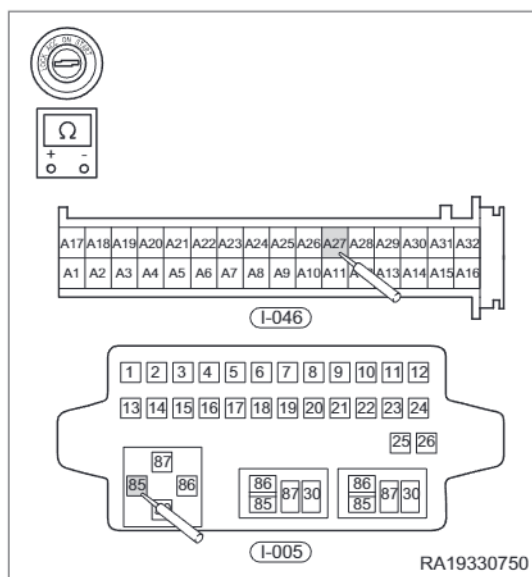
- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connectors I-045 and I-006.
- Check for continuity between the terminals 2 and 3 of instrument panel wire harness connector I-045 and the terminals B8 and B9 of instrument panel wire harness connector I-006 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-045 (2) - I-006 (B8)	Always	Continuity
I-045 (3) - I-006 (B9)	Always	Continuity



- Disconnect the instrument panel wire harness connectors I-005, I-046 and I-003.
- Check for continuity between the terminal 85 of instrument panel wire harness connector I-005 and the terminal A27 of instrument panel wire harness connector I-046 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-005 (85) - I-046 (A27)	Always	Continuity

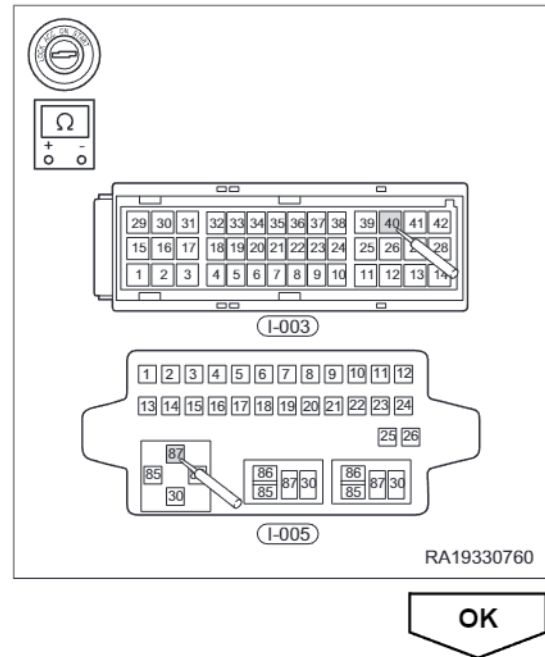


- g. Check for continuity between the terminal 87 of instrument panel wire harness connector I-005 and the terminal 40 of instrument panel wire harness connector I-003 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-005 (87) - I-003 (40)	Always	Continuity

NG

Replace instrument panel wire harness



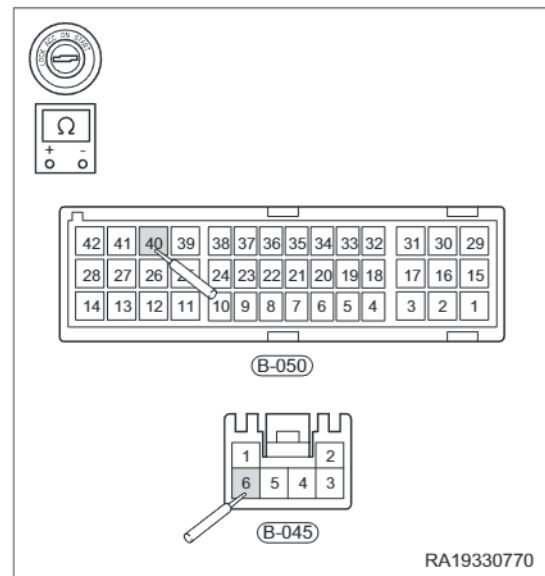
33

2

Check interior wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-050, B-045 and B-037.
- Check for continuity between the terminal 40 of interior wire harness connector B-050 and the terminal 6 of interior wire harness connector B-045 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-050 (40) - B-045 (6)	Always	Continuity

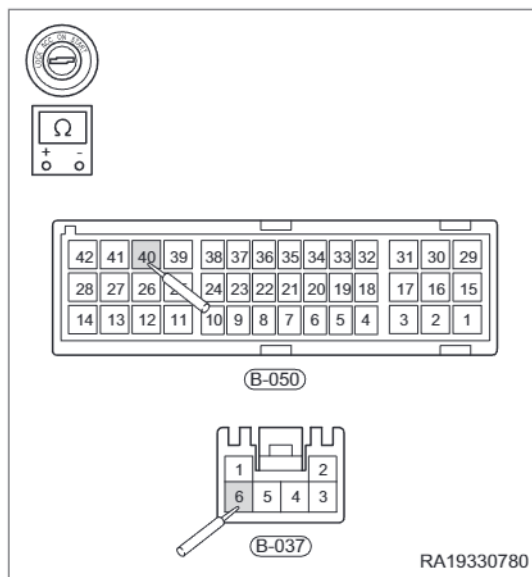


- e. Check for continuity between the terminal 40 of interior wire harness connector B-050 and the terminal 6 of interior wire harness connector B-037 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-050 (40) - B-037 (6)	Always	Continuity

NG

Replace interior wire harness



OK

3

Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B1007-12, B1007-13 are output	NG
No DTC is output	OK

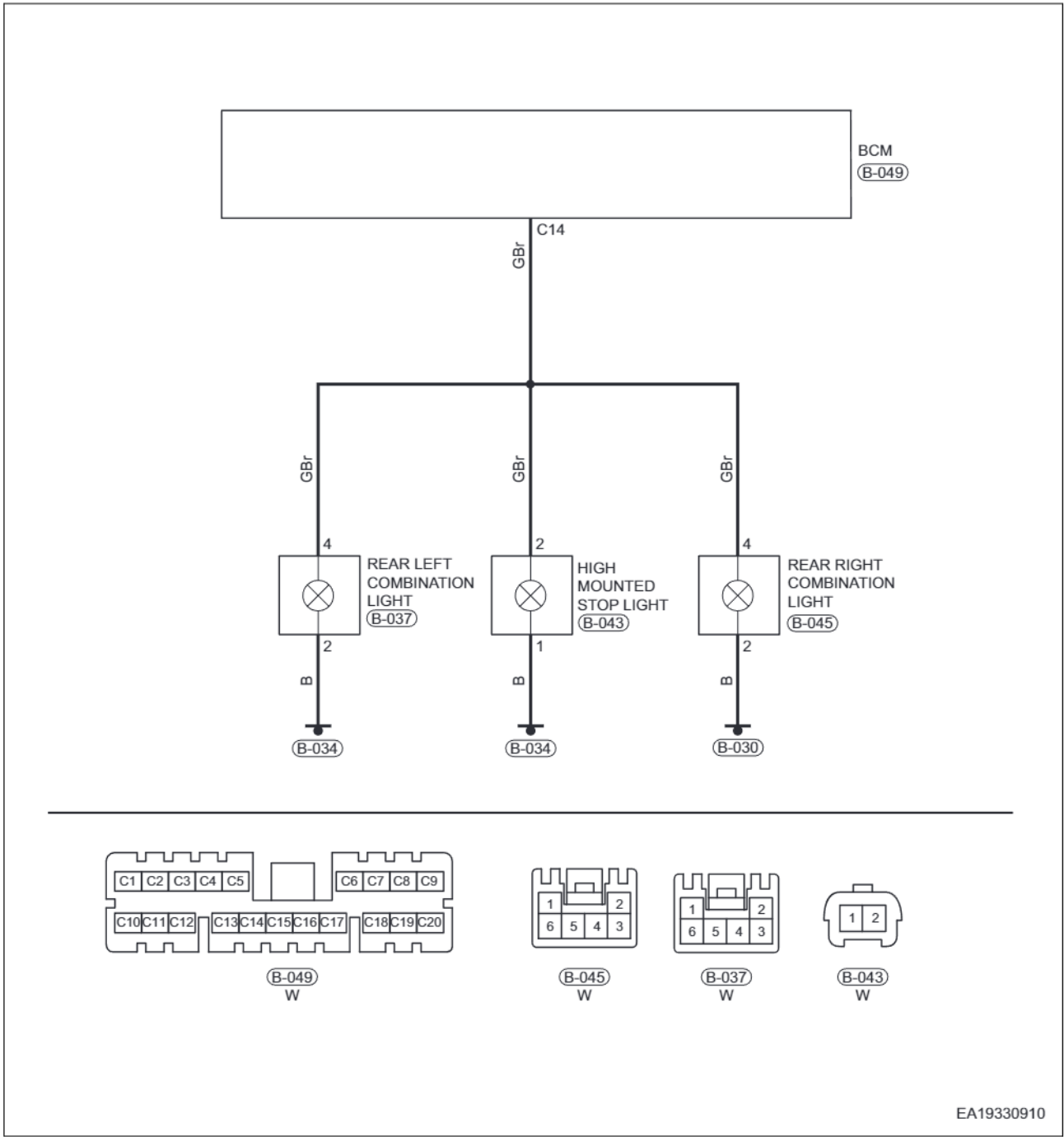
NG

Replace BCM

OK

System is normal

DTC	B103E-18	Brake Light Control Circuit Current Below Threshold
DTC	B103E-19	Brake Light Control Circuit Current Above Threshold



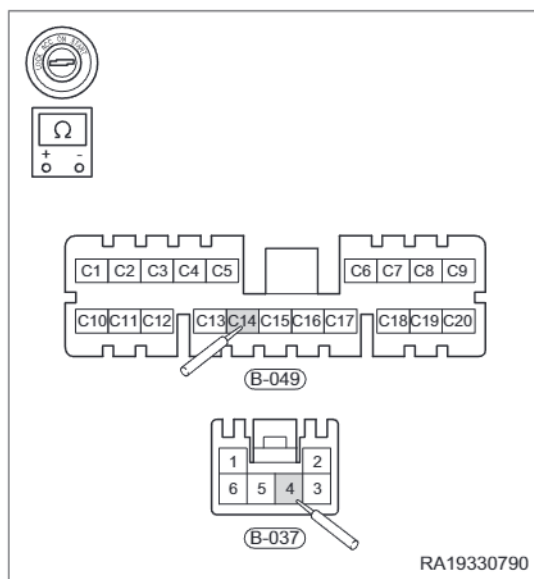
DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B103E-18	Brake Light Control Circuit Current Below Threshold	Ignition switch ON	- Wire harness or connector - BCM
B103E-19	Brake Light Control Circuit Current Above Threshold		

1 Check interior wire harness

33

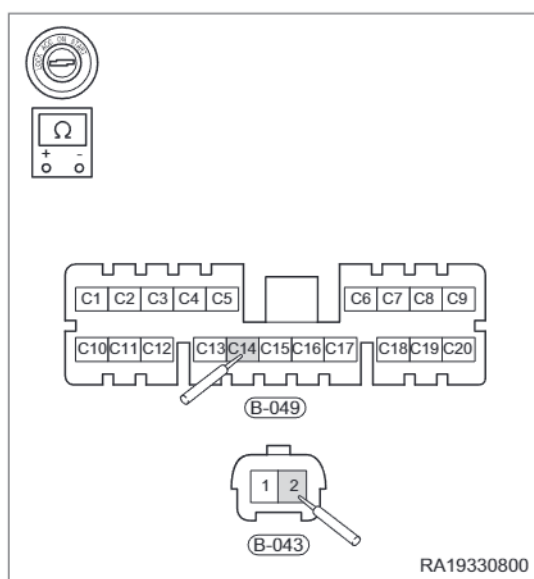
- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-049, B-037, B-043 and B-045.
- Check for continuity between the terminal C14 of interior wire harness connector B-049 and the terminal 4 of interior wire harness connector B-037 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-049 (C14) - B-037 (4)	Always	Continuity



- Check for continuity between the terminal C14 of interior wire harness connector B-049 and the terminal 2 of interior wire harness connector B-043 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-049 (C14) - B-043 (2)	Always	Continuity

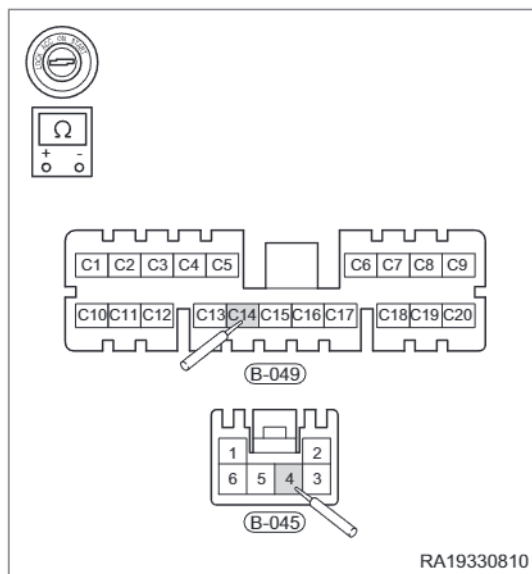


- f. Check for continuity between the terminal C14 of interior wire harness connector B-049 and the terminal 4 of interior wire harness connector B-045 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-049 (C14) - B-045 (4)	Always	Continuity

NG

Replace interior wire harness



OK

2

Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B103E-18, B103E-19 are output	NG
No DTC is output	OK

NG

Replace BCM

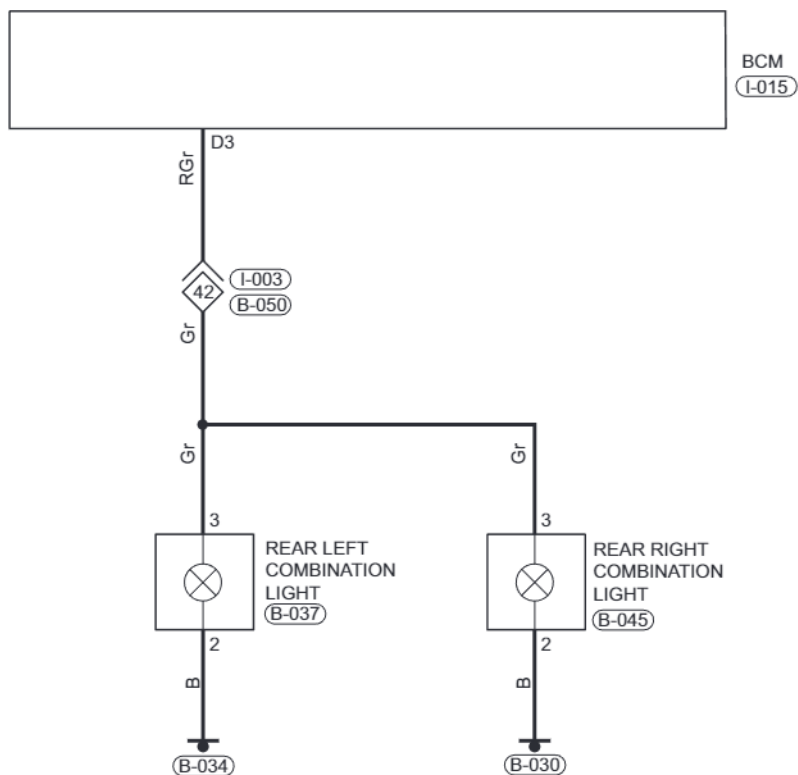
OK

System is normal

33

DTC	B103F-18	Reverse Light Control Circuit Current Below Threshold
-----	----------	---

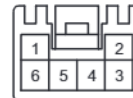
DTC	B103F-19	Reverse Light Control Circuit Current Above Threshold
-----	----------	---



I-003
W



I-015
W



B-037 (B-045)
W W

EA19330920

DTC Code	DTC Definition	DTC Detection Condition	Possible Cause
B103F-18	Reverse Light Control Circuit Current Below Threshold	Ignition switch ON	- Wire harness or connector - BCM
B103F-19	Reverse Light Control Circuit Current Above Threshold		

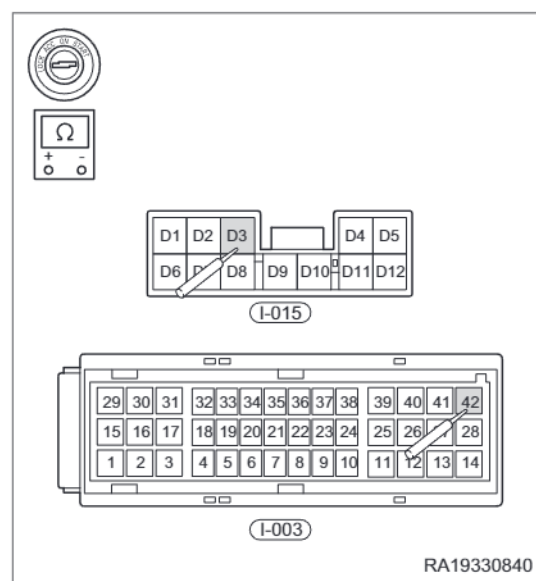
1 Check instrument panel wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connectors I-015 and I-003.
- Check for continuity between the terminal D3 of instrument panel wire harness connector I-015 and the terminal 42 of instrument panel wire harness connector I-003 according to the table below.

Multimeter Connection	Condition	Specified Condition
I-015 (D3) - I-003 (42)	Always	Continuity

NG

Replace instrument panel wire harness

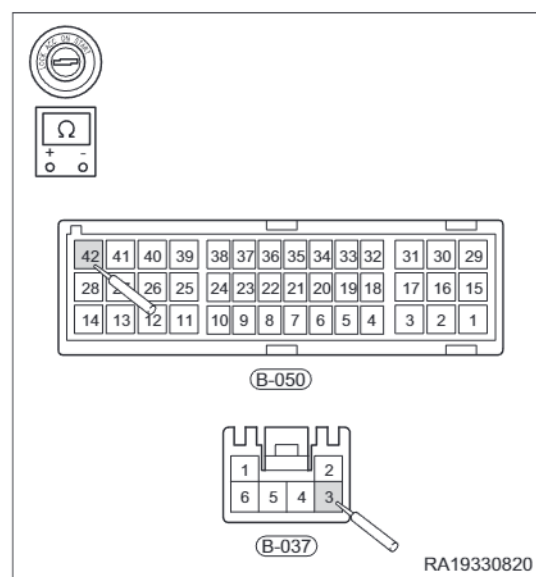


OK

2 Check interior wire harness

- Turn the ignition switch off.
- Disconnect the negative battery cable.
- Disconnect the interior wire harness connectors B-050, B-037 and B-045.
- Check for continuity between the terminal 42 of interior wire harness connector B-050 and the terminal 3 of interior wire harness connector B-037 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-050 (42) - B-037 (3)	Always	Continuity

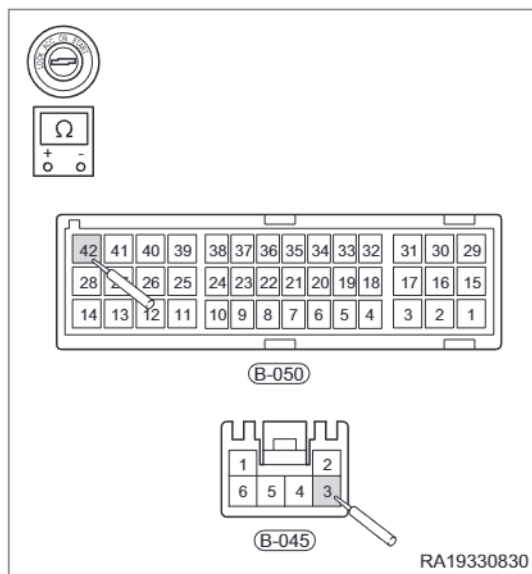


- e. Check for continuity between the terminal 42 of interior wire harness connector B-050 and the terminal 3 of interior wire harness connector B-045 according to the table below.

Multimeter Connection	Condition	Specified Condition
B-050 (42) - B-045 (3)	Always	Continuity

NG

Replace interior wire harness



OK

3

Reconfirm DTCs

- Connect the disconnected wire harness connectors.
- Connect the negative battery cable.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester (the latest software) to record and clear the DTCs stored in the control unit system (BCM).
- Turn the ignition switch to LOCK and wait for a few seconds.
- Turn the ignition switch to ON.
- Use the X-431 3G diagnostic tester to read the DTCs in the control unit system (BCM) again.

Result	Proceed to
DTC B103F-18, B103F-19 are output	NG
No DTC is output	OK

NG

Replace BCM

OK

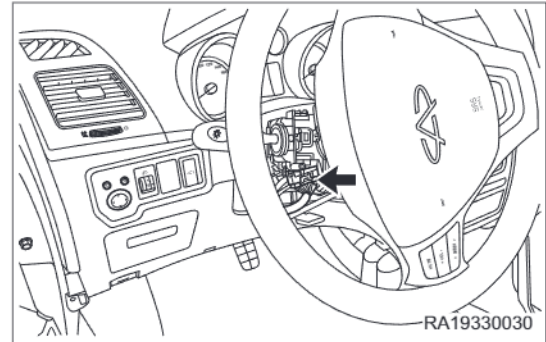
System is normal

ON-VEHICLE SERVICE

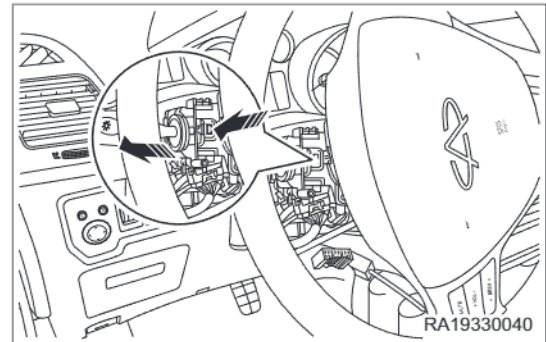
Combination Switch

Removal

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the combination switch cover ([See page 27-12](#)).
4. Remove the combination switch.
 - a. Disconnect the combination switch wire harness connector (arrow).



- b. Press the claw of combination switch in the direction of arrow, and remove the combination switch by sliding it outward slightly.



Inspection

1. Check the headlight combination switch assembly.
 - a. Using the ohm band of digital multimeter, check for continuity between the terminals as shown in the table.

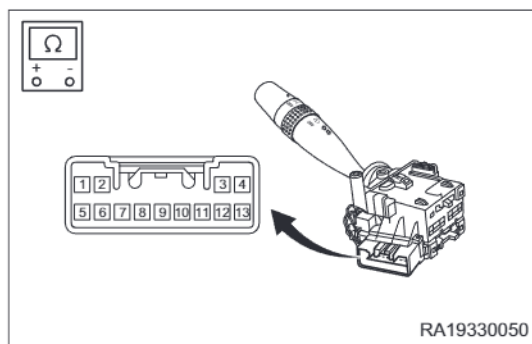
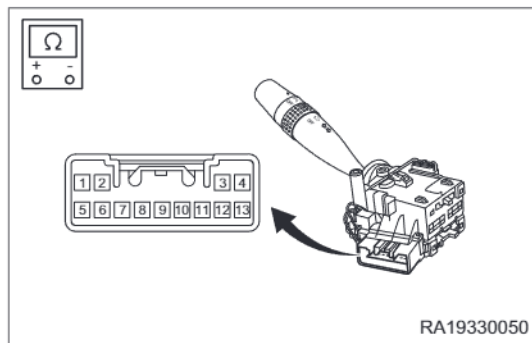
Combination Light Switch (Position Light/Low Beam Light/High Beam Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Each pin	Switch OFF	No continuity
Terminal 5 - Terminal 8	Switch in position light	Continuity
Terminal 5 - Terminal 8	Switch in low beam	Continuity
Terminal 7 - Terminal 10	Switch in low beam	Continuity
Terminal 5 - Terminal 8	Switch in high beam	Continuity
Terminal 7 - Terminal 9	Switch in high beam	Continuity
Terminal 7 - Terminal 9	Switch in passing light	Continuity

If the result is not as specified, replace the combination switch assembly.

Combination Light Switch (Front Fog Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Terminal 5 - Terminal 8	Switch in (position light) front fog light on position	Continuity
Terminal 1 - Terminal 3	Switch in (position light) front fog light on position	Continuity
Terminal 1 - Terminal 3	Switch in (position light) front fog light on position	Continuity
Terminal 5 - Terminal 8	Switch in (low beam light) front fog light on position	Continuity
Terminal 7 - Terminal 10	Switch in (low beam light) front fog light on position	Continuity

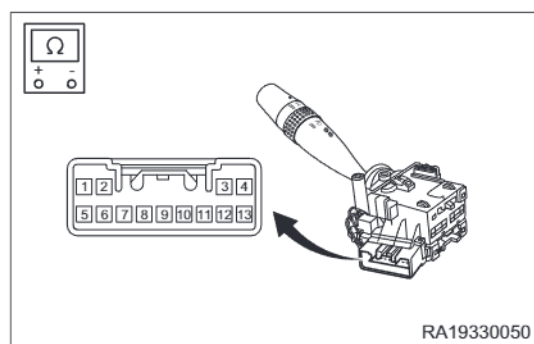


Multimeter Connection	Switch Condition	Specified Condition
Terminal 1 - Terminal 3	Switch in (low beam light) front fog light on position	Continuity
Terminal 5 - Terminal 8	Switch in (high beam light) front fog light on position	Continuity
Terminal 7 - Terminal 9	Switch in (high beam light) front fog light on position	Continuity
Terminal 1 - Terminal 3	Switch in (high beam light) front fog light on position	Continuity

If the result is not as specified, replace the combination switch assembly.

Combination Light Switch (Rear Fog Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Terminal 5 - Terminal 8	Switch in (position light) rear fog light on position	Continuity
Terminal 1 - Terminal 2	Switch in (position light) rear fog light on position	Continuity
Terminal 1 - Terminal 3	Switch in (position light) rear fog light on position	Continuity
Terminal 5 - Terminal 8	Switch in (low beam light) rear fog light on position	Continuity
Terminal 7 - Terminal 10	Switch in (low beam light) rear fog light on position	Continuity
Terminal 1 - Terminal 2	Switch in (low beam light) rear fog light on position	Continuity
Terminal 1 - Terminal 3	Switch in (low beam light) rear fog light on position	Continuity



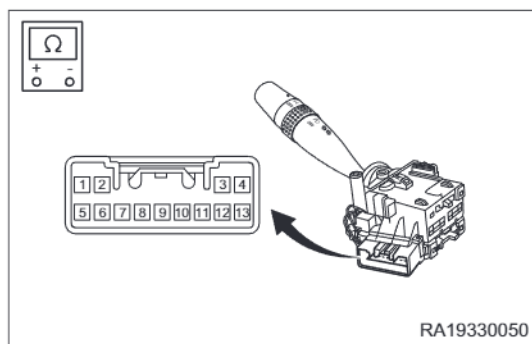
Multimeter Connection	Switch Condition	Specified Condition
Terminal 5 - Terminal 8	Switch in (high beam light) rear fog light on position	Continuity
Terminal 7 - Terminal 9	Switch in (high beam light) rear fog light on position	Continuity
Terminal 1 - Terminal 2	Switch in (high beam light) rear fog light on position	Continuity
Terminal 1 - Terminal 3	Switch in (high beam light) rear fog light on position	Continuity

If the result is not as specified, replace the combination switch assembly.

Combination Light Switch (Turn Signal Light Switch)

Multimeter Connection	Switch Condition	Specified Condition
Terminal 11 - Terminal 12	Switch in left turn position	Continuity
Terminal 12 - Terminal 13	Switch in right turn position	Continuity

If the result is not as specified, replace the combination switch assembly.



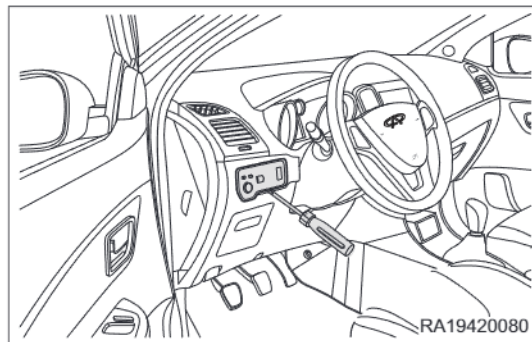
Installation

Installation is in the reverse order of removal.

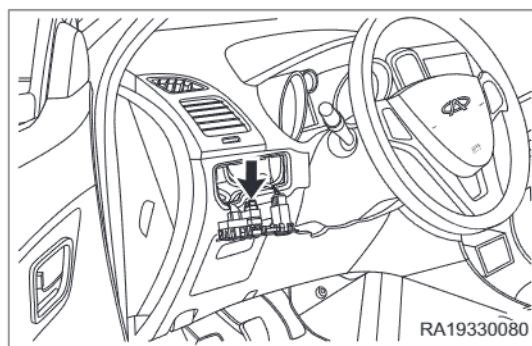
Headlight Leveling Switch

Removal

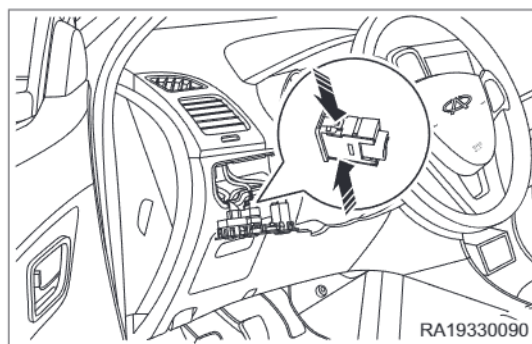
1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the headlight leveling switch.
 - a. Using a screwdriver wrapped with protective tape, pry both ends of headlight leveling switch carefully to remove it.



- b. Disconnect the headlight leveling switch wire harness connector.



- c. Press the fixing clips on both sides and remove the headlight leveling switch as shown in the illustration.



Inspection

1. Check the headlight leveling switch.
 - a. Turn the digital multimeter to ohm band, and connect the red probe of multimeter to terminal 5, and black probe to terminal 6.

Observe the resistance change on the multimeter while turning the leveling switch.

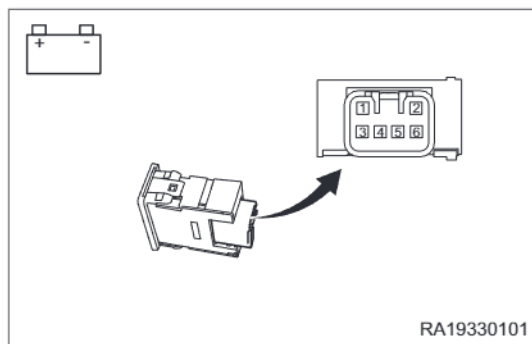
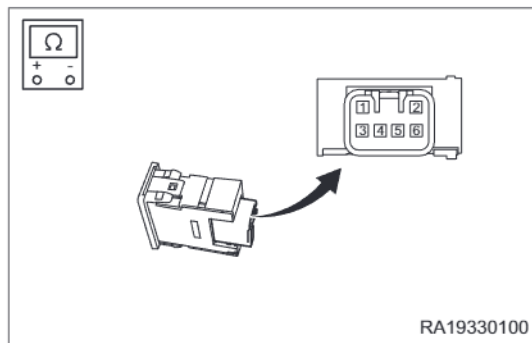
Multimeter Connection	Switch Position	Resistance (K Ω)
Terminal 2 - Terminal 4	0	1.015
Terminal 2 - Terminal 4	1	1.443
Terminal 2 - Terminal 4	2	1.872
Terminal 2 - Terminal 4	3	2.301
Terminal 2 - Terminal 4	4	2.729
Terminal 2 - Terminal 4	5	3.158

If the result is not as specified, replace the headlight leveling switch.

2. Check the headlight leveling switch backlight.
 - a. Connect the positive battery lead to terminal 6 and negative battery lead to terminal 3 of the headlight leveling switch. Check if the backlight comes on.

OK: it comes on.

If the result is not as specified, replace the headlight leveling switch.



Installation

Installation is in the reverse order of removal.

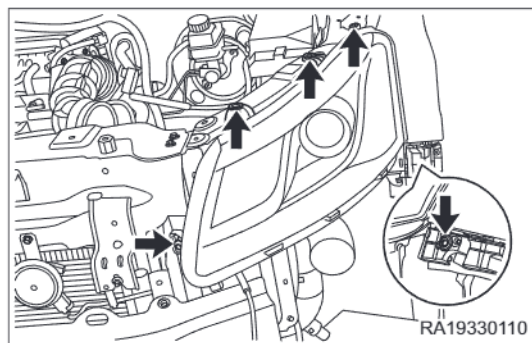
Front Combination Light

Removal

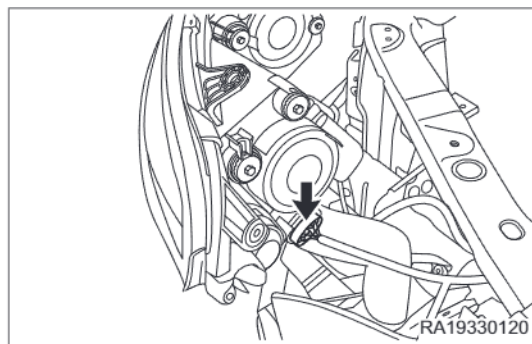
HINT:

- Use the same procedures for front right combination light and front left combination light.
- The procedures listed below are for front left combination light.

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front bumper assembly (See page 46-7).
4. Remove the front combination light.
 - a. Remove 4 fixing bolts and 1 clip from the front combination light.
(Tightening torque: $3.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- b. Disconnect the front combination light wire harness connector and remove the front combination light.



33

Installation

Installation is in the reverse order of removal.

CAUTION

- When installing the front combination light, make sure the fitting clearance between the front combination light and the hood, front fender, front bumper is appropriate. Adjust it as necessary.

Adjustment

1. Preparations:
 - a. The tire inflation pressure comes up to standard.
 - b. The vehicle is unloaded (besides spare tire, fuel, water, lubricant and tools supplied with the vehicle).
 - c. Park the vehicle on a level ground or factory.
 - d. Keep the lens surface of front combination light free from dirt.
 - e. Check if the power supply operates normally and the bulbs are installed correctly.

The headlight beam can be adjusted up and down, left and right by using the headlight leveling switch or the adjustment nut at the rear of headlight. Always perform adjustment according to the international standard.

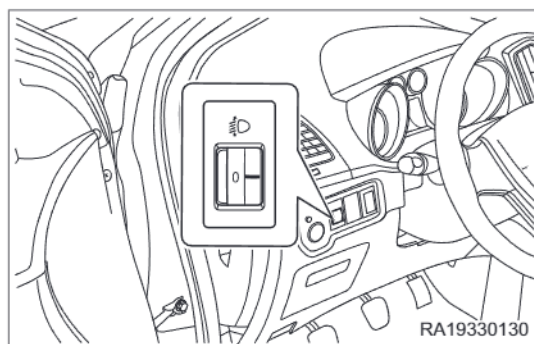
No.	Item	Standard
1	Up and down offset of left/right low beam	526.4 mm (0.700H) - 652.0 mm (0.867H)
2	Left and right offset of left low beam	170 mm
3	Left and right offset of right low beam	350 mm
4	Up and down offset of left/right high beam	652.0 mm (0.881H) - 703.0 mm (0.950H)
5	Left and right offset of left high beam	170 mm
6	Left and right offset of right high beam	350 mm
7	High beam light intensity	≥ 18000 cd

2. The headlight leveling can be adjusted according to the number of passengers and loading condition. There are 6 adjustment bands to select on the headlight leveling knob: 0, 1, 2, 3, 4 and 5.

Turn up: Raise the headlight beam.

Turn down: Lower the headlight beam.

Adjust the light according to the table below.



Passenger and Luggage Loading Condition		Knob Position
Passenger	Luggage Loading	
Driver	None	0
Driver + Front Passenger	None	1
Full Occupied	None	2/3
Full Occupied	Full Luggage Loading	4
Driver	Full Luggage Loading	5

CAUTION

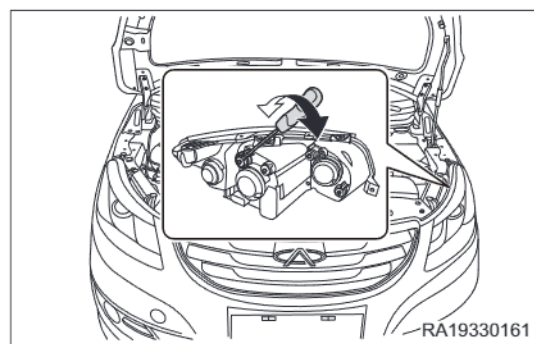
- Whether the headlight leveling is correct or not will directly affects the driving safety. Be sure to adjust it according to the related specification.

3. Manually headlight leveling: the headlight leveling can be changed by adjusting the following areas manually as shown in the illustration.

Adjustment method for left headlight

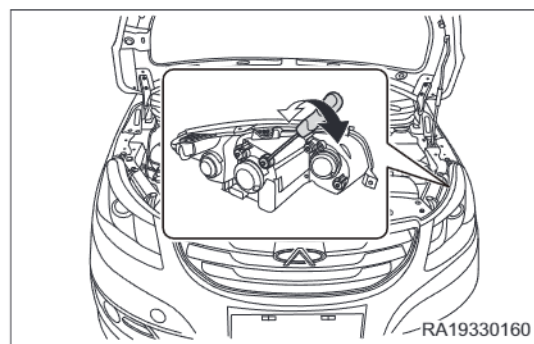
a. Low beams left/right adjustment

When you rotate the screwdriver clockwise, the beams move to left; when you rotate the screwdriver counterclockwise, the beams move to right.



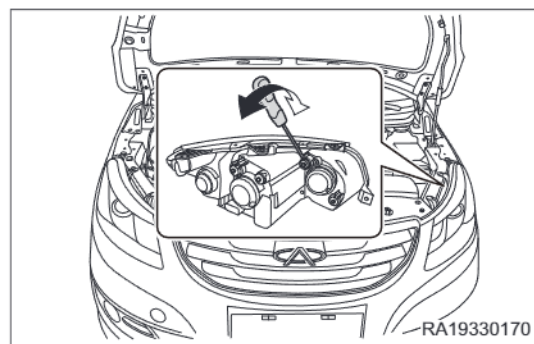
b. Low beams up/down adjustment

When you rotate the screwdriver clockwise, the beams move downward; when you rotate the screwdriver counterclockwise, the beams move upward.



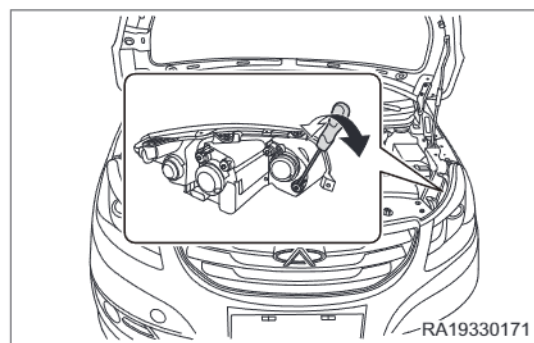
c. High beams left/right adjustment

When you rotate the screwdriver clockwise, the beams move to left; when you rotate the screwdriver counterclockwise, the beams move to right.



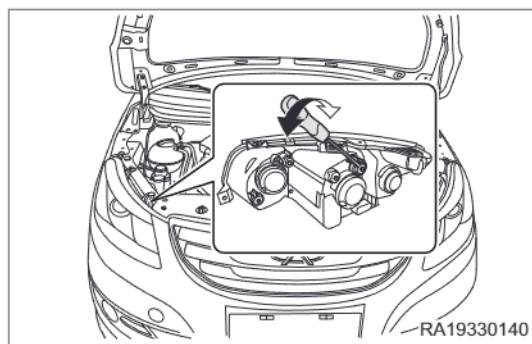
d. High beams up/down adjustment

When you rotate the screwdriver clockwise, the beams move downward; when you rotate the screwdriver counterclockwise, the beams move upward.

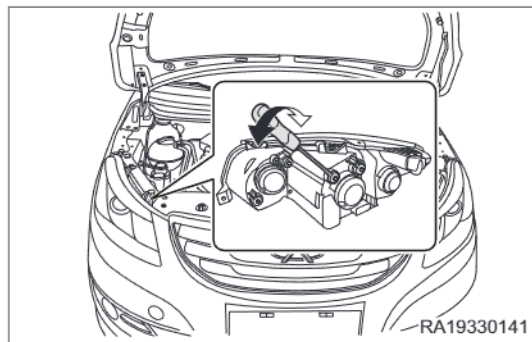


Adjustment method for right headlight**a. Low beams left/right adjustment**

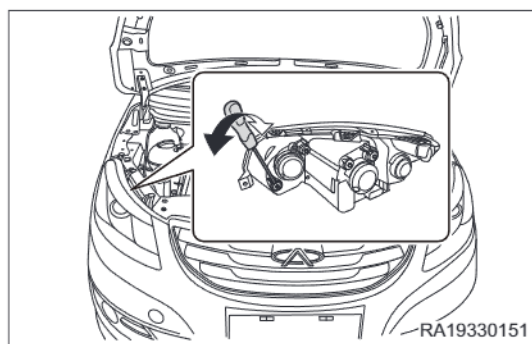
When you rotate the screwdriver clockwise, the beams move to right; when you rotate the screwdriver counterclockwise, the beams move to left.

**b. Low beams up/down adjustment**

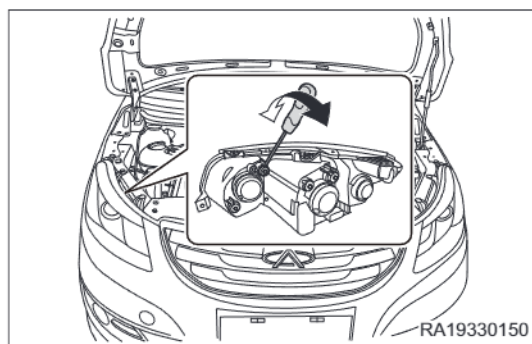
When you rotate the screwdriver clockwise, the beams move downward; when you rotate the screwdriver counterclockwise, the beams move upward.

**c. High beams left/right adjustment**

When you rotate the screwdriver clockwise, the beams move to right; when you rotate the screwdriver counterclockwise, the beams move to left.

**d. High beams up/down adjustment**

When you rotate the screwdriver clockwise, the beams move downward; when you rotate the screwdriver counterclockwise, the beams move upward.



Rear Combination Light

Removal

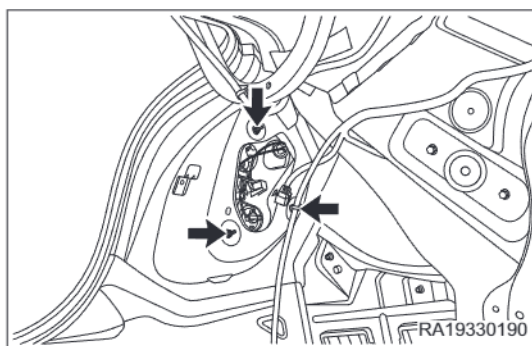
HINT:

- Use the same procedures for rear right combination light and rear left combination light.
- The procedures listed below are for rear left combination light.

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left luggage compartment trim assembly (See page 47-33).
4. Remove the rear combination light.
 - a. Disconnect the rear combination light wire harness connector and remove the rear combination light.



- b. Remove the rear combination light fixing nuts. (Tightening torque: $3.5 \pm 0.5 \text{ N}\cdot\text{m}$)



Installation

Installation is in the reverse order of removal.

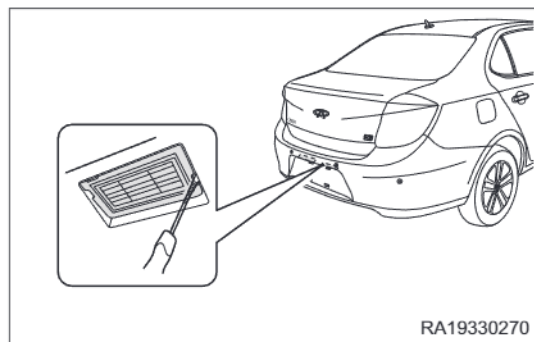
CAUTION

- When installing the rear combination light, make sure the fitting clearance between the rear combination light and the luggage compartment door, rear bumper is appropriate. Adjust it as necessary.

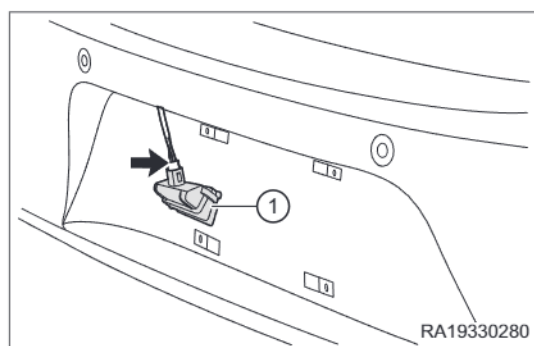
License Plate Light

Removal

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the license plate light.
 - a. Using a screwdriver wrapped with tape, pry out the license plate light.



- b. Disconnect the license plate light connector (arrow) and remove the license plate light (1).



Installation

Installation is in the reverse order of removal.

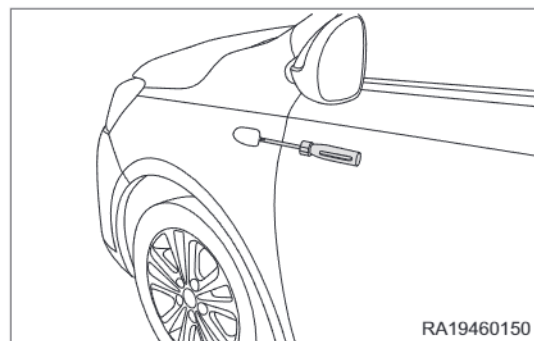
Side Turn Signal Light

Removal

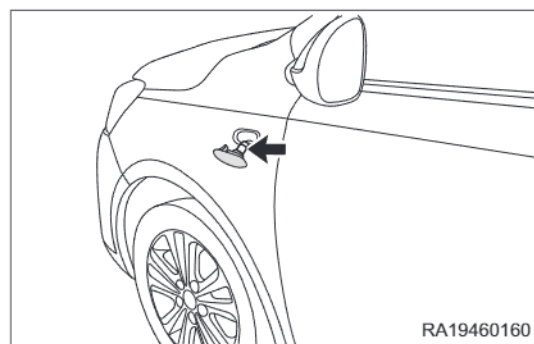
Use the same procedures for right side turn signal light and left side turn signal light.

The procedures listed below are for left side turn signal light.

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the side turn signal light.
 - a. Pry out the light cover with a screwdriver wrapped with protective tape while pushing the left side turn signal light cover forward.



- b. Disconnect the left side turn signal light wire harness connector, and remove the left side turn signal light.



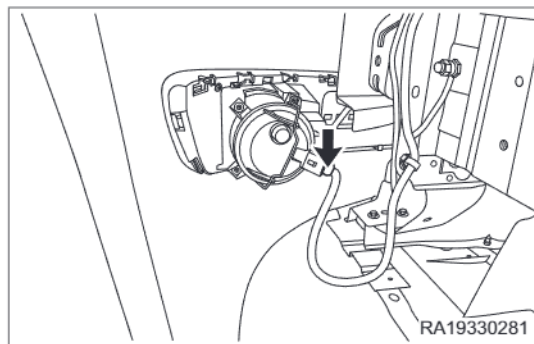
Installation

Installation is in the reverse order of removal.

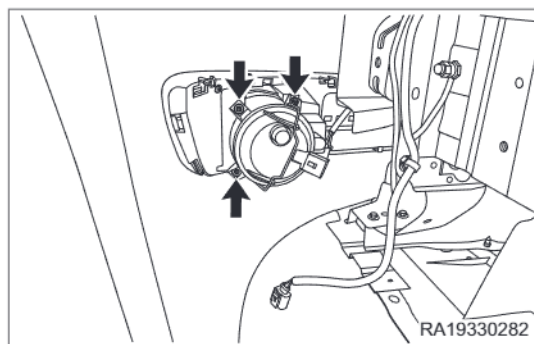
Front Fog Light

Removal

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front wheel house protector assembly ([See page 46-15](#)).
4. Remove the front fog light.
 - a. Disconnect the front fog light connector.



- b. Remove 3 fixing screws from the front fog light, and remove the front fog light.
(Tightening torque: 2 ± 1 N·m)



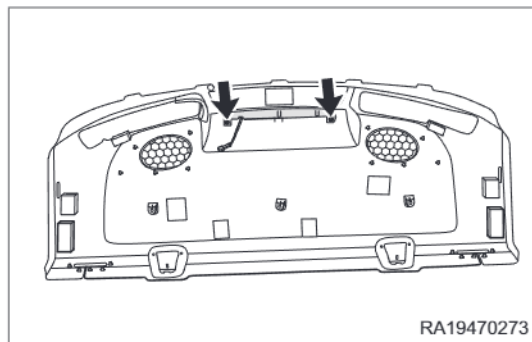
Installation

Installation is in the reverse order of removal.

High Mounted Stop Light

Removal

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the tonneau cover assembly ([See page 47-34](#)).
4. Remove the high mounted stop light.
 - a. Remove 2 fixing screws (arrow) from the high mounted stop light.
(Tightening torque: 2 ± 1 N·m)



33

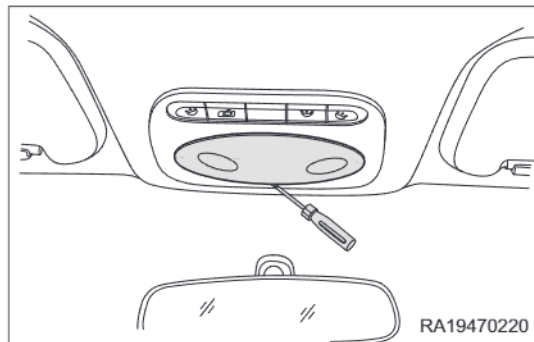
Installation

Installation is in the reverse order of removal.

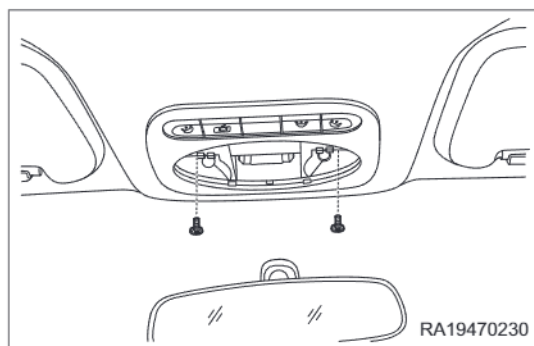
Dome Light Assembly

Removal

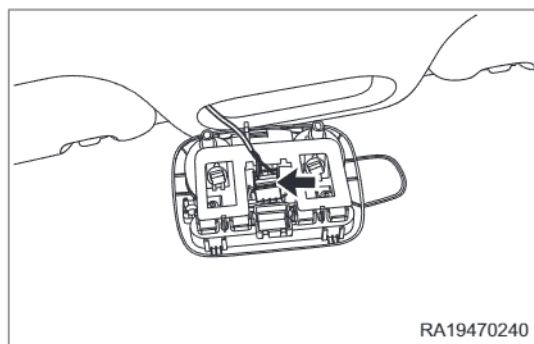
1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the interior front dome light assembly.
 - a. Using a screwdriver wrapped with protective tape, remove the interior front dome light cover.



- b. Remove 2 fixing screws from the interior front dome light assembly.
(Tightening torque: $2 \pm 1 \text{ N}\cdot\text{m}$)



- c. Disconnect the interior front dome light connector (arrow), and remove the interior front dome light assembly.

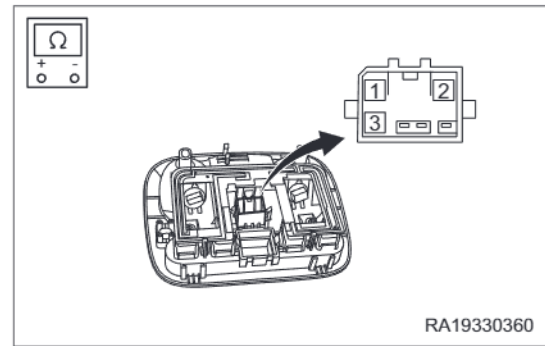


Inspection

1. Check the dome light.
 - a. Using the ohm band of digital multimeter, check for continuity between the terminals of dome light as shown in the table.

Multimeter Connection	Switch Condition	Specified Condition
Terminal 1 - Terminal 2	OFF	Continuity
Terminal 2 - Ground	OFF	No continuity
Terminal 1 - Terminal 2	DOOR	Continuity
Terminal 2 - Ground	DOOR	No continuity
Terminal 2 - Ground	ON	Continuity
Terminal 1 - Terminal 2	ON	No continuity

If the result is not as specified, replace the dome light assembly.



Installation

Installation is in the reverse order of removal.

Back-up Light Switch

Removal

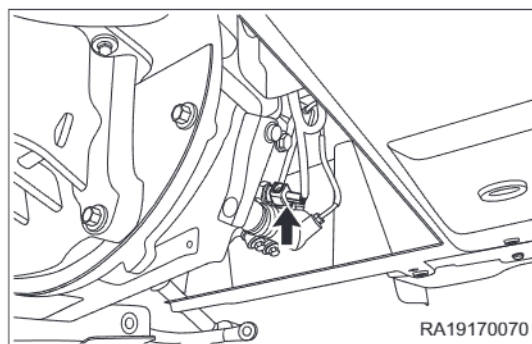
1. Stop the vehicle on the lifter, and support it with the lifter.
2. Turn off all the electrical equipment and ignition switch.
3. Disconnect the negative battery cable.
4. Raise the vehicle with the lifter.

WARNING

- Be sure to wear the necessary safety equipment to prevent accidents.
- Check if the safety lock of lifter is locked when repairing or inspecting the lifted vehicle.

33

5. Disconnect the back-up light switch connector.



6. Remove the back-up light switch.

HINT:

The transmission fluid may flow out when removing the back-up light switch. Use a container to collect the fluid.

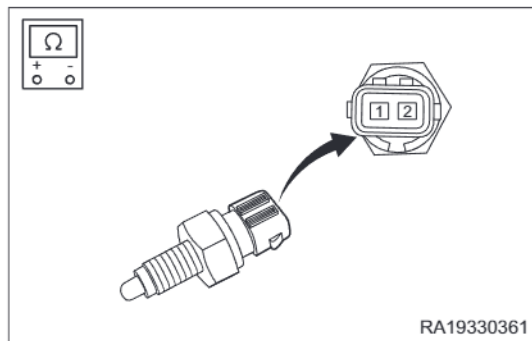
ENVIRONMENTAL PROTECTION

- The drained transmission fluid should be collected with a container.

Inspection

Check the back-up light switch

Switch Condition	Specified Condition
Push	Continuity
Not push	No continuity



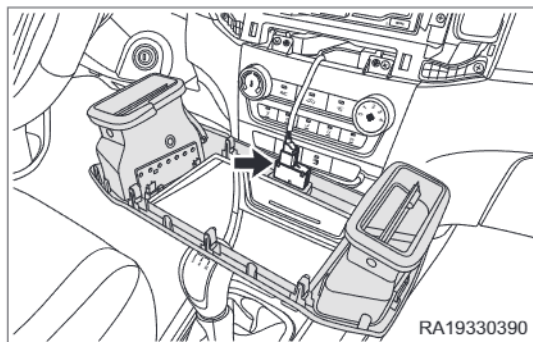
Installation

1. Apply thread locker to the threads of back-up light before installing the back-up light switch, and clean the transmission fluid on the transmission area where the back-up light will be installed. And then install the back-up light switch and tighten it.
(Tightening torque: 25 ± 2 N·m)
2. Check if the transmission fluid level is in the proper position after installation.
 - a. It is not necessary to do anything, if it is in the proper position.
 - b. It is necessary to fill the transmission fluid to the specified position, if it is not in the proper position (fill the fluid until it flows out of retaining plug).

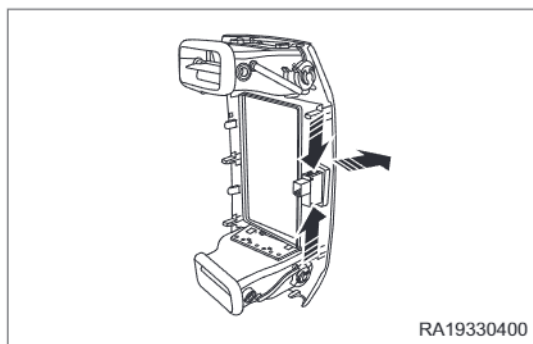
Hazard Warning Light Switch

Removal

1. Turn off all the electrical equipment and ignition switch.
2. Disconnect the negative battery cable.
3. Remove the hazard warning light switch.
 - a. Disengage the console panel assembly (See page 29-22).
 - b. Disconnect the hazard warning light connector and remove the console panel assembly (arrow).



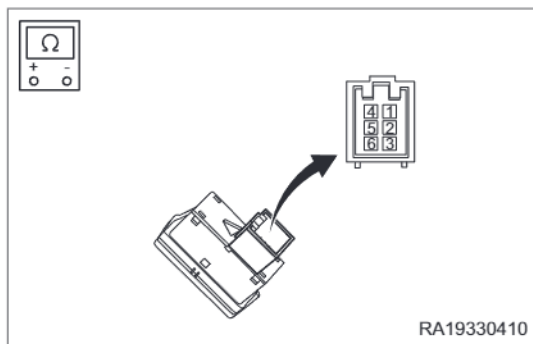
- c. Press the claws on both ends of the hazard warning light switch by hand, and push outward forcefully to remove it.



Inspection

1. Check the hazard warning light switch.
 - a. Using the ohm band of digital multimeter, check for continuity between the terminals of hazard warning light switch as shown in the table.

Multimeter Connection	Switch Condition	Specified Condition
Terminal 1 - Terminal 5 Terminal 4 - Terminal 5	Switch not pushed	No continuity
Terminal 1 - Terminal 5 Terminal 1 - Terminal 4 Terminal 4 - Terminal 5	Switch pushed	Continuity



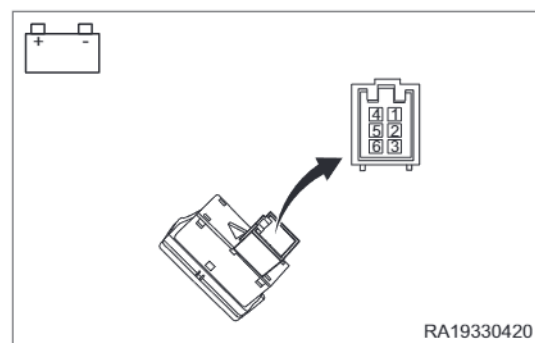
If the result is not as specified, replace the hazard warning light switch.

2. Check the switch illumination.

- a. Connect the positive (+) battery lead to terminal 2 and negative (-) battery lead to terminal 6, then check that the switch illumination comes on.

OK: LED comes on.

If the result is not as specified, replace the hazard warning light switch.



Installation

Installation is in the reverse order of removal.

