# SECTION EXTERIOR LIGHTING SYSTEM

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# < PRECAUTION > PRECAUTION PRECAUTIONS

#### Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery or batteries, and wait at least 3 minutes before performing any service.

#### Precaution for Procedure without Cowl Top Cover

INFOID:000000012964925

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



#### Precautions For Xenon Headlamp Service

INFOID:000000012201605

#### WARNING:

Comply with the following warnings to prevent any serious accident.

- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector.

#### PRECAUTIONS

< PRECAUTION >	[XENON TYPE]
<ul> <li>(Turning it ON outside the lamp case may cause fire or visual impairments.)</li> <li>Never touch the bulb glass immediately after turning it OFF. It is extremely hot CAUTION:</li> </ul>	
<ul> <li>Comply with the following cautions to prevent any error and malfunction.</li> <li>Install the xenon bulb securely. (Insufficient bulb socket installation may melt tor, the housing, etc. by high-voltage leakage or corona discharge.)</li> <li>Never perform HID circuit inspection with a tester.</li> <li>Never touch the xenon bulb glass with hands. Never put oil and grease on it.</li> <li>Dispose of the used xenon bulb after packing it in thick vinyl without breaking</li> <li>Never wipe out dirt and contamination with organic solvent (thinner, gasoline,</li> </ul>	the bulb, the connec- it. etc.).
Precautions for Removing Battery Terminal	INFOID:000000012964926
<ul> <li>When disconnecting the battery terminal, pay attention to the following.</li> <li>Always use a 12V battery as power source.</li> <li>Never disconnect battery terminal while engine is running.</li> <li>When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.</li> <li>For vehicles with the engine listed below, remove the battery termi-</li> </ul>	EZ)

nal after a lapse of the specified time:

D4D engine	: 20 minutes
HRA2DDT	: 12 minutes
K9K engine	: 4 minutes
M9R engine	: 4 minutes
R9M engine	: 4 minutes
V9X engine	: 4 minutes
YD25DDTi	: 2 minutes



#### NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

: 4 minutes

: 4 minutes

: 60 seconds

: 60 seconds

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait J for at least 15 minutes to remove the battery terminal.
   NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- · Example of high-load driving
- Driving for 30 minutes or more at 140 km/h (86 MPH) or more.

YS23DDT

YS23DDTT

ZD30DDTi

ZD30DDTT

- Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

#### NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.  $\,$ 

• After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC. **NOTE:** 

The removal of 12V battery may cause a DTC detection error.

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#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

#### SYSTEM DESCRIPTION COMPONENT PARTS EXTERIOR LIGHTING SYSTEM

**EXTERIOR LIGHTING SYSTEM : Component Parts Location** 

INFOID:000000012201607





#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

\*2: With daytime running light system

#### \*<sup>3</sup>: With auto light system

\*4: Except for NISMO models with daytime running light system

#### **EXTERIOR LIGHTING SYSTEM : Component Description**

INFOID:000000012201608

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Part		Description
ВСМ		<ul> <li>Detects each switch condition by the combination switch reading function</li> <li>Judges that the headlamp is turned ON according to the vehicle condition</li> <li>Requests the headlamp relay (High/Low) ON to IPDM E/R (via CAN communication)</li> <li>Requests the high beam indicator lamp and position lamp indicator lamp ON to the combination meter (via CAN communication)</li> <li>Judges the outside brightness from the optical sensor signal.</li> <li>Judges the ON/OFF status of the exterior lamp from the outside brightness and the vehicle condition.</li> </ul>
IPDM E/R		Controls the integrated relay and daytime running light relay, and supplies voltage to the load according to the request from BCM (via CAN communication).
Combination meter		<ul> <li>Turns the high beam indicator lamp and position lamp indicator lamp ON according to the request from BCM (via CAN communication).</li> <li>Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (via CAN communication).</li> <li>Combination meter transmits parking brake switch signal to BCM via CAN communication.</li> </ul>
ECM* <sup>1</sup>		ECM transmits engine status signal to BCM via CAN communication.
	HID control unit	Refer to EXL-10, "HEADLAMP ASSEMBLY : HID control unit".
rieadiamp assembly	Xenon headlamp	Refer to EXL-9, "HEADLAMP ASSEMBLY : Xenon Headlamp".
Optical sensor*2		Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
Door switch		Refer to DLK-10. "Component Description".
Combination switch (Lighting & turn signal switch)		Refer to <u>BCS-8, "COMBINATION SWITCH READING SYSTEM : System Description"</u> .
Hazard switch		Inputs the hazard switch ON/OFF signal to BCM.

\*<sup>1</sup>: With daytime running light system

#### \*<sup>2</sup>: With auto light system HEADLAMP ASSEMBLY

#### HEADLAMP ASSEMBLY : Xenon Headlamp

INFOID:000000012201609

EXL

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#### OUTLINE

- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb drops the amount of light, repeats blinking, and illuminates in red if the bulb reaches the service life.

#### ILLUMINATION PRINCIPLE

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#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

- 1. Discharging starts in high voltage pulse between bulb electrodes.
- 2. Xenon gas is activated by current between electrodes. Pale light is emitted.
- 3. The luminous tube (bulb) temperature elevates. Evaporated halide is activated by discharge. The color of light changes into white.

#### NOTE:

- · Brightness and the color of light may change slightly immediately after the headlamp turned ON until the xenon bulb becomes stable. This is not malfunction.
- · Illumination time lag may occur between right and left. This is not malfunction.

#### PRECAUTIONS FOR TROUBLE DIAGNOSIS

Representative malfunction examples are; "Light does not turn ON", "Light blinks", and "Brightness is inadequate." The cause often be the xenon bulb. Such malfunctions, however, are occurred occasionally by HID control unit malfunction or lamp case malfunction. Specify the malfunctioning part with diagnosis procedure.

#### WARNING:

- Never touch the harness, HID control unit, the inside and metal part of lamp when turning the headlamp ON or operating the lighting switch.
- Never work with wet hands.

#### **CAUTION:**

- Never perform HID control unit circuit diagnosis with a circuit tester or an equivalent.
- Temporarily install the headlamps on the vehicle. Connect the battery to the connector (vehicle side) when checking ON/OFF status.
- Disconnect the battery negative terminal before disconnecting the lamp socket connector or the harness connector.
- · Check for blown (open) of the fusible link(s), open around connector, short, disconnection if the symptom is caused by electric error.

#### NOTE

- Turn the switch OFF once before turning ON, if the ON/OFF is inoperative.
- The xenon bulb drops the amount of light, repeats blinking, and illuminates in red if the bulb reaches the service life.

#### HEADLAMP ASSEMBLY : HID control unit

INFOID:000000012201610

Headlamp (LO) circuit is connected to HID control unit integrated in the headlamp. Headlamp (LO) circuit turns xenon headlamp ON.

For the details of HID control unit and the xenon headlamp, refer to EXL-9, "HEADLAMP ASSEMBLY : Xenon Headlamp".



[XENON TYPE]

INFOID:000000012201612

#### SYSTEM HEADLAMP SYSTEM



#### **HEADLAMP SYSTEM : System Description**

#### OUTLINE

Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay control function of IPDM E/R.

#### HEADLAMP (LO) OPERATION

- · BCM detects the combination switch condition with the combination switch reading function.
- BCM transmits the low beam request signal to IPDM E/R via CAN communication according to the headlamp (LO) ON condition.

Headlamp (LO) ON condition

- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to <u>EXL-12, "AUTO LIGHT SYSTEM : System Description"</u>.)
- Lighting switch PASS
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp (LO) ON according to the low beam request signal.

#### HEADLAMP (HI) OPERATION

• BCM transmits the high beam request signal to IPDM E/R and the combination meter via CAN communication according to the headlamp (HI) ON condition.

#### Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch HI with the lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to <u>EXL-12, "AUTO LIGHT SYSTEM : System Description"</u>.)
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp (HI) ON according to the high beam request signal.

#### FOLLOW ME HOME FUNCTION

When the driver is moving to the house entrance from the own vehicle, headlamp is kept still ON by the follow me home function of BCM.

• When BCM detects the input of lighting switch PASS while all of following conditions satisfied, it transmits the low beam request signal for a period of time to IPDM E/R through CAN communication.

Follow me home ON condition

Ignition switch OFF

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#### < SYSTEM DESCRIPTION >

#### - Lighting switch OFF

- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp (LO) ON according to the low beam request signal.
- When in any of following conditions, follow me home function can be cancelled while follow me home function is operating.

Follow me home OFF condition

- Ignition switch is turned from  $OFF \rightarrow ACC$  or ON
- Lighting switch is turned from  $OFF \rightarrow ON$

NOTE:

- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).
- Follow me home function activating time can be set by CONSULT. Refer to <u>EXL-20, "HEADLAMP : CON-</u> <u>SULT Function (BCM - HEAD LAMP) (XENON TYPE)"</u>.

#### **HEADLAMP SYSTEM : Fail-Safe**

INFOID:000000012201613

INFOID:000000012201614

#### CAN COMMUNICATION CONTROL

When CAN communication with BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>

#### AUTO LIGHT SYSTEM

#### AUTO LIGHT SYSTEM : System Diagram



#### AUTO LIGHT SYSTEM : System Description

#### OUTLINE

• Auto light system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch reading function
- Headlamp control function

#### Revision: November 2015

INFOID:000000012201615

<ul> <li>Delay timer function</li> <li>Wiper linked auto lighting function</li> </ul>	А
<ul> <li>Control by IPDM E/R</li> <li>Relay control function</li> <li>Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function</li> </ul>	В
<ul> <li>Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness.</li> </ul>	С
<ul> <li>Wiper linked auto lighting function automatically turns ON/OFF the exterior lamps* and each illumination when the light switch is in the AUTO position, according to a front wiper operation.</li> <li>When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF, depending on the vehicle condition with the auto light function after a certain period of time</li> </ul>	D
*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, tail lamp and side marker lamp (Head- lamp HI and front fog lamp depend on the combination switch condition.)	Ε
The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT. Refer to <u>EXL-20</u> , " <u>HEADLAMP</u> : <u>CONSULT Function</u> ( <u>BCM - HEAD LAMP</u> ) ( <u>XENON TYPE</u> )".	F
AUTO LIGHT FUNCTION (WITH TWILIGHT LIGHTING FUNCTION)	
<ul> <li>Description</li> <li>BCM detects the combination switch condition with the combination switch reading function.</li> <li>BCM supplies voltage to the optical sensor when the ignition switch is turned ON.</li> </ul>	G
<ul> <li>Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.</li> <li>BCM filters outside brightness based on the optical sensor signal and judges outside brightness.</li> <li>BCM detects change status of outside brightness according to outside brightness from the optical sensor signal and filtered outside brightness.</li> </ul>	Η
<ul> <li>BCM transmits each request signal to IPDM E/R and combination meter via CAN communication, according to ON/OFF condition by the auto light function.</li> </ul>	
As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed with CONSULT. Refer to <u>EXL-20, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (XENON TYPE)"</u> .	J
<ul> <li>DELAY TIMER FUNCTION</li> <li>BCM turns the headlamp (LO) OFF depending on the vehicle condition with the auto light function when the ignition switch is turned OFF.</li> </ul>	Κ
<ul> <li>Turns the headlamp (LO) OFF 5 minutes after the ignition switch is turned OFF.</li> <li>Turns the headlamp (LO) OFF 5 minutes after detecting that any door opens. (Door switch ON).</li> <li>Turns the headlamp (LO) OFF a certain period of time* after closing all doors. (Door switch ON → OFF).</li> </ul>	EXL
<ul> <li>Delay timer function turns OFF, when the ignition switch is other than OFF or the lighting switch is other than AUTO.</li> <li>*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>EXL-20. "HEAD-</u></li> </ul>	M
<u>LAMP : CONSULT Function (BCM - HEAD LAMP) (XENON TYPE)</u> . <b>NOTE:</b> When any position other than the lighting switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.	Ν
WIPER LINKED AUTO LIGHTING FUNCTION BCM turns the exterior lamps ON when detecting 4 operations of the front wiper work the light switch in AUTO position.	0
BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned from ON⇒OFF. DAYTIME RUNNING LIGHT SYSTEM	Ρ

#### < SYSTEM DESCRIPTION >

#### DAYTIME RUNNING LIGHT SYSTEM : System Diagram

INFOID:000000012201616

[XENON TYPE]

#### EXCEPT FOR NISMO MODELS



#### NISMO MODELS



#### DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000012201617

#### OUTLINE

Except for NISMO Models

- Turns the headlamp (HI) ON [Headlamp (HI) at approximately half illumination] as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

#### NISMO Models

Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

#### DAYTIME RUNNING LIGHT OPERATION

Except for NISMO Models

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects vehicle condition depending on the following signals.
- Engine status signal (received from ECM via CAN communication)
- Parking brake switch signal (received from combination meter via CAN communication)
- BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- Éngine running with the parking brake released, and any following conditions are satisfied.

#### Revision: November 2015

#### **EXL-14**

#### < SYSTEM DESCRIPTION >

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<ul> <li>Lighting switch OFF</li> <li>Lighting switch 1ST</li> </ul>	А
<ul> <li>IPDM E/R controls the daytime running light relay (ground-side) to turn ON according to the daytime running light relay (ground-side) to turn ON according to the daytime running light relay through the request signal.</li> <li>Power is supplied from the daytime running light relay through headlamp high RH and IPDM E/R to head-lamp high LH. And high beam headlamps are illuminated (approximately half illumination) as the daytime running light.</li> </ul>	В
<ul> <li>NISMO Models</li> <li>BCM detects the combination switch condition by the combination switch reading function.</li> <li>BCM detects vehicle condition depending on the following signals.</li> <li>Engine status signal (received from ECM via CAN communication)</li> <li>Parking brake switch signal (received from combination meter via CAN communication)</li> </ul>	C
<ul> <li>BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.</li> <li>Daytime running light ON condition</li> </ul>	Е
<ul> <li>Éngine running with the parking brake released, and any following conditions are satisfied.</li> <li>Lighting switch OFF</li> <li>Lighting switch 1ST</li> <li>IPDM E/R turns the integrated daytime running light relay ON, and turns the daytime running light ON according to the daytime running light request signal.</li> <li>TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM</li> </ul>	F
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram	G
Combination switch	Н



#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000012201619

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#### OUTLINE

Turn signal lamp and hazard warning lamp is controlled by combination switch reading function and the flasher control function of BCM.

#### TURN SIGNAL LAMP OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM supplies voltage to the right (left) turn signal lamp circuit when the ignition switch is ON and the turn signal switch is in the right (left) position. BCM blinks the turn signal lamp.

#### HAZARD WARNING LAMP OPERATION

BCM supplies voltage to both turn signal lamp circuits when the hazard switch is ON. BCM blinks the hazard warning lamp.

#### TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

 BCM transmits the turn indicator signal to the combination meter using CAN communication while the turn signal lamp and the hazard warning lamp are operating.

#### **EXL-15**

#### < SYSTEM DESCRIPTION >

Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn indicator signal.

#### **3-TIME FLASHER FUNCTION**

- By a short touch of the turn signal lever, BCM blinks the turn signal lamps 3 times in the selected direction.
- Cancels the operation when short touch of the turn signal lever in the reverse direction during the 3-time flasher function operation.

#### HIGH FLASHER OPERATION

- BCM detects the turn signal lamp circuit status from the current value.
- BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.
  - NOTE:

The blinking speed is normal while operating the hazard warning lamp.

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Diagram



#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description INFOID:000000012201621

#### OUTLINE

Parking, license plate, side marker and tail lamps are controlled by combination switch reading function and parking, license plate, side marker and tail lamps control function of BCM, and relay control function of IPDM E/R.

#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R and the combination meter via CAN communication according to the parking, license plate, side marker and tail lamps ON condition.

Parking, license plate, side marker and tail lamps ON condition (When any of the following conditions are satisfied)

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-12, "AUTO LIGHT SYSTEM : System Description".)
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
- Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : Fail-Safe

INFOID:000000012201622

CAN COMMUNICATION CONTROL

**Revision: November 2015** 

#### < SYSTEM DESCRIPTION >

When CAN communication with BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation	В
<ul><li>Parking lamp</li><li>License plate lamp</li><li>Tail lamp</li></ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>	С

#### FRONT FOG LAMP SYSTEM

#### FRONT FOG LAMP SYSTEM : System Diagram



#### FRONT FOG LAMP SYSTEM : System Description

#### OUTLINE

Front fog lamp is controlled by combination switch reading function and front fog lamp control function of BCM, and relay control function of IPDM E/R.

#### FRONT FOG LAMP OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front fog light request signal to IPDM E/R via CAN communication according to the front fog lamp ON condition.

#### Front fog lamp ON condition

- Front fog lamp switch ON, and any of the following conditions are satisfied. [Except headlamp (HI) ON condition]
- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-12. "AUTO LIGHT SYSTEM : System Description".)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.

#### FRONT FOG LAMP SYSTEM : Fail-Safe

#### CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation		
Front fog lamp	Front fog lamp relay OFF		Ρ

#### EXTERIOR LAMP BATTERY SAVER SYSTEM

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INFOID:000000012201623

INFOID:000000012201624

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#### < SYSTEM DESCRIPTION >

#### EXTERIOR LAMP BATTERY SAVER SYSTEM : System Diagram



#### EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000012201627

#### OUTLINE

- Exterior lamp battery saver system is controlled by combination switch reading function and exterior lamp battery saver function of BCM, and relay control function of IPDM E/R.
- BCM turns the exterior lamp\* OFF, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.
- \*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp

#### EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM activates the timer and turns the exterior lamp OFF 45 seconds after the ignition switch is turned from ON → OFF with the exterior lamps ON.
- When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps can be turned ON.
- Ignition switch is turned from  $\mathsf{OFF}\to\mathsf{ON}$
- Lighting switch is changed
- Front fog lamp switch is changed

INFOID:000000012201626

## < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

#### COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

#### INFOID:000000012962262

#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	_
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	– D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	_
Data Monitor	The BCM input/output signals are displayed.	E
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	_
Configuration	<ul><li> Read and save the vehicle specification.</li><li> Write the vehicle specification when replacing BCM.</li></ul>	F

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

Questant		Diagnosis mode			
System	Sub system selection item	Work Support	Data Monitor	Active Test	I
Door lock	DOOR LOCK	×	×	×	1
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	J
Interior room lamp timer	INT LAMP	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	k
Wiper and washer	WIPER	×	×	×	rx.
Turn signal and hazard warning lamps	FLASHER	×	×	×	
Air conditioning system	AIR CONDITONER		×	×*	EXI
<ul><li>Intelligent Key system</li><li>Engine start system</li></ul>	INTELLIGENT KEY	×	×	×	
Combination switch	COMB SW		×		M
Body control system	BCM	×			
NVIS - NATS	IMMU	×	×	×	NI
Interior room lamp battery saver	BATTERY SAVER	×	×	×	IN
Back door open	TRUNK		×		
Theft warning alarm	THEFT ALM	×	×	×	0
RAP	RETAINED PWR		×		
Signal buffer system	SIGNAL BUFFER		×	×	_
TPMS	AIR PRESSURE MONITOR	×	×	×	Ρ

#### NOTE:

\*: For models with automatic A/C, this diagnosis mode is not used.

#### FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

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#### < SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description			
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected			
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected			
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power position is "LOCK"*.)		
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power position is "OFF".)		
	LOCK>ACC		While turning power position from "LOCK"* *to "ACC"		
	ACC>ON		While turning power position from "ACC" to "IGN"		
	RUN>ACC		While turning power position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)		
	CRANK>RUN		While turning power position from "CRANKING" to "RUN" (From cranking up the engine to run it)		
	RUN>URGENT		While turning power position from "RUN" to "ACC" (Emergency stop operation)		
	ACC>OFF	Power position status of	While turning power position from "ACC" to "OFF"		
Vehicle Condition	OFF>LOCK	the moment a particular DTC is detected	While turning power position from "OFF" to "LOCK"*		
	OFF>ACC		While turning power position from "OFF" to "ACC"		
	ON>CRANK		While turning power position from "IGN" to "CRANKING"		
	OFF>SLEEP		While turning BCM status from normal mode (Power position is "OFF".) to low power consumption mode		
	LOCK>SLEEP		While turning BCM status from normal mode (Power position is "LOCK"*.) to low power consumption mode		
	LOCK		Power position is "LOCK"*		
	OFF		Power position is "OFF" (Ignition switch OFF)		
	ACC		Power position is "ACC" (Ignition switch ACC)		
	ON		Power position is "IGN" (Ignition switch ON with engine stopped)		
	ENGINE RUN		Power position is "RUN" (Ignition switch ON with engine running)		
	CRANKING		Power position is "CRANKING" (At engine cranking)		
IGN Counter	0 - 39	<ul> <li>The number of times that ignition switch is turned ON after DTC is detected</li> <li>The number is 0 when a malfunction is detected now.</li> <li>The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON.</li> <li>The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.</li> </ul>			

#### NOTE:

\*: Power position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position (A/T models and CVT models), and any of the following conditions are met.

- · Closing door
- · Opening door
- · Door is locked using door request switch
- Door is locked using Intelligent Key

The power position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK".

#### HEADLAMP

#### HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (XENON TYPE) INFOLD:000000012201629

#### WORK SUPPORT

#### < SYSTEM DESCRIPTION >

#### [XENON TYPE]

Service item	Setting item		Setting	
	MODE1*2	Normal		
CUSTOM A/LIGHT SETTING*1	MODE2	More sensitive setting	More sensitive setting than normal setting (Turns ON earlier than normal operation)	
	MODE3	More sensitive setting than MODE2 (Turns ON earlier than MODE2)		
	MODE4	Less sensitive setting	than normal setting (Turns ON later than normal operation)	
BATTERY SAVER SET	On* <sup>2</sup>	With the exterior lam	p battery saver function	
	Off	Without the exterior la	amp battery saver function	
	MODE1*2	45 sec.		
	MODE2	Without the function		
	MODE3	30 sec.		
ILL DELAY SET* <sup>1</sup>	MODE4	60 sec.	Sets delay timer function timer operation time.	
	MODE5	90 sec.	(All doors closed)	
	MODE6	120 sec.		
	MODE7	150 sec.		
	MODE8	180 sec.		
	MODE1	10 sec.	Sate follow me home function activating time	
	MODE2*2	30 sec.		
	MODE1*2	With twilight ON cust	om & with wiper INT, LO and HI	
	MODE2	With twilight ON cust	om & with wiper LO and HI	
	MODE3	With twilight ON custom & without		
	MODE4	Without twilight ON custom & with wiper INT, LO and HI		
	MODE5	Without twilight ON c	Without twilight ON custom & with wiper LO and HI	
	MODE6	Without twilight ON c	ustom & without	

\*<sup>1</sup>: For models without auto light system, this item cannot be used.

\*<sup>2</sup>: Factory setting

#### DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	M
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch	
ENGINE STATE [STOP/STALL/CRANK/RUN]	Indicates [STOP/STALL/CRANK/RUN] condition of engine states	Ν
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from combination meter by numerical value [km/h]	0

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#### < SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description
TURN SIGNAL R [On/Off]	
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW 1 [On/Off]	Each switch status that BCM judges from the combination switch reading function
HEAD LAMP SW 2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW* <sup>1</sup> [On/Off]	
FR FOG SW* <sup>2</sup> [On/Off]	
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch
OPTI SEN (DTCT) [V]	The value of outside brightness voltage input from the optical sensor
OPTI SEN (FILT) [V]	The value of outside brightness voltage filtered by BCM
OPTICAL SENSOR [On/Off/NG]	NOTE: This item cannot be monitored

\*<sup>1</sup>: For models without auto light system, this item cannot be monitored.
\*<sup>2</sup>: For models without front fog lamp, this item cannot be monitored.

#### ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	<ul> <li>Transmits the position light request signal to IPDM E/R via CAN communication to turn the parking, license plate and tail lamps ON</li> <li>Transmits the position light request signal to combination meter via CAN communication to turn the position lamp indicator lamp ON</li> </ul>
	Off	Stops the position light request signal transmission
HEAD LAMP	HI	<ul> <li>Transmits the high beam request signal to IPDM E/R via CAN communication to turn the headlamp (HI) ON</li> <li>Transmits the high beam request signal to combination meter via CAN communication to turn the high beam indicator lamp ON</li> </ul>
	Low	Transmits the low beam request signal to IPDM E/R via CAN communication to turn the headlamp (LO) ON
	Off	Stops the high beam request signal and low beam request signal transmission

#### < SYSTEM DESCRIPTION >

#### [XENON TYPE]

Test item	Operation	Description	
FR FOG LAMP* <sup>1</sup>	On	<ul> <li>Transmits the front fog light request signal to IPDM E/R via CAN communication to turn the front fog lamp ON (With front fog lamp)</li> <li>Transmits the daytime running light request signal to IPDM E/R via CAN communication to turn the daytime running light ON (NISMO models with daytime running light system)</li> </ul>	B
	Off	<ul> <li>Stops the front fog light request signal transmission (With front fog lamp)</li> <li>Stops the front fog light request signal transmission (NISMO models with daytime running light system)</li> </ul>	С
DAYTIME RUNNING LIGHT*2	On	Transmits the daytime running light request signal to IPDM E/R via CAN communi- cation to turn the headlamp (HI) ON [Headlamp (HI) at approximately half illumina- tion]	D
	Off	Stops the daytime running light request signal transmission	
ILL DIM SIGNAL	On	NOTE:	F
	Off	This item cannot be tested	

\*<sup>1</sup>: For models without front fog lamp and except for NISMO models with daytime running light system, this item cannot be tested.

\*<sup>2</sup>: For models without daytime running light system and NISMO models with daytime running light system, this item cannot be tested.

#### FLASHER

#### FLASHER : CONSULT Function (BCM - FLASHER) (XENON TYPE)

WORK SUPPORT

Service item	Setting item	Setting		1
HAZARD ANSWER BACK	Lock Only	With locking only		
	Unlock Only	With unlocking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the door request switch and In-	J
	Lock/ Unlock*	With locking/unlocking	telligent Key	K
	Off	Without the function		

\*: Factory setting

#### DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	N
REQ SW -DR [On/Off]	Indicates [On/Off] condition of door request switch (driver side)	
REQ SW -AS [On/Off]	Indicates [On/Off] condition of door request switch (passenger side)	0
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch	P
TURN SIGNAL R [On/Off]	Each switch status that PCM datasts from the combination switch reading function	
TURN SIGNAL L [On/Off]		
HAZARD SW [On/Off]	The switch status input from the hazard switch	

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#### < SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
RKE-LOCK [On/Off]	Indicates [On/Off] condition of LOCK signal from Intelligent Key
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-PANIC* [On/Off]	Indicates [On/Off] condition of PANIC button of Intelligent Key

\*: For models without panic alarm function, this item cannot be used.

#### ACTIVE TEST

Test item	Operation	Description
FLASHER	RH	<ul> <li>Outputs voltage to turn the right side turn signal lamps ON</li> <li>Transmits the turn indicator signal to combination meter via CAN communication to turn the turn signal indicator lamp (RH) ON</li> </ul>
	LH	<ul> <li>Outputs voltage to turn the left side turn signal lamps ON</li> <li>Transmits the turn indicator signal to combination meter via CAN communication to turn the turn signal indicator lamp (LH) ON</li> </ul>
	Off	<ul><li>Stops the voltage to turn the turn signal lamps OFF</li><li>Stops the turn indicator signal transmission</li></ul>

#### Diagnosis Description

#### AUTO ACTIVE TEST

Description

In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation.

- Rear window defogger
- Front wiper motor
- Parking lamp
- · License plate lamp
- Tail lamp
- Side marker lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

#### CAUTION:

Wiper arm interferes with hood when wiper is operated while wiper arm is in the raised position. Always perform auto active test without setting wiper arm in the raised position. Always pour water on front windshield glass in advance to auto active test so that damage on front windshield glass surface is prevented.

- 1. Turn the ignition switch OFF.
- Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
   CAUTION:

#### Close passenger door.

3. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.

CAUTION:

#### Engine starts when ignition switch is turned ON while brake pedal is depressed.

- 4. After a series of the following operations is repeated 3 times, auto active test is completed.
- NOTE:
- · When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to <u>DLK-77</u>, <u>"Component Function Check"</u>.

#### Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following operation sequence is repeated 3 times.

Operation sequence	Inspection location	Operation	
1	Rear window defogger	10 seconds	Ν
2	Front wiper motor	LO for 5 seconds $\rightarrow$ HI for 5 seconds	
3	<ul> <li>Parking lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> <li>Side marker lamp</li> <li>Front fog lamp</li> </ul>	10 seconds	O
4	Headlamp	LO for 10 seconds $\rightarrow$ HI ON $\Leftrightarrow$ OFF 5 times	
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$	
6	Cooling fan	50% duty for 5 seconds $\rightarrow$ 100% duty for 5 seconds	

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#### < SYSTEM DESCRIPTION >

#### Concept of auto active test



 IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.

• The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger operate?	NO	<ul> <li>Rear window defogger</li> <li>Rear window defogger ground circuit</li> <li>Harness or connector between IPDM E/R and rear window defogger</li> <li>IPDM E/R</li> </ul>
Any of the following components do not		YES	BCM signal input circuit
operate • Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp • Headlamp (HI, LO) • Front wiper motor	Perform auto active test. Does the applicable system operate?	NO	<ul> <li>Lamp or motor</li> <li>Lamp or motor ground circuit</li> <li>Harness or connector between IPDM E/R and applicable system</li> <li>IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	<ul> <li>A/C amp. signal input circuit</li> <li>CAN communication signal between A/C amp. and ECM</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
	ate?	NO	<ul> <li>Magnet clutch</li> <li>Harness or connector between IPDM E/R and magnet clutch</li> <li>IPDM E/R</li> </ul>

#### < SYSTEM DESCRIPTION >

#### [XENON TYPE]

Symptom	Inspection contents		Possible cause	٨
	YE	YES	<ul> <li>ECM signal input circuit</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>	A
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	<ul> <li>Harness or connector between IPDM E/R and cooling fan relay</li> <li>Harness or connector between IPDM E/R and cooling fan control module.</li> <li>Harness or connector between cooling fan control module and cooling fan motor</li> <li>Cooling fan motor</li> <li>Cooling fan relay</li> <li>Cooling fan control module</li> <li>IPDM E/R</li> </ul>	B C D

#### CONSULT Function (IPDM E/R)

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#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Diagnosis mode	Description		
Ecu Identification	Allows confirmation of IPDM E/R part number.	0	
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.	-	
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.		
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.		
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.	_	

#### SELF DIAGNOSTIC RESULT

Refer to PCS-24, "DTC Index".

#### DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	MAIN SIGNALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN com- munication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN com- munication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN com- munication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN com- munication.

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#### < SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor Item [Unit]	MAIN SIGNALS	Description
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the ignition power supply (M/T models) or shift position (CVT models) judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN com- munication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN com- munication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		NOTE: This item is indicated, but not monitored.
S/L STATE [LOCK/UNLK/UNKWN]		NOTE: This item is indicated, but not monitored.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. <b>NOTE:</b> This item is monitored only for the except for NISMO models.
OIL P SW [Open/Close]		NOTE: This item is indicated, but not monitored.
HOOD SW [Off/On]		NOTE: This item is indicated, but not monitored.
HL WASHER REQ [Off/On]		NOTE: This item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder request signal received from BCM via CAN communication.

#### ACTIVE TEST

Test item

Test item	Operation	Description	
HORN	On	Operates horn relay for 20 ms.	
REAR DEFOGGER	Off	OFF	
	On	Operates the rear window defogger relay.	
FRONT WIPER	Off	OFF	
	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	
MOTOR FAN	1	OFF	
	2	Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module.	
	3	Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module.	
	4	Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module.	
HEAD LAMP WASHER	On	NOTE: This item is indicated, but cannot be tested.	

#### < SYSTEM DESCRIPTION >

#### [XENON TYPE]

Test item	Operation	Description	
EXTERNAL LAMPS	Off	OFF	1
	TAIL	Operates the tail lamp relay.	
	Lo	Operates the headlamp low relay.	F
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.	
	Fog	Operates the front fog lamp relay.	(

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### ECU DIAGNOSIS INFORMATION

#### BCM, IPDM E/R

#### List of ECU Reference

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ECU	Reference
	BCS-39, "Reference Value"
DCM	BCS-60, "Fail-safe"
	BCS-61, "DTC Inspection Priority Chart"
	BCS-62, "DTC Index"
	PCS-17, "Reference Value"
IPDM E/R	PCS-23, "Fail-safe"
	PCS-24, "DTC Index"

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### WIRING DIAGRAM

EXTERIOR LIGHTING SYSTEM

#### Wiring Diagram



#### **EXTERIOR LIGHTING SYSTEM**



**Revision: November 2015** 

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[XENON TYPE]



#### **EXTERIOR LIGHTING SYSTEM**

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[XENON TYPE]



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#### **EXTERIOR LIGHTING SYSTEM**

#### [XENON TYPE]



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JRLWF5316GB
13     10       13     101       141     101/       151       15	
13         59           13         59           14         1           15         1           15         1           15         1           15         1           15         1           15         1           15         1           15         1           15         1           16         1           17         1           18         1           19         1           10         1           11         1           12         1           13         1           14         1           15         1	

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**Revision: November 2015** 

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# **EXTERIOR LIGHTING SYSTEM**

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Commetter Nu. Commetter Num Commetter Num Commet	D
	E
RESOURCE LAMP LH RESOURCE LAMP LH Signal Name L Signal Name L	F
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Image: Constraint of the second se	I
E19 ECM Int_2FB-#28-L1H Int_2FB-#28-L1H Signal Name (1 Signal Name (2 CAC CONTROL 5YSTE CAC COMMUNICAC CAC CONTROL 5YSTE CAC COMMUNICAC CAC CONTROL 5YSTE CAC COMMUNICAC CAC CONTROL 5YSTE CAC CAN COMMUNICAC SIGNAL	J
Connector No.         Connector Name           Connector Name         Connector Name           Connector Name         Connector Name           1         I           1	K
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EXTERIOR LI 59           59           59           59           59           59           50           Connector Name           Connector Name           Connector Name           Connector Name           Connector Name           Note: 01           Note: 01           1110         Color OI           1110         Colspan="2"           1110         Colspan="2"           1110            1110	Ν
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**EXTERIOR LIGHTING SYSTEM** 

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Connector No. ELOS Connector Name WIRE TO WIRE		Terminal Los         Los         Signal Name [Specification]           1         L         L           3         P         -           1         L         -           4         P         -           13         R         -           13         R         -           13         R         -           14         SHILD         -           13         R         -           14         SHICD         -           35         R         -           36         P         -           37         P         -           38         P         -           52         R         -           53         P         -           54         V         -	39         66         .           39         Y         .           39         Y         .           63         Y         .           63         V         .           64         LG         .           65         L         .           66         R         .           67         R         .           68         29         .           71         LG         .           71         LG         .           73         V         .           76         R         .           73         W         .           73         W         .	33 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Connector No. E84 Connector Name Joint CONNECTOR-E02 Connector Name A1261 M.S. [10]111100 B17 GLE A1 20 21	Terminal         Color Of No.         Signal Mane [Specification]           1         L         -           3         L         -           4         L         -           5         L         -           6         L         -           7         P         -           9         P         -           10         P         -           11         P         -	Connector No. E102 Connector Name STOP LAMP SWITCH Connector Type AMARW JC AMARW JC Terminal Color Of Signal Name (Specification)	K         I         I           K         I         I           K         I         I           K         I         I
Connector No. [8] Connector Name JOINT CONNECTOR ED1	Connector Type A12FL	Terminal Loss Oxic         Signal Name [Specification]           1         BR         Signal Name [Specification]           2         BR         Signal Name [Specification]           3         BR         Signal Name [Specification]           4         BR         Signal Name [Specification]           6         BR         Signal Name [Specification]           1         BR         Signal Name           10         R         Signal Name           11         R         Signal Name           12         R         Signal Name           Connector Name         JOIT CONNECTOR ED4	Terminal         Colored         Terminal           No.         Color Of         Signal Name (Specification)           No.         Vire         Signal Name (Specification)           1         V         - (For NISMO IS)           2         V         -           3         V         -	6         LG
EXTERIOR LIGHTING SYSTEM Connector No. 173 Connector Name DATINE BUNNING LIGHTRH	Connector Type 185278	Terminal     Code Cit     Signal Name (Specification)       1     R     Signal Name (Specification)       2     R        2     R        Connector Name     DAYTIME RUNNING LIGHT LH       Connector Name     DAYTIME RUNNING LIGHT LH       Connector Name     RS02FB	Terminal Color Of Signal Name [Specification] No. Yire Signal Name [Specification] 1 G · · ·	

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### **EXTERIOR LIGHTING SYSTEM**



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### **EXTERIOR LIGHTING SYSTEM**

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< BASIC INSPECTION >

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

OVERALL SEQUENCE



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< BASIC INSPECTION >

# **1.**GET INFORMATION FOR SYMPTOM

- 1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
- 2. Check operation condition of the function that is malfunctioning.

#### >> GO TO 2.

### 2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

#### Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.

#### **3.**CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.

#### >> GO TO 5.

#### **4.**CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

#### >> GO TO 6.

### **5.**PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to DTC INSPECTION PRIORITY CHART, and determine trouble diagnosis order.

#### NOTE:

- · Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Check according to <u>GI-45. "Intermittent Incident"</u>.

6. Detect malfunctioning system by symptom diagnosis

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

#### Is the symptom described?

- YES >> GO TO 7.
- NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.

**1**.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	XENON TYPE]
Inspect according to Diagnostic Procedure of the system.	
Is malfunctioning part detected?	
YES >> GO TO 8.	
NO >> Check according to <u>GI-45. "Intermittent Incident"</u> .	
${f 8}$ .REPAIR OR REPLACE THE MALFUNCTIONING PART	
<ol> <li>Repair or replace the malfunctioning part.</li> <li>Reconnect parts or connectors disconnected during Diagnostic Procedure again after repment.</li> </ol>	pair and replace-
3. Check DTC. If DTC is detected, erase it.	
>> GO TO 9.	
9.FINAL CHECK	
When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and the	en check that the
malfunction is repaired securely. When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, an symptom is not detected.	d check that the
Is DTC detected and does symptom remain?	
YES-1 >> DTC is detected: GO TO 7. YES-2 >> Symptom remains: GO TO 4. NO >> Before returning the vehicle to the customer, always erase DTC.	

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# DTC/CIRCUIT DIAGNOSIS HEADLAMP (HI) CIRCUIT

**Component Function Check** 

**1.**CHECK HEADLAMP (HI) OPERATION

#### With CONSULT

#### 1. Turn ignition switch ON.

- Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT. 2.
- 3. With operating the test items, check that the headlamp (HI) blinks.

#### : Headlamp (HI) blinks (ON/OFF is repeated 1 second each.) Hi

#### Off : Headlamp (HI) OFF

#### Without CONSULT

- Ĩ. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the headlamp (HI) blinks.

#### Is the inspection result normal?

- YES >> Headlamp (HI) circuit is normal.
- >> Refer to EXL-50, "Diagnosis Procedure". NO

### Diagnosis Procedure

### 1.CHECK HEADLAMP (HI) FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuses are not blown (open).

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)		#51	10 Δ
Headlamp HI (LH)		#52	10 A

Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 2.

2. CHECK HEADLAMP (HI) POWER SUPPLY

# With CONSULT 1. Turn ignition sv

Turn ignition switch ON.

Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT. 2.

With operating the test items, check voltage between IPDM E/R harness connector and ground. 3.

	+ IPDM E/R		- Test item		Voltage		
Conr	nector	Terminal	+				
RH		49			Hi	9 – 16 V (Repeated 1 second)	
	E15	Ground	E15	- Ground	EXTERNAL	Off	0 – 1 V
LH	50	H 50	50		Glound	LAMPS	Hi
					Off	0 – 1 V	

Is the inspection result normal?

YES >> GO TO 3. INFOID:000000012201637

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## **HEADLAMP (HI) CIRCUIT**

NO >> Replace IPDM E/R. Refer to <u>PCS-37</u> , "Removal and Installation".	
D.CHECK HEADLAMP (HI) POWER SUPPLY CIRCUIT	
<ol> <li>Turn ignition switch OFF.</li> <li>Disconnect IPDM E/R connector and headlamp connector.</li> <li>Check continuity between IPDM E/R harness connector and headlamp harn</li> </ol>	ness connector.
IPDM E/R Headlamp	Continuity
Connector Terminal Connector Terminal	Continuity
RH         E15         49         E55         1           LH         50         E54         1	Existed
s the inspection result normal?	
YES-2 >> NISMO models with daytime running light system: GO TO 4. YES-3 >> Except for NISMO models with daytime running light system: GO TO NO >> Repair or replace harness. <b>1.</b> CHECK HEADLAMP (HI) GROUND CIRCUIT Check continuity between headlamp harness connector and ground.	O 6.
Headlamp — Continuity	
LH E54 3 Ground Existed	
s the inspection result normal?	
YES >> GO TO 5. NO >> Repair or replace harness. 5.CHECK HEADLAMP (HI) BULB	
Check the applicable headlamp (HI) bulb.	
<u>s the inspection result normal?</u> YES >> Check the corresponding headlamp (HI) harness. Repair or replace NO >> Replace the corresponding headlamp (HI) bulb. Refer to <u>EXL-96, "F</u> <b>6.</b> CHECK ILLUMINATION STATUS OF HEADLAMPS	if necessary. Replacement".
Check illumination status of headlamps.	
Which headlamp does not turn ON?         RH       >> GO TO 7.         LH       >> GO TO 11	
<b>7</b>	
CHECK HEADLAMP (HI) RH GROUND CIRCUIT-1	
<ol> <li>CHECK HEADLAMP (HI) RH GROUND CIRCUIT-1</li> <li>Remove daytime running light relay.</li> <li>Check continuity between headlamp harness connector and daytime runnin tor.</li> </ol>	ng light relay harness connec-
<ol> <li>CHECK HEADLAMP (HI) RH GROUND CIRCUIT-1</li> <li>Remove daytime running light relay.</li> <li>Check continuity between headlamp harness connector and daytime running tor.</li> </ol>	ng light relay harness connec-
CHECK HEADLAMP (HI) RH GROUND CIRCUIT-1     Remove daytime running light relay.     Check continuity between headlamp harness connector and daytime runnin tor.     Headlamp Daytime running light relay Continuity	ng light relay harness connec-

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK HEADLAMP (HI) RH GROUND CIRCUIT-2

Check continuity between daytime running light relay harness connector and ground.

## **HEADLAMP (HI) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

Daytime runn	ning light relay		Continuity
Connector	Terminal		Continuity
E65	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

**9.**CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-52, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace daytime running light relay.

**10.**CHECK HEADLAMP (HI) RH BULB

Check the headlamp (HI) RH bulb.

Is the inspection result normal?

YES >> Check the headlamp (HI) RH harness. Repair or replace if necessary.

NO >> Replace headlamp (HI) RH bulb. Refer to EXL-96. "Replacement".

### 11. CHECK HEADLAMP (HI) LH GROUND CIRCUIT

Check continuity between headlamp harness connector and ground.

Head	dlamp		Continuity	
Connector	Terminal		Continuity	
E54	3	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair or replace harness.

12.CHECK HEADLAMP (HI) LH BULB

Check the headlamp (HI) LH bulb.

Is the inspection result normal?

YES >> Check the headlamp (HI) LH harness. Repair or replace if necessary.

NO >> Replace headlamp (HI) LH bulb. Refer to EXL-96. "Replacement".

#### Component Inspection

INFOID:000000012201638

### 1. CHECK DAYTIME RUNNING LIGHT RELAY

- 1. Turn ignition switch OFF.
- 2. Remove daytime running light relay.
- 3. Apply battery voltage to daytime running light relay between terminals 2 and 1.
- 4. Check continuity of daytime running light relay terminals.

Daytime runr	ning light relay		Continuity	
Terr	minal	Condition		
3	3 4 Battery voltage		Apply	Not existed
5	4	Dattery Voltage	Not apply	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace daytime running light relay.

### **HEADLAMP (LO) CIRCUIT**

< DTC/CIRCUIT	DIAGNOSIS >					
HEADLAMF	<sup>o</sup> (LO) CIR(	CUIT				
Component F	unction Che	eck				INFOID:00000001220163
<b>1</b> .CHECK HEA	DLAMP (LO) OF	PERATION				
With CONSUL 1. Turn ignition 2. Select "EXT 3. With operati	_T switch ON. ERNAL LAMPS <sup>*</sup> ng the test items	' in "Active Test s, check that the	." mode of "IP e headlamp (L	DM E/R" usin .O) is turned (	g CONSULT. DN.	
Lo	: Headlamp (L	O) ON				
Off	: Headlamp (L	O) OFF				
Without CONS Start IPDM E Check that t	SULT E/R auto active t he headlamp (Lu	est. Refer to <u>P(</u> O) is turned ON	<u>CS-12, "Diagr</u> I.	iosis Descripti	<u>on"</u> .	
YES >> Hea NO >> Refe	dlamp (LO) circu er to <u>EXL-53, "Di</u>	uit is normal. agnosis Proced	dure".			
Diagnosis Pr	ocedure					INFOID:00000001220164
LCHECK HEAL	DI AMP (I O) FU	ISF				
<ol> <li>Turn ignition</li> <li>Check that t</li> </ol>	switch OFF. he following fuse	es are not blow	n (open).			
Unit	Location	Fuse No.	Capacity			
Headlamp LO (RH Headlamp LO (LH)	) IPDM E/R	#54 #53	– 15 A			
s the fuse blowr	n (open)?					
YES >> Rep NO >> GO	lace the blown for TO 2.	use after repair	ing the affecte	ed circuit if a fi	use is blown (o	open).
	DLAMP (LO) PC	WER SUPPLY				
With CONSUL Turn ignition Select "EXT With operati	I switch ON. ERNAL LAMPS ng the test items	' in "Active Test s, check voltage	" mode of "IP between IPE	DM E/R" using DM E/R harnes	g CONSULT. ss connector a	and ground.
	+					
	IPDM E/R		-	Te	est item	Voltage
		Terminal				
Conne	ector					0 4614
Conne	ector	52			Off	9 – 16 V 0 – 1 V
Conne	E15 —	52	Ground	EXTERNAL LAMPS	Off LO	9 – 16 V 0 – 1 V 9 – 16 V

3. CHECK HEADLAMP (LO) POWER SUPPLY CIRCUIT

1.

- Turn ignition switch OFF. Disconnect IPDM E/R connector and headlamp connector. 2.
- Check continuity between IPDM E/R harness connector and headlamp harness connector. 3.

## **HEADLAMP (LO) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

IPDM E/R			Headlamp		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	F15	52	E55	- 4	Evisted
LH	L13	51	E54		LAIsted

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK HEADLAMP (LO) GROUND CIRCUIT

Check continuity between headlamp harness connector and ground.

	Headlamp	ilamp C		Continuity
Conr	nector	Terminal		Continuity
RH	E55	2	Ground	Evisted
LH	E54		Ground	Existed

Is the inspection result normal?

YES >> Perform the xenon headlamp diagnosis. Refer to EXL-55. "Diagnosis Procedure".

NO >> Repair or replace harness.

### **XENON HEADLAMP**

XENON HEADLAMP				
Diagnosis Procedure	INFOID:000000012201641	A		
1.CHECK XENON BULB		В		
Install the normal bulb to the applicable headlamp. Check that the headlamp (LO) is turned ON.				
Is the headlamp (LO) turned ON?				
YES >> Replace the corresponding xenon bulb. Refer to <u>EXL-96, "Replacement"</u> . NO >> GO TO 2.		С		
2.CHECK XENON HEADLAMP		D		
Install the normal headlamp assembly to the applicable headlamp. Check that the headlamp ON.	(LO) is turned			
Is the headlamp (LO) turned ON?		Е		
YES >> Replace the corresponding headlamp assembly. Refer to <u>EXL-96, "Removal and In</u> NO >> Xenon headlamp is normal.	stallation".			
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< DTC/CIRCUIT DIAGNOSIS >

### PARKING LAMP CIRCUIT

Component Function Check

**1**.CHECK TAIL LAMP OPERATION

Check that the tail lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to EXL-60, "Component Function Check".

2. CHECK PARKING LAMP OPERATION

#### With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON

#### Off : Parking lamp OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the parking lamp is turned ON.

#### Is the inspection result normal?

- YES >> Parking lamp circuit is normal.
- NO >> Refer to <u>EXL-56, "Diagnosis Procedure"</u>.

### Diagnosis Procedure

INFOID:000000012201643

### 1. CHECK PARKING LAMP POWER SUPPLY

With CONSULT

- Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check voltage between IPDM E/R harness connector and ground.

	+				
IPDM E/R		-	Test item		Voltage
Connector	Terminal	<b>†</b>			
E14	43	Ground	EXTERNAL	TAIL	9 – 16 V
		Clound	LAMPS	Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R. Refer to <u>PCS-37, "Removal and Installation"</u>.

2. CHECK PARKING LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect IPDM E/R connector and parking lamp connector.
- 3. Check continuity between IPDM E/R harness connector and parking lamp harness connector.

IPDM E/R			Parking lamp		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E14	43	E44	1	Existed
LH	L 14	45	E28	I	Existed

Is the inspection result normal?

YES >> GO TO 3.

INFOID:000000012201642

### **PARKING LAMP CIRCUIT**

[XENON TYPE]

# < DTC/CIRCUIT DIAGNOSIS > >> Repair or replace harness.

3. CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between parking lamp harness connector and ground.

	Parking lamp			Continuity
Conr	nector	Terminal		Continuity
RH	E44	2	Ground	Existed
LH	E28	2	Ground	LAISteu

Is the inspection result normal?

NO

>> Replace the corresponding front combination lamp. Refer to EXL-100, "Removal and Installation". YES NO >> Repair or replace harness.

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< DTC/CIRCUIT DIAGNOSIS >

### FRONT SIDE MARKER LAMP CIRCUIT

### **Component Function Check**

1. CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check parking lamp circuit. Refer to <u>EXL-56, "Component Function Check"</u>.

2.CHECK FRONT SIDE MARKER LAMP OPERATION

#### With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check that the front side marker lamp is turned ON.

#### TAIL : Front side marker lamp ON

#### Off : Front side marker lamp OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the front side marker lamp is turned ON.

#### Is the inspection result normal?

- YES >> Front side marker lamp circuit is normal.
- NO >> Refer to <u>EXL-58</u>, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:000000012201645

### 1. CHECK FRONT SIDE MARKER LAMP POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector and front side marker lamp connector.
- 3. Check continuity between IPDM E/R harness connector and front side marker lamp harness connector.

IPDM E/R			Front side marker lamp		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E14	42	E32	1	Existed
LH		43	E31	I	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

**2.**CHECK FRONT SIDE MARKER LAMP GROUND CIRCUIT

Check continuity between front side marker lamp harness connector and ground.

Fi	ront side marker lamp		Continuit	
Conr	nector	Terminal		Continuity
RH	E32	2	Ground	Existed
LH	E31	<b>∠</b>	Ground	LAISted

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK FRONT SIDE MARKER LAMP BULB

Check the applicable front side marker lamp bulb.

INFOID:000000012201644

# FRONT SIDE MARKER LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >	[XENON TYPE]
Is the inspection result normal?	
YES >> Check the corresponding front side marker lamp bulb socket. NO >> Replace the corresponding front side marker lamp bulb. Refer	Repair or replace if necessary. to <u>EXL-100, "Replacement"</u> .
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#### < DTC/CIRCUIT DIAGNOSIS >

### TAIL LAMP CIRCUIT

### Component Function Check

### **1.**CHECK TAIL LAMP OPERATION

#### With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check that the tail lamp is turned ON.

### TAIL : Tail lamp ON

#### Off : Tail lamp OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the tail lamp is turned ON.

#### Is the inspection result normal?

YES >> Tail lamp circuit is normal.

NO >> Refer to EXL-60, "Diagnosis Procedure".

### **Diagnosis** Procedure

### 1.CHECK FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuse is not blown (open).

Unit	Location	Fuse No.	Capacity
<ul> <li>Parking lamp RH</li> <li>Parking lamp LH</li> <li>Front side marker lamp RH</li> <li>Front side marker lamp LH</li> <li>Tail lamp RH</li> <li>Tail lamp LH</li> <li>License plate lamp RH</li> <li>License plate lamp LH</li> </ul>	IPDM E/R	#47	10 A

Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 2.

### 2.CHECK TAIL LAMP POWER SUPPLY

#### With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check voltage between IPDM E/R harness connector and ground.

	+				
IPDM E/R		-	Test item		Voltage
Connector	Terminal				
E14	44	Ground	EXTERNAL	TAIL	9 – 16 V
	44	Ground	LAMPS	Off	0 – 1 V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to <u>PCS-37. "Removal and Installation"</u>.

3.CHECK TAIL LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

#### Revision: November 2015

INFOID:000000012201646

INFOID:000000012201647

## TAIL LAMP CIRCUIT

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS > 2. Disconnect IPDM E/R connector and rear combination lamp connector. 3. Check continuity between IPDM E/R harness connector and rear combination lamp harness connector. А IPDM E/R Rear combination lamp Continuity В Connector Terminal Connector Terminal B59 RH E14 2 44 Existed LH B80 Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace harness. D 4.CHECK TAIL LAMP GROUND CIRCUIT Check continuity between rear combination lamp harness connector and ground. Ε Rear combination lamp Continuity \_ Connector Terminal F RH B59 3 Ground Existed LH B80 Is the inspection result normal? YES-1 >> Stop lamp / tail lamp (Bulb side): GO TO 5. YES-2 >> Tail lamp (LED side): Check the corresponding tail lamp harness, and if check result is normal, Н replace the corresponding rear combination lamp. Refer to EXL-109, "Removal and Installation". NO >> Repair or replace harness. 5.CHECK STOP LAMP / TAIL LAMP BULB Check the applicable stop lamp / tail lamp bulb. Is the inspection result normal?

YES >> Check the corresponding stop lamp / tail lamp bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace the corresponding stop lamp / tail lamp bulb. Refer to EXL-109, "Replacement".

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### LICENSE PLATE LAMP CIRCUIT

Component Function Check

**1**.CHECK TAIL LAMP OPERATION

Check that the tail lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to EXL-60, "Component Function Check".

2. CHECK LICENSE PLATE LAMP OPERATION

#### With CONSULT

- Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check that the license plate lamp is turned ON.

#### TAIL : License plate lamp ON

### Off : License plate lamp OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the license plate lamp is turned ON.

#### Is the inspection result normal?

- YES >> License plate lamp circuit is normal.
- NO >> Refer to <u>EXL-62, "Diagnosis Procedure"</u>.

### Diagnosis Procedure

INFOID:000000012201649

# 1. CHECK LICENSE PLATE LAMP POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector and back door opener switch connector.
- 3. Check continuity between IPDM E/R harness connector and back door opener switch harness connector.

IPDM E/R		Back door opener switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E14	44	D107	5	Existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK LICENSE PLATE LAMP GROUND CIRCUIT

Check continuity between back door opener switch harness connector and ground.

Back door opener switch			Continuity	
Connector	Terminal		Continuity	
D107	6	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

**3.**CHECK LICENSE PLATE LAMP BULB

Check the applicable license plate lamp bulb.

Is the inspection result normal?

INFOID:000000012201648

### LICENSE PLATE LAMP CIRCUIT

< DTC/	CIRCUIT DIAGNOSIS >	[XENON TYPE]
YES	>> Check the corresponding license plate lamp bulb socket and harness.	Repair or replace if neces-

sary. NO >> Replace the corresponding license plate lamp bulb. Refer to EXL-113, "Replacement".

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### DAYTIME RUNNING LIGHT RELAY CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### DAYTIME RUNNING LIGHT RELAY CIRCUIT

### **Component Function Check**

#### **1.**CHECK DAYTIME RUNNING LIGHT OPERATION

#### (B) With CONSULT

- 1. Select "HEAD LAMP" of "BCM" using CONSULT.
- 2. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode.
- 3. With operating the test items, check that the daytime running light is turned ON [Headlamp (HI) at approximately half illumination].

#### On : Daytime running light ON [Headlamp (HI) at approximately half illumination] Off : Daytime running light OFF

#### Is the inspection result normal?

YES >> Daytime running light relay circuit is normal.

NO >> Refer to EXL-64, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:000000012201651

### 1. CHECK DAYTIME RUNNING LIGHT RELAY FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuses are not blown (open).

Unit	Fuse No.	Capacity
Daytime running light relay	#24	10 A

#### Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 2.

### 2.CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

- 1. Remove daytime running light relay.
- 2. Check voltage between daytime running light relay harness connector and ground.

Daytime runr	+ hing light relay	_	Voltage (Approx.)	
Connector	Terminal	•	(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
E65	1	Ground	Battery voltage	
	5	Glodina	Dattery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to <u>EXL-65, "Component Inspection"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace daytime running light relay.

#### ${f 4}$ . CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL

#### () With CONSULT

- 1. Install daytime running light relay.
- 2. Turn ignition switch ON.
- 3. Select "HEAD LAMP" of "BCM" using CONSULT.
- 4. Select "DAYTIME RUNNING LIGHT<sup>--</sup> in "Active Test" mode.

### **EXL-64**

INFOID:000000012201650

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

IPDI	+ M E/R	-		Test item		Voltage	
Connector E13	Terminal 28	Ground			On	0 – 1 V	
					Off	9 – 16 V	
YES >> Da NO-1 >> Fix NO-2 >> Fix <b>5.</b> CHECK DA With CONSU	ytime running lig ed at 0 – 1 V: G ed at 9 – 16 V: ( YTIME RUNNIN JLT RL REQ" in "Da	ght relay circuit TO TO 6. GO TO 5. G LIGHT REQ	is normal. UEST SIGNAL de of "IPDM E/R'	" usina C	ONSULT.		
2. With opera	ting the daytime	e running light (	ON condition, che	eck the m	ionitor status		
Monitor item	Co	ondition	Monitor statu	JS			
DTRL REQ	Daytime runnina I	ON condition	n On				
		OFF condition	on Off				
<u>ls the inspectio</u> YES >> Re NO >> Re	n result normal? place IPDM E/R place BCM, Ref	2 R. Refer to <u>PCS</u> Fer to BCS-94. '	<u>-37, "Removal a</u> "Removal and In	<u>nd Install</u> stallation	ation".		
6.CHECK DA	YTIME RUNNIN	G LIGHT RELA	AY CONTROL SI	IGNAL C	IRCUIT		
6.CHECK DA 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor.	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between	G LIGHT REL/ ight relay. iess connector. IPDM E/R harr	AY CONTROL SI	IGNAL C	- IRCUIT ne running lig	ght relay harn	ess connec-
6.CHECK DA 1. Turn ignitic 2. Remove da 3. Disconnect 4. Check con tor.	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between	G LIGHT REL/ ight relay. iess connector. IPDM E/R harr	AY CONTROL SI	IGNAL C	ne running lig	ght relay harn	ess connec-
6.CHECK DA 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor. IPDM Connector	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal	G LIGHT RELA ight relay. ness connector IPDM E/R harr Daytime runn Connector	AY CONTROL SI	IGNAL C Ind daytir Continu	ne running lig	ght relay harn	ess connec-
6.CHECK DA 1. Turn ignitic 2. Remove da 3. Disconnect 4. Check contor tor. IPDM Connector E13	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28	G LIGHT RELA ight relay. ness connector IPDM E/R harr Daytime run Connector E65	AY CONTROL SI	IGNAL C and daytir Continu Existe	ne running lig	ght relay harn	ess connec-
6.CHECK DA 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check contor tor. IPDM Connector E13 Is the inspectio	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal?	G LIGHT RELA ight relay. iess connector. IPDM E/R harr Daytime run Connector E65	hess connector a ning light relay Terminal 2	IGNAL C and daytir Continu Existe	ne running lig	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor.  IPDN Connector E13 Is the inspectio YES >> Re	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R	G LIGHT RELA ight relay. ness connector IPDM E/R harr Daytime run Connector E65	AY CONTROL SI ness connector a ning light relay Terminal 2 3-37, "Removal a	IGNAL C Ind daytir Continu Existe	ne running lig	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor.  IPDM Connector E13 Is the inspectio YES >> Re NO >> Re	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h	G LIGHT RELA ight relay. ness connector. IPDM E/R harr Daytime run Connector E65 2 8. Refer to <u>PCS</u> harness.	AY CONTROL SI ness connector a ning light relay Terminal 2 3-37, "Removal a	IGNAL C and daytir Continu Existe	ne running lig	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor.  IPDM Connector E13 Is the inspectio YES >> Re NO >> Re Component	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h Inspection	G LIGHT RELA ight relay. iess connector. IPDM E/R harr Daytime run Connector E65 2 8. Refer to <u>PCS</u> harness.	AY CONTROL SI ness connector a ning light relay Terminal 2 3-37, "Removal a	IGNAL C and daytir Continu Existe	ne running lig	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 3. Disconnect 4. Check con tor.  IPDM Connector E13 Is the inspectio YES >> Re NO >> Re Component 1.CHECK DAY	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h Inspection	G LIGHT RELA ight relay. ness connector. IPDM E/R harr Daytime run Connector E65 2. R. Refer to <u>PCS</u> narness. G LIGHT RELA	AY CONTROL SI ness connector a ning light relay Terminal 2 5-37, "Removal a	IGNAL C Ind daytir Continu Existe	IRCUIT	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor.  IPDM Connector E13 Is the inspectio YES >> Re NO >> Re Component 1.CHECK DAY 1. Turn ignitio 2. Remove da 3. Apply batte 4. Check con	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h Inspection YTIME RUNNIN on switch OFF. aytime running li ery voltage to da tinuity of daytime	G LIGHT RELA	AY CONTROL SI ness connector a ning light relay Terminal 2 3-37, "Removal a AY light relay betwee relay terminals.	IGNAL C Ind daytir Continu Existe nd Install	ne running lig	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 3. Disconnect 4. Check con tor.  IPDN Connector E13 Is the inspectio YES >> Re NO >> Re Component 1. CHECK DAY 1. Turn ignitio 2. Remove da 3. Apply batte 4. Check con Daytime run	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h Inspection YTIME RUNNIN on switch OFF. aytime running li ery voltage to da tinuity of daytime	G LIGHT REL/	AY CONTROL SI ness connector a ning light relay Terminal 2 3-37, "Removal a AY light relay betwee relay terminals.	IGNAL C Ind daytir Continu Existe nd Install	IRCUIT	ght relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 4. Check con tor.  IPDN Connector E13 Is the inspectio YES >> Re NO >> Re Component 1.CHECK DAY 1. Turn ignitio 2. Remove da 3. Apply batte 4. Check con Daytime runn Tern	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h Inspection YTIME RUNNIN on switch OFF. aytime running li ery voltage to da tinuity of daytime	G LIGHT RELA ight relay. IPDM E/R harr Daytime run Connector E65 2 3. Refer to PCS harness. G LIGHT RELA ight relay. lytime running light e running light	AY CONTROL SI	IGNAL C and daytir Continu Existe nd Install en termin	IRCUIT	ht relay harn	ess connec-
6.CHECK DAY 1. Turn ignitio 2. Remove da 3. Disconnect 3. Disconnect 4. Check con tor.  IPDN Connector E13 Is the inspectio YES >> Re NO >> Re Component 1.CHECK DAY 1. Turn ignitio 2. Remove da 3. Apply batte 4. Check con Daytime runr Terr 5	YTIME RUNNIN on switch OFF. aytime running li t IPDM E/R harr tinuity between M E/R Terminal 28 n result normal? place IPDM E/R pair or replace h Inspection YTIME RUNNIN on switch OFF. aytime running li ery voltage to da tinuity of daytime ning light relay minal	G LIGHT RELA ight relay. hess connector. IPDM E/R harr Connector E65 2. R. Refer to PCS harness. G LIGHT RELA ight relay. hytime running light e running light Con	AY CONTROL SI hess connector a hing light relay Terminal 2 AY AY light relay betwee relay terminals. dition Apply	IGNAL C Ind daytir Continu Existe nd Install en termin Continu Existe	IRCUIT	ght relay harn	ess connec-

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YES >> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS >

NO >> Replace daytime running light relay.

				•••••		
	JIAGNOSIS >		ШТ			
	unation Chao		OTT			
omponent Ft		ĸ				INFOID:00000001220165
.CHECK DAYTI	ME RUNNING L	IGHT OPERAT	ION			
With CONSULT . Select "EXTER . With operating	RNAL LAMPS" ii the test items,	n "Active Test" r check that the c	mode of "IF daytime rur	DM E/R" using ining light is tu	CONSULT.	
Fog :	Daytime runnir	ng light ON				
Off :	Daytime runnin	ng light OFF				
Without CONSL . Start IPDM E/I 2. Check that the s the measureme	JLT R auto active tes daytime runnin nt normal?	t. Refer to <u>PCS</u> g light is turned	<u>8-12, "Diag</u> i I ON.	nosis Descripti	<u>on"</u> .	
YES >> Daytin NO >> Refer	ne running light ( to <u>EXL-67, "Diag</u>	circuit is normal <u>anosis Procedu</u>	l. <u>ıre"</u> .			
Diagnosis Prod	cedure					INFOID:00000001220165
		IGHT FUSE				
i. rum ignition s	WILCH UFF.	e not blown (on	von)			
2. Check that the	e following fuse i		en).			
2. Check that the	Location	Fuse No.	Capacit	у		
2. Check that the Unit Daytime running light	Location IPDM E/R	Fuse No. #50	Capacit	у		
2. Check that the Unit Daytime running light <u>s the fuse blown (</u> YES >> Replac NO >> GO TO 2.CHECK DAYTII	Location IPDM E/R open)? ce the blown fus O 2. ME RUNNING L	Fuse No. #50 e after repairing	Capacit 15 A g the affect SUPPLY	y ed circuit if a fu	ise is blown (	open).
2. Check that the Unit Daytime running light s the fuse blown ( YES >> Replace NO >> GO TO 2.CHECK DAYTII 9)With CONSULT 1. Turn ignition s 2. Select "EXTER 3. With operating	Location IPDM E/R open)? ce the blown fus O 2. ME RUNNING L witch ON. RNAL LAMPS" in g the test items,	Fuse No. #50 e after repairing IGHT POWER n "Active Test" r check the voltag	Capacit 15 A g the affect SUPPLY mode of "IF ge betweer	y ed circuit if a fu PDM E/R" using n IPDM E/R ha	ise is blown ( CONSULT. mess connec	open). tor and ground.
2. Check that the Unit Daytime running light <u>s the fuse blown (</u> YES >> Replay NO >> GO T( 2.CHECK DAYTII With CONSULT 1. Turn ignition s 2. Select "EXTER 3. With operating	Location i IPDM E/R open)? ce the blown fus O 2. ME RUNNING L witch ON. RNAL LAMPS" in the test items, of +	Fuse No. #50 e after repairing IGHT POWER n "Active Test" r check the voltag	Capacit 15 A g the affect SUPPLY mode of "IF ge betweer	y ed circuit if a fu PDM E/R" using IPDM E/R ha	se is blown ( CONSULT.	open). tor and ground.
2. Check that the Unit Daytime running light <u>s the fuse blown (</u> YES >> Replay NO >> GO T( 2. CHECK DAYTII With CONSULT 1. Turn ignition s 2. Select "EXTER 3. With operating	Location i IPDM E/R open)? ce the blown fus D 2. ME RUNNING L witch ON. RNAL LAMPS" in the test items, for the test items, for the test items, for the test items, for the test items, for test items, for the t	Fuse No. #50 e after repairing IGHT POWER n "Active Test" r check the voltag	Capacit 15 A g the affect SUPPLY mode of "IF ge betweer	y ed circuit if a fu PDM E/R" using n IPDM E/R ha	ISE IS blown ( CONSULT. rness connec	open). tor and ground. Voltage
2. Check that the Unit Daytime running light <u>s the fuse blown (</u> YES >> Replay NO >> GO T( 2.CHECK DAYTII With CONSULT 1. Turn ignition s 2. Select "EXTER 3. With operating Connected	Location i IPDM E/R open)? ce the blown fus O 2. ME RUNNING L witch ON. RNAL LAMPS" in the test items, of the test it	Fuse No. #50 e after repairing IGHT POWER n "Active Test" r check the voltag	Capacit 15 A g the affect SUPPLY mode of "IF ge betweer	y ed circuit if a fu PDM E/R" using n IPDM E/R ha	ISE IS blown ( CONSULT. rness connect	open). tor and ground.
2. Check that the Unit Daytime running light s the fuse blown ( YES >> Replac NO >> GO T( 2.CHECK DAYTII With CONSULT . Turn ignition s 2. Select "EXTER 3. With operating Connector RH	Location iPDM E/R open)? ce the blown fus D 2. ME RUNNING L witch ON. RNAL LAMPS" in the test items, of + IPDM E/R or	Fuse No. #50 e after repairing IGHT POWER n "Active Test" r check the voltag	Capacit 15 A g the affect SUPPLY mode of "IF ge betweer	y ed circuit if a fu PDM E/R" using IPDM E/R ha	ISE IS blown ( CONSULT. rness connect st item	open). tor and ground. Voltage
2. Check that the Unit Daytime running light s the fuse blown ( YES >> Replay NO >> GO T( 2. CHECK DAYTII With CONSULT 1. Turn ignition s 2. Select "EXTER 3. With operating Connector RH	Location i IPDM E/R open)? ce the blown fus D 2. ME RUNNING L witch ON. RNAL LAMPS" in the test items, of + IPDM E/R or E12	Fuse No. #50 e after repairing IGHT POWER n "Active Test" r check the voltag	Capacit 15 A g the affect SUPPLY mode of "IF ge betweer - Ground	y ed circuit if a fu DM E/R" using DM E/R ha Te EXTERNAL LAMPS	Se is blown ( CONSULT. rness connect st item	open). tor and ground. Voltage 9 – 16 V 0 – 1 V 9 – 16 V

NO >> Replace IPDM E/R. Refer to <u>PCS-37, "Removal and Installation"</u>.

**3.**CHECK DAYTIME RUNNING LIGHT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector and daytime running light connector.

3. Check continuity between IPDM E/R harness connector and daytime running light harness connector.

### DAYTIME RUNNING LIGHT CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

	IPDM E/R		Daytime ru	unning light	Continuity
Coni	nector	Terminal	Connector	Terminal	Continuity
RH	F12	19	E75	1	Existed
LH		20	E76	I	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK DAYTIME RUNNING LIGHT GROUND CIRCUIT

Check continuity between daytime running light harness connector and ground.

[	Daytime running lig	ht		Continuity	
Conr	nector	Terminal		Continuity	
RH	E75	2	Ground	Existed	
LH	E76	2	Ground	Existed	

Is the inspection result normal?

YES >> Replace the corresponding daytime running light. Refer to EXL-101, "Removal and Installation".

NO >> Repair or replace harness.

### FRONT FOG LAMP CIRCUIT

[XENON	TYPE]
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Component	Function Ch	neck				INFOID:000000012201655
1.CHECK FRO	ONT FOG LAMI	P OPERATION				
With CONSU 1. Select "EX 2. With opera	JLT TERNAL LAMP ting the test iter	S" in "Active Teans, check that th	st" mode of "IF ne front fog lar	PDM E/R" using mp is turned O	) CONSULT. N.	
Fog	: Front fog la	amp ON				
Off	: Front fog la	amp OFF				
Without CON 1. Start IPDM 2. Check that <u>Is the measure</u>	ISULT E/R auto active the front fog lau ment normal?	e test. Refer to <u>F</u> mp is turned ON	P <u>CS-12, "Diag</u> I.	nosis Descripti	<u>on"</u> .	
YES >> Fro NO >> Re	ont fog lamp circ fer to <u>EXL-69, "</u>	uit is normal. <u>Diagnosis Proc</u> e	edure".			
Diagnosis P	rocedure					INFOID:000000012201656
1.CHECK FRO	ONT FOG LAM	P FUSE				
<ol> <li>Turn ignitio</li> <li>Check that</li> </ol>	n switch OFF. the following fu	ses are not blov	wn (open).			
Unit	Location	Fuse No.	Capacity	_		
Front fog lamp	IPDM E/R	#50	15 A	_		
YES >> Re NO >> GC	place the blown ) TO 2.	fuse after repai	iring the affect	ed circuit if a fu	ıse is blown (	open).
CHECK FR	JNT FOG LAMI JLT	P POWER SUP	PLY			
<ul> <li>CHECK FRG</li> <li>With CONSL</li> <li>Disconnect</li> <li>Turn ignitio</li> <li>Select "EX"</li> <li>With opera</li> </ul>	JNT FOG LAM JLT In switch ON. TERNAL LAMP ting the test iter	P POWER SUP connector. S" in "Active Tes ns, check the vo	PLY st" mode of "IF bltage betweer	PDM E/R" using n IPDM E/R ha	) CONSULT. rness connec	tor and ground.
∠.CHECK FR( With CONSL 1. Disconnect 2. Turn ignitio 3. Select "EX 4. With opera	JNT FOG LAMI JLT t front fog lamp in switch ON. TERNAL LAMP ting the test iter	P POWER SUP connector. S" in "Active Tes ns, check the vo	PLY st" mode of "IF bltage betweer	PDM E/R" using n IPDM E/R ha	g CONSULT. rness connec	tor and ground.
CHECK FRG With CONSL Disconnect Control Output Disconnect Disconn	JNT FOG LAMI JLT t front fog lamp in switch ON. TERNAL LAMP ting the test iter + IPDM E/R	P POWER SUP connector. S" in "Active Tes ns, check the vo	PLY st" mode of "IF bltage betweer -	PDM E/R" using n IPDM E/R ha Te	g CONSULT. rness connec	tor and ground.
CHECK FRG With CONSL Disconnect Conr Select "EX Conr Conr	JNT FOG LAMI JLT t front fog lamp in switch ON. TERNAL LAMP ting the test iter + IPDM E/R	P POWER SUP connector. 'S" in "Active Tes ns, check the vo	PLY st" mode of "IF bltage betweer -	PDM E/R" using n IPDM E/R ha	g CONSULT. rness connec st item	tor and ground. Voltage 9 – 16 V
CHECK FRG With CONSL Disconnect Control Select "EX" With opera	JNT FOG LAMI JLT t front fog lamp on switch ON. TERNAL LAMP ting the test iter + IPDM E/R hector	P POWER SUP connector. 'S" in "Active Te: ns, check the vo	PLY st" mode of "IF bitage between -	PDM E/R" using n IPDM E/R ha Te EXTERNAL	g CONSULT. rness connec st item Fog Off	tor and ground. Voltage 9 – 16 V 0 – 1 V
CHECK FRG With CONSL Disconnect Conrect Select "EX" With opera	JNT FOG LAMI JLT t front fog lamp in switch ON. TERNAL LAMP ting the test iter + IPDM E/R hector E12	P POWER SUP connector. S" in "Active Tes ns, check the vo Terminal 19 20	PLY st" mode of "IF bltage between - Ground	PDM E/R" using n IPDM E/R ha Te EXTERNAL LAMPS	g CONSULT. rness connec est item Fog Off Fog	tor and ground. Voltage 9 – 16 V 0 – 1 V 9 – 16 V

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to PCS-37, "Removal and Installation".

**3.**CHECK FRONT FOG LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R connector.

3. Check continuity between IPDM E/R harness connector and front fog lamp harness connector.

Ρ

### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

	IPDM E/R		Front f	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
RH	F12	19	E48	1	Existed
LH	LIZ	20	E30	I	Existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

Check continuity between front fog lamp harness connector and ground.

	Front fog lamp			Continuity
Conr	nector	Terminal		Continuity
RH	E48	2 Ground Ex	Evisted	
LH	E30	<b>∠</b>	Ground	LAISted

Is the inspection result normal?

YES >> Replace the corresponding front fog lamp bulb. Refer to EXL-103, "Replacement".

NO >> Repair or replace harness.

### **TURN SIGNAL LAMP CIRCUIT**

DTC/CIRCUIT DIAGI	NOSIS >					[XENON TYPE]
URN SIGNAL L	AMP CI	RCUIT				
omponent Function	on Check	K				INFOID:000000012201657
CHECK TURN SIGN	AL LAMP C	PERATIO	N			
With CONSULT Turn ignition switch Select "FLASHER" Select "FLASHER" With operating the t	ON. of "BCM" us n "Active Te est items, c	sing CONS est" mode. heck that tl	ULT. he turn signal l	amps is turne	d ON.	
RH : Turn LH : Turn	signal lam signal lam	ps (RH) Ol ps (LH) Ol	N N			
Off : Turn the inspection result r 'ES >> Turn signal IO >> Refer to EX	signal lam ormal? lamp circuit L-71, "Diag	ps OFF is normal.	edure".			
agnosis Procedu	re					INFOID:000000012201658
CHECK TURN SIGN	AL LAMP P	OWER SU	IPPLY			
Turn ignition switch Disconnect the follo Front turn signal lan Door mirror Rear combination la Turn ignition switch Select "FLASHER" Select "FLASHER" With operating the t	OFF. wing conne np Mp ON. of "BCM" us n "Active Te est items, c	ectors. sing CONS est" mode. heck voltag	ULT. ge between BC	CM harness co	onnector and g	ground.
+						
BC	N		-	Test item		Voltage
Connector		Terminal			RH	9 – 16 V
RH	~	61	Orevert		Off	0 V
M6	9	60	Ground	FLASHER	LH	9 – 16 V
					Off	0 V
ES >> GO TO 3. O >> GO TO 2. CHECK TURN SIGN Turn ignition switch Disconnect BCM co Check continuity be	AL LAMP P OFF. nnector. tween BCM	POWER SU	IPPLY CIRCU	T (SHORT) ground.		
BC	М				_	
Connector		Terminal	—	Continuity		
RH		61				

Is the inspection result normal?

M69

60

LH

Ground

Not existed

### **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### YES >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

NO >> Repair or replace harness.

# **3.**CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (OPEN)

#### 1. Turn ignition switch OFF.

2. Disconnect BCM connector.

3. Check continuity between BCM harness connector and each turn signal lamp harness connector.

Front turn signal lamp

BCM			Front turn	Continuity	
Conr	Connector Terminal		Connector	Terminal	Continuity
RH	M69	61	E47	1	Existed
LH	1003	60	E34		

Side turn signal lamp

BCM			Door	Continuity		
Coni	onnector Terminal		Connector	Terminal	Continuity	
RH	M60	61	D9	13	Existed	
LH	1009	60	D30	15	LAISteu	

Rear turn signal lamp

BCM			Rear comb	Continuity		
Connector Terminal		Terminal	Connector	Terminal	Continuity	
RH	M60	61	B59	5	Existed	
LH	MOS	60	B80	5		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

**4.**CHECK TURN SIGNAL LAMP GROUND CIRCUIT

#### Check continuity between each turn signal lamp harness connector and ground.

Front turn signal lamp

F	ront turn signal lan		Continuity	
Connector Terr		Terminal		
RH	E47	2	Ground	Evisted
LH	E34	2	Ground	LAISted

Side turn signal lamp

	Door mirror		Continuity	
Connector		Terminal		
RH	D9	2	Ground	Existed
LH	D30	<b>∠</b>	Ground	LAIsted

Rear turn signal lamp

R	ear combination lar		Continuity	
Connector Terminal			Continuity	
RH	B59	з	Ground	Evisted
LH	B80	5	Ground	LABLEU

Is the inspection result normal?

YES-1 >> Front turn signal lamp or rear turn signal lamp: GO TO 5.

YES-2 >> Side turn signal lamp: Replace the corresponding side turn signal lamp. Refer to <u>EXL-104</u>, <u>"Removal and Installation"</u>.

NO >> Repair or replace harness.

#### **Revision: November 2015**
# **TURN SIGNAL LAMP CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

5.CHECK TURN SIGNAL LAMP BULB	А
Check the applicable turn signal lamp bulb.	7.
Is the inspection result normal?	
YES-1 >> Front turn signal lamp: Check the corresponding front turn signal lamp bulb socket. Repair or	В
YES-2 >> Rear turn signal lamp: Check the corresponding rear turn signal lamp bulb socket and harness.	
Repair or replace if necessary.	С
NO >> Replace the corresponding turn signal lamp bulb. Refer to <u>EXL-100, "Replacement"</u> (front turn signal lamp) or <u>EXL-109, "Replacement"</u> (rear turn signal lamp).	
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#### < DTC/CIRCUIT DIAGNOSIS >

# OPTICAL SENSOR

#### **Component Function Check**

**1.**CHECK OPTICAL SENSOR SIGNAL

#### With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "HEAD LAMP" of "BCM" using CONSULT.
- 3. Select "OPTI SEN (DTCT)" in "Data Monitor" mode.
- 4. Turn lighting switch AUTO.
- 5. With the optical sensor illuminating, check the monitor status.

Monitor item	C	Voltage (Approx.)	
OPTI SEN (DTCT)	Optical sensor	When illuminating	3.1 V or more *
	Optical sensor	When shutting off light	0.6 V or less

\*: Illuminates the optical sensor. The value may be less than the standard value if brightness is weak.

Is the inspection result normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-74, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:000000012201660

# 1.CHECK OPTICAL SENSOR POWER SUPPLY

- 1. Turn ignition switch ON.
- 2. Turn lighting switch AUTO.
- 3. Check voltage between optical sensor harness connector and ground.

	+		
Optical sensor		-	Voltage (Approx.)
Connector Terminal			
M84 1		Ground	5 V

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND

Check voltage between optical sensor harness connector and ground.

	+		Voltaga	
Optical sensor		-	Voltage (Approx.)	
Connector	Terminal			
M84	3	Ground	0 V	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

3.CHECK OPTICAL SENSOR SIGNAL

With illuminating the optical sensor, check voltage between optical sensor harness connector and ground.

INFOID:000000012201659

# **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

	+					
Optica	l sensor	-		Condition	Voltage (Approx.)	
Connector	Terminal				(, , , , , , , , , , , , , , , , , , ,	
M94	2	Original Orthoglasse	Ontion concor	When illuminating	3.1 V or more*	
10104	2	Ground	Oplical sensor	When shutting off light	0.6 V or less	
*: Illuminate the	e optical sensor.	The value may	/ be less than t	he standard if brightn	ess is weak.	
Is the inspectio	<u>n result normal</u>	<u>?</u>				
YES >> GC	рто 7.					
NO >> Re	place optical se	ensor. Refer to <u>I</u>	<u>-XL-105, "Rem</u>	oval and Installation"	.•	
4.CHECK OP	TICAL SENSOR	R POWER SUP	PLY CIRCUIT	(OPEN)		
1. Turn ignitio	n switch OFF.					
2. Disconnect	t optical sensor	connector and	BCM connecto	r. stor and BCM barnes	e connector	
J. CHECK COM	unuity between	optical sensor i			S CONNECTOR.	
Optica	lsensor	B	СМ			
Connector	Terminal	Connector	Terminal	Continuity		
M84	1	M68	17	Existed		
le the increatio	n rosult pormal	2		Existed		
		<u>'</u>				
NO >> Re	pair or replace	harness				
	HOAL OLNOOI					
Check continuit	ty between option	cal sensor harn	ess connector	and ground.		
				-		
Optical			Continuity			
Connector	Terminal			_		
M84	1	Ground	Not existed	_		
is the inspectio	<u>n result normal</u>	<u>?</u>				
YES >> Re	place BCM. Re	fer to <u>BCS-94, '</u>	Removal and	Installation".		
NO >> Re	pair or replace	narness.				
<b>D.</b> CHECK OP	TICAL SENSOR	R GROUND CIF	RCUIT			
1. Turn ignitio	on switch OFF.					
2. Disconnect	optical sensor	connector and	BCM connecto	r.		
3. Check con	tinuity between	optical sensor l	narness conne	ctor and BCM harnes	s connector.	
Optica	l sensor	B	CM	Continuity		
Connector	Terminal	Connector	Terminal			
M84	3	M68	18	Existed		
is the inspectio	n result normal	?				
YES >> Re	place BCM. Re	fer to <u>BCS-94, '</u>	Removal and	Installation".		
NO >> Re	pair or replace	harness.				
I.CHECK OP	TICAL SENSOF	R SIGNAL CIRC	CUIT (OPEN)			
1. Turn ignitio	n switch OFF.					
· • • •						

2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

# **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

Optical sensor		BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M84	2	M68	14	Existed	

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK OPTICAL SENSOR SIGNAL CIRCUIT (SHORT)

Check continuity between optical sensor harness connector and ground.

Optical	sensor		Continuity
Connector	Connector Terminal		Continuity
M84	2	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

NO >> Repair or replace harness.

#### < DTC/CIRCUIT DIAGNOSIS >

# 

[XENON TYPE]

HAZARD S	SWITCH					Λ
Component	Function Cl	neck			INFOID:000000012201661	A
1. СНЕСК НАХ	ZARD SWITCH	SIGNAL				В
<ul> <li>With CONSU</li> <li>Turn ignitio</li> <li>Select "FL/</li> <li>Select "HA</li> <li>With opera</li> </ul>	JLT n switch ON. ASHER" of "BC ZARD SW" in "I ting the hazard	M" using CON Data Monitor" r switch, check	SULT. node. the monitor stati	JS.		С
Monitor item	Con	dition	Monitor status			D
HAZARD SW	Hazard switch	ON OFF	On Off			E
Is the inspectio	n result normal	?				
YES >> Ha NO >> Re	zard switch circ fer to <u>EXL-77, "</u>	uit is normal. Diagnosis Proc	<u>cedure"</u> .			F
Diagnosis P	rocedure				INFOID:000000012201662	
1.CHECK HAZ	ZARD SWITCH	SIGNAL				G
<ol> <li>Turn ignitio</li> <li>Disconnect</li> <li>Check volta</li> </ol>	n switch OFF. hazard switch age between ha	connector. azard switch co	nnector and gro	und.		Н
	+					Ι
Hazaro	d switch	-	Voltage			
Connector	Terminal	-	(Approx.)			I
M45	2	Ground	12 V			0
Is the inspectio YES >> GC NO >> GC 2.CHECK HAZ	<u>n result normal'</u> ) TO 4. ) TO 2. ZARD SWITCH	? SIGNAL CIRC	:UIT (OPEN)			K
<ol> <li>Disconnect</li> <li>Check cont</li> </ol>	BCM connector tinuity between	or. hazard switch	harness connec	tor and BCM harness con	nector.	EXL
Hazaro	d switch	E	CM	Opertionalty		Μ
Connector	Terminal	Connector	Terminal	Continuity		
M45	2	M68	29	Existed		Ν
Is the inspectio	n result normal	<u>?</u>				
YES >> GC NO >> Re <b>3.</b> CHECK HAZ	) TO 3. pair or replace   ZARD SWITCH	harness. SIGNAL CIRC	UIT (SHORT)			0
Check continuit	y between haz	ard switch harn	ess connector a	ind ground.		Ρ
Hazaro	d switch					
Connector	Terminal	—	Continuity			
M45	2	Ground	Not existed			

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-94. "Removal and Installation"</u>.

**EXL-77** 

# HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

# 4. CHECK HAZARD SWITCH GROUND CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity
Connector Terminal			Continuity
M45	1	Ground	Existed

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-107. "Removal and Installation".

NO >> Repair or replace harness.

# SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

# Symptom Table

#### EXCEPT FOR NISMO MODELS

< SYMPTOM DIAGNOSIS >

#### Without Daytime Running Light System

#### NOTE:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symp	otom	Possible cause	Inspection item	
Headlamp (HI) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (HI) power supply/ ground circuit</li> <li>Headlamp (HI) bulb</li> <li>Headlamp assembly</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-50, "Component Func-</u> tion Check".	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to <u>EXL-87, "Diagnosis Procedure"</u> .		
High beam indicator lamp is [Headlamp (HI) is turned ON	not turned ON N]	Combination meter	<ul> <li>Combination meter Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEAD LAMP"</li> </ul>	
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply/ ground circuit</li> <li>Headlamp (LO) bulb (Xenon bulb)</li> <li>Headlamp assembly</li> <li>HID control unit</li> <li>Xenon bulb socket</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-53, "Component Func-</u> tion Check".	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-88. "Diagnosis Procedure"</u> .		
Each lamp is not turned ON	/OFF with lighting switch	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .	
AUTO		<ul> <li>Optical sensor power supply/ ground/signal circuit</li> <li>Optical sensor</li> <li>BCM</li> </ul>	Optical sensor Refer to <u>EXL-74, "Component Func-</u> tion Check".	
Parking lamp is not turned ON		<ul> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp</li> <li>LED (Parking lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-56, "Component Func-</u> tion Check".	
Front side marker lamp is no	ot turned ON	<ul> <li>Front side marker lamp power supply/ground circuit</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb sock- et</li> </ul>	Front side marker lamp circuit Refer to <u>EXL-58, "Component Func-</u> tion Check".	

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#### < SYMPTOM DIAGNOSIS >

#### [XENON TYPE]

Symp	otom	Possible cause	Inspection item
Tail lamp is not turned ON	Stop lamp / Tail lamp (Bulb side) Tail lamp (LED side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Stop lamp / Tail lamp bulb</li> <li>Stop lamp / Tail lamp bulb socket/ harness</li> <li>IPDM E/R</li> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal</li> </ul>	Tail lamp circuit Refer to <u>EXL-60, "Component Func-</u> tion Check".
		circuit - LED (Tail lamp) • Tail lamp harness • IPDM E/R	
License plate lamp is not tur	ned ON	<ul> <li>License plate lamp power supply/ ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket/ harness</li> </ul>	License plate lamp circuit Refer to <u>EXL-62, "Component Func-</u> tion Check".
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE N TURNED ON" Refer to <u>EXL-89, "Diagnosis Procedu</u>	MARKER AND TAIL LAMPS ARE NOT
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>
Front fog lamp is not turned	One side	<ul> <li>Front fog lamp power supply/ ground circuit</li> <li>Front fog lamp bulb</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-69, "Component Func-</u> tion Check".
ON	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to <u>EXL-90, "Diagnosis Procedure"</u> .	
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher activa- tion)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power supply/ground circuit</li> <li>Front turn signal lamp bulb</li> <li>Front turn signal lamp bulb socket</li> <li>BCM</li> <li>Side turn signal lamp power supply/ground circuit</li> <li>Side turn signal lamp</li> <li>BCM</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp bulb</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-71, "Component Func-</u> <u>tion Check"</u> .
	Indicator lamp is included	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .

#### < SYMPTOM DIAGNOSIS >

#### [XENON TYPE]

Symptom		Possible cause	Inspection item	٨
Turn signal indicator lamp does not blink (Turn signal lamp is normal)	One side	Combination meter	—	A
	Both sides (Always)	<ul> <li>Turn indicator signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>	В
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .	С
<ul> <li>Hazard warning lamp does not activate (Turn signal is normal)</li> <li>Hazard warning lamp continues activating</li> </ul>		<ul> <li>Hazard switch signal/ground circuit</li> <li>Hazard switch</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-77. "Component Func-</u> tion Check".	D

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# With Daytime Running Light System **NOTE:**

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom		Possible cause	Inspection item
One side Headlamp (HI) is not turned ON		<ul> <li>Fuse</li> <li>Headlamp (HI) power supply/ ground circuit</li> <li>Daytime running light relay</li> <li>Headlamp (HI) bulb</li> <li>Headlamp assembly</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	G Headlamp (HI) circuit Refer to <u>EXL-50, "Component Func-</u> H tion Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) AR Refer to <u>EXL-87, "Diagnosis Procedu</u>	E NOT TURNED ON" <u>Jure"</u> .
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	Combination meter Data monitor "HI-BEAM IND"     BCM (HEAD LAMP) Active test "HEAD LAMP"     K
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply/ ground circuit</li> <li>Headlamp (LO) bulb (Xenon bulb)</li> <li>Headlamp assembly</li> <li>HID control unit</li> <li>Xenon bulb socket</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-53, "Component Func-</u> <u>tion Check"</u> .
Both sides		Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) AR Refer to <u>EXL-88, "Diagnosis Procedu</u>	E NOT TURNED ON" ure".
Parking lamp is not turned ON		<ul> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp</li> <li>LED (Parking lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	O Parking lamp circuit Refer to <u>EXL-56, "Component Func-</u> <u>tion Check"</u> .
Front side marker lamp is not turned ON		<ul> <li>Front side marker lamp power supply/ground circuit</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb socket</li> </ul>	Front side marker lamp circuit Refer to <u>EXL-58, "Component Func-</u> tion Check".

#### < SYMPTOM DIAGNOSIS >

#### [XENON TYPE]

Symp	otom	Possible cause	Inspection item	
	Stop lamp / Tail lamp (Bulb side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Stop lamp / Tail lamp bulb</li> <li>Stop lamp / Tail lamp bulb socket/ harness</li> <li>IPDM E/R</li> </ul>	Tail lamp circuit	
Tail lamp is not turned ON	Tail lamp (LED side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>LED (Tail lamp)</li> <li>Tail lamp harness</li> <li>IPDM E/R</li> </ul>	Refer to EXL-60, "Component Func- tion Check".	
License plate lamp is not turned ON		<ul> <li>License plate lamp power supply/ ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket/ harness</li> </ul>	License plate lamp circuit Refer to <u>EXL-62, "Component Func-</u> tion Check".	
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-89, "Diagnosis Procedure"</u> .		
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>	
Daytime running light is not turned ON [Headlamp (HI) at approximately half illumination] [Headlamp (HI) is turned ON]		<ul> <li>Fuse</li> <li>Daytime running light relay power supply/control signal circuit</li> <li>Daytime running light relay</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light relay circuit Refer to <u>EXL-64, "Component</u> <u>Function Check"</u>.</li> <li>BCM (HEAD LAMP) Data monitor "ENGINE STATE"</li> <li>Combination meter Data monitor "PKB SW"</li> </ul>	
Front fog lamp is not turned	One side	<ul> <li>Front fog lamp power supply/ ground circuit</li> <li>Front fog lamp bulb</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-69, "Component Func-</u> tion Check".	
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to <u>EXL-90, "Diagnosis Procedure"</u> .		

#### < SYMPTOM DIAGNOSIS >

#### [XENON TYPE]

Symp	tom	Possible cause	Inspection item	^
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher activa- tion)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power sup- ply/ground circuit</li> <li>Front turn signal lamp bulb</li> <li>Front turn signal lamp bulb socket</li> <li>BCM</li> <li>Side turn signal lamp</li> <li>Side turn signal lamp</li> <li>BCM</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp bulb</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-71, "Component Func-</u> tion Check".	A B C D E
	Indicator lamp is included	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .	F
	One side	Combination meter	_	0
Turn signal indicator lamp does not blink	Both sides (Always)	<ul> <li>Turn indicator signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>	Η
(Turn signal lamp is normal)	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .	I
<ul> <li>Hazard warning lamp does not activate (Turn signal is normal)</li> <li>Hazard warning lamp continues activating</li> </ul>		<ul> <li>Hazard switch signal/ground circuit</li> <li>Hazard switch</li> <li>BCM</li> </ul>	Hazard switch Refer to EXL-77, "Component Func- tion Check".	J

## NISMO MODELS

#### NOTE:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom		Possible cause	Inspection item	Ν
One side Headlamp (HI) is not turned ON		<ul> <li>Fuse</li> <li>Headlamp (HI) power supply/ ground circuit</li> <li>Headlamp (HI) bulb</li> <li>Headlamp assembly</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-50, "Component Func-</u> tion Check".	1
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-87, "Diagnosis Procedure".		C
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	<ul> <li>Combination meter Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEAD LAMP"</li> </ul>	F

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#### < SYMPTOM DIAGNOSIS >

#### [XENON TYPE]

Symptom		Possible cause	Inspection item
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply/ ground circuit</li> <li>Headlamp (LO) bulb (Xenon bulb)</li> <li>Headlamp assembly</li> <li>HID control unit</li> <li>Xenon bulb socket</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-53. "Component Func-</u> tion Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) AR Refer to <u>EXL-88. "Diagnosis Procedu</u>	E NOT TURNED ON" <u>Jre"</u> .
Parking lamp is not turned C	DN	<ul> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp</li> <li>LED (Parking lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-56, "Component Func-</u> tion Check".
Front side marker lamp is no	ot turned ON	<ul> <li>Front side marker lamp power supply/ground circuit</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb socket</li> </ul>	Front side marker lamp circuit Refer to <u>EXL-58, "Component Func-</u> tion Check".
	Stop lamp / Tail lamp (Bulb side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Stop lamp / Tail lamp bulb</li> <li>Stop lamp / Tail lamp bulb socket/ harness</li> <li>IPDM E/R</li> </ul>	Tail lamp circuit
Tail lamp is not turned ON	Tail lamp (LED side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>LED (Tail lamp)</li> <li>Tail lamp harness</li> <li>IPDM E/R</li> </ul>	Refer to <u>EXL-60, "Component Func-</u> tion Check".
License plate lamp is not turned ON		<ul> <li>License plate lamp power supply/ ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket/ harness</li> </ul>	License plate lamp circuit Refer to <u>EXL-62. "Component Func-</u> tion Check".
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE N TURNED ON" Refer to <u>EXL-89, "Diagnosis Procedu</u>	MARKER AND TAIL LAMPS ARE NOT
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>
Daytime running light is not turned ON		<ul> <li>Fuse</li> <li>Daytime running light power supply/ground circuit</li> <li>Daytime running light</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light circuit Refer to <u>EXL-67, "Component</u> <u>Function Check"</u>.</li> <li>BCM (HEAD LAMP) Data monitor "ENGINE STATE"</li> <li>Combination meter Data monitor "PKB SW"</li> </ul>

#### < SYMPTOM DIAGNOSIS >

#### [XENON TYPE]

Symptom		Possible cause	Inspection item	^
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher activa- tion)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power sup- ply/ground circuit</li> <li>Front turn signal lamp bulb</li> <li>Front turn signal lamp bulb socket</li> <li>BCM</li> <li>Side turn signal lamp</li> <li>Side turn signal lamp</li> <li>BCM</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp bulb</li> <li>Rear turn signal lamp bulb</li> <li>Rear turn signal lamp bulb</li> <li>BCM</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-71, "Component Func-</u> <u>tion Check"</u> .	A B C D E
	Indicator lamp is included	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .	F
	One side	Combination meter	_	G
Turn signal indicator lamp does not blink	Both sides (Always)	<ul><li>Turn indicator signal</li><li>BCM</li><li>Combination meter</li></ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>	Η
( i um signal lamp is normal)	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53</u> , "COMBINATION <u>METER : Diagnosis Procedure"</u> .	I
<ul> <li>Hazard warning lamp does not activate (Turn signal is normal)</li> <li>Hazard warning lamp continues activating</li> </ul>		<ul> <li>Hazard switch signal/ground circuit</li> <li>Hazard switch</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-77, "Component Func-</u> tion Check".	K

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# NORMAL OPERATING CONDITION

#### Description

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[XENON TYPE]

#### XENON HEADLAMP

- Brightness and the color of light may change slightly immediately after turning the headlamp ON until the xenon bulb becomes stable. This is normal.
- Illumination time lag may occur between right and left. This is normal.

#### AUTO LIGHT SYSTEM

The headlamp may not be turned ON/OFF immediately after passing dark area or bright area (short tunnel, sky bridge, shadowed area, etc.) while using the auto light system. This is caused by for the control difference. This is normal.

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM D	DIAGNOSIS >				[XENON TYPE]
BOTH SID	E HEADLA	MPS (HI)	ARE NOT	FURNED ON	
Description					INFOID:000000012201665
Both side head	lamps (HI) are	not turned ON	when setting to t	he lighting switch HI or PASS.	
Diagnosis P	rocedure				INFOID:000000012201666
1.COMBINATI	ON SWITCH I	NSPECTION			
Check combina Is the inspection YES >> GC NO >> Re 2.CHECK HIG	ation switch. Re n result normal ) TO 2. pair or replace 6H BEAM REQI	fer to <u>BCS-92,</u> ? the malfunction JEST SIGNAL	"Symptom Table	<u>"</u> .	
<ul> <li>With CONSU</li> <li>1. Turn ignitio</li> <li>2. Select "HL</li> <li>3. With operation</li> </ul>	JLT n switch ON. HI REQ" in "Da ting the lighting	ta Monitor" mo switch, check	de of "IPDM E/R the monitor stati	" using CONSULT. Is.	
Monitor item	Con	dition	Monitor status		
HL HI REQ	Lighting switch	HI or PASS	On		
	(2ND)	LO	Off		

Is the inspection result normal?

>> Replace IPDM E/R. Refer to <u>PCS-37, "Removal and Installation"</u>. >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>. YES

NO

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# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

#### Description

Both side headlamps (LO) are not turned ON in any condition.

#### **Diagnosis** Procedure

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-92, "Symptom Table"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2. CHECK LOW BEAM REQUEST SIGNAL

#### () With CONSULT

1. Turn ignition switch ON.

2. Select "HL LO REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.

3. With operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
	Lighting switch	2ND	On
THE EO THE Q	Eighting Switch	OFF	Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-37, "Removal and Installation"</u>.

NO >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

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INFOID:000000012201667

[XENON TYPE]

# PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT

			<b>FURNED ON</b>			
< SYMPTOM DIA	GNOSIS >				[XENON TYPE]	
PARKING, LI	<b>ICENSE</b>	PLATE, SI	DE MARKE	R AND TAIL LAMP	'S ARE NOT	
TURNED ON	J					А
Description					INFOID:000000012201669	B
The parking, licens	se plate, side	marker and tail	lamps are not to	urned ON in any condition.		D
Diagnosis Pro	cedure				INFOID:000000012201670	С
	N SWITCH IN	SPECTION				0
Check combinatio	n switch. Refe	er to <u>BCS-92, "</u>	Symptom Table"			D
<u>Is the inspection re</u>	esult normal?					
NO >> Repai	r or replace th	ne malfunctionir	ng part.			Е
2.CHECK POSIT	ION LIGHT F	REQUEST SIGN	NAL			
With CONSULT 1. Turn ignition s	witch ON.					F
2. Select "TAIL 8 3 With operating	CLR REQ" i	n "Data Monitor switch_check th	" mode of "IPDN ne monitor status	I E/R" using CONSULT.		
	g the lighting (					G
Monitor item	Con	dition	Monitor status			
TAIL & CLR REQ	ighting switch	1ST	On			Н
Is the inspection re	esult normal?	OIT	Oli			
YES >> Perfor	m the tail lan	p diagnosis. Re	efer to <u>EXL-60, "</u> Removal and Ins	Component Function Check	<u>"</u> .	
		51 to <u>DCC-94, 1</u>				
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# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

#### Description

Both side front fog lamps are not turned ON in any condition.

#### **Diagnosis** Procedure

1. COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-92, "Symptom Table".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LIGHT REQUEST SIGNAL

# With CONSULT 1. Turn ignition sv

Turn ignition switch ON.

Select "FR FOG REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT. 2.

3. With operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
	Front fog lamp switch	ON	On
(With lighting switch 1S		OFF	Off

Is the inspection result normal?

YES >> Perform the front fog lamp diagnosis. Refer to EXL-69, "Component Function Check".

NO >> Replace BCM. Refer to BCS-94, "Removal and Installation". INFOID:000000012201672

INFOID:000000012201671

INFOID:000000012201673

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# PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

# Description

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)

NOTE:

Do not remove the temporary tire, jack and on-vehicle tool.

• Wipe out dirt on the headlamp.

#### CAUTION:

#### Never use organic solvent (thinner, gasoline etc.).

• Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW



A. Headlamp RH (UP/DOWN) adjustment screw B. Headlamp LH (UP/DOWN) adjustment screw

	Adjustment screw	Screw driver rotation	Facing direction	
		Clockwise	DOWN	
A Headlamp LH (UP/DOWN)	Counterclockwise	UP		
Р		Clockwise	DOWN	
В	B Headlamp RH (UP/DOWN)	Counterclockwise	UP	

# Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

- Stop the vehicle facing the wall.
- Place the board on a plain road vertically.

INFOID:000000012201674

# HEADLAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

- 2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the headlamp center and the screen.
- 3. Start the engine. Turn the headlamp (LO) ON. CAUTION:

#### Never cover the lens surface with a tape etc. The lens is made of resin. NOTE:

Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.

4. Measure the distance (X) between the horizontal center line of headlamp (H) and the cutoff line (A) within the light axis measurement range (R) from the vertical center line ahead of headlamp (V).

#### Light axis measurement range (R) $\pm$ 350 $\pm$ 175 mm (13.78 $\pm$ 6.89 in)

Low beam distribution on the screen



 Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

		unit: mm (in)
Horizontal center line of headlamp (H)	Highest cutoff line height (M)	Lowest cutoff line height (N)
700 (27.56) or less	4 (0.16)	30 (1.18)
701(27.60) - 800 (31.50)	4 (0.16)	30 (1.18)
801 (31.54) or more	17 (0.67)	44 (1.73)



Distance between the headlamp center and the screen (L) : 10 m (32.8 ft)

#### FRONT FOG LAMP AIMING ADJUSTMENT

# FRONT FOG LAMP AIMING ADJUSTMENT

## Description

# PREPARATION BEFORE ADJUSTING

#### NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)

NOTE:

Do not remove the temporary tire, jack and on-vehicle tool.

- Wipe out dirt on the headlamp.
- CAUTION:
- Never use organic solvent (thinner, gasoline etc.).
- Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

· Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

• For the position and direction of the adjusting screw, refer to the figure.

#### NOTE:

A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.



# Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

- Stop the vehicle facing the wall.
- Place the board on a plain road vertically.
- 2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.
- 3. Start the engine. Turn the front fog lamp ON.

#### **CAUTION:**

#### Never cover the lens surface with a tape etc. The lens is made of resin. NOTE:

Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.

 Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 150 mm (5.91 in).

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**Revision: November 2015** 

INFOID:000000012201675

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# FRONT FOG LAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

Front fog lamp light distribution on the screen

#### [XENON TYPE]



- A : Cutoff line
- B : High illuminance area
- H : Horizontal center line of front fog lamp
- V : Vertical center line of front fog lamp
- X : Cutoff line height

# < REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION HEADLAMP

# Exploded View

REMOVAL



- 1. Headlamp assembly
- <□ : Vehicle front

## DISASSEMBLY

[XENON TYPE]

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INFOID:000000012201677 B

# HEADLAMP

#### < REMOVAL AND INSTALLATION >



<□ : Vehicle front

# Removal and Installation

#### **CAUTION:**

1.

4.

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7</u>, "<u>Precautions for Removing Battery Terminal</u>".

#### REMOVAL

- 1. Remove front bumper fascia. Refer to EXT-17, "Removal and Installation".
- 2. Remove headlamp assembly mounting bolts.
- 3. Pull out headlamp assembly forward the vehicle, and then disconnect the connector before removing the headlamp assembly.

#### INSTALLATION

Note the following item, and then install in the reverse order of removal. **CAUTION:** 

After installation, perform aiming adjustment. Refer to EXL-91, "Description".

#### Replacement

INFOID:000000012201679

INFOID:000000012201678

#### **CAUTION:**

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u>.
- After installing the bulb, install the back cover and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

XENON BULB (LO)

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#### Left Side of The Vehicle

- 1. Remove fixing clips (A) of air cleaner assembly (1).
- 2. While pulling up on the (B) portion of the air duct inlet (upper) (2), disengage of the portion (C), and then remove air duct inlet (upper) as shown by the arrow in the figure.
  - : Vehicle front



- Remove back cover A. 3.
- 4. Rotate xenon bulb socket counterclockwise and unlock it.
- Remove retaining spring lock, and then remove xenon bulb from headlamp assembly. 5.

#### **Right Side of The Vehicle**

- Remove washer tank inlet. Refer to <u>WW-43</u>, "Removal and Installation".
- 2. Remove back cover A.
- Rotate xenon bulb socket counterclockwise and unlock it.
- Remove retaining spring lock, and then remove xenon bulb from headlamp assembly. 4.

#### CAUTION:

#### Never break xenon bulb ceramic tube when replacing bulb.

#### HALOGEN BULB (HI)

Left Side of The Vehicle

- 1. Remove fixing clips (A) of air cleaner assembly (1).
- While pulling up on the (B) portion of the air duct inlet (upper) 2. (2), disengage of the portion (C), and then remove air duct inlet (upper) as shown by the arrow in the figure.
  - C : Vehicle front



- Remove back cover B.
- 4. Disconnect halogen bulb harness connector.
- 5. Rotate halogen bulb clockwise and unlock it, and then remove halogen bulb from headlamp assembly.

#### **Right Side of The Vehicle**

- Remove washer tank inlet. Refer to <u>WW-43</u>, "Removal and Installation".
- 2. Remove back cover B.
- 3. Disconnect halogen bulb harness connector.
- 4. Rotate halogen bulb counterclockwise and unlock it, and then remove halogen bulb from headlamp assembly.

# **Disassembly and Assembly**

## DISASSEMBLY

- 1. Remove back cover (A and B).
- Rotate xenon bulb socket counterclockwise and unlock it. 2.
- Remove retaining spring lock, and then remove xenon bulb from headlamp assembly. 3.

#### **Revision: November 2015**



INFOID:000000012201680

- 4. Disconnect halogen bulb harness connector.
- 5. Remove halogen bulb.

Left side of the vehicle

• Rotate halogen bulb clockwise and unlock it, and then remove halogen bulb from headlamp assembly.

Right side of the vehicle

• Rotate halogen bulb counterclockwise and unlock it, and then remove halogen bulb from headlamp assembly.

ASSEMBLY

Assemble in the reverse order of disassembly.

# FRONT COMBINATION LAMP

# Exploded View

# REMOVAL

INFOID:000000012201681

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- SEC. 261
- 1. Front combination lamp
- . N·m (kg-m, in-lb)

#### DISASSEMBLY



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# FRONT COMBINATION LAMP

# < REMOVAL AND INSTALLATION >

INFOID:000000012201682

3. Front turn signal lamp bulb socket

- 1. Front combination lamp
- Front turn signal lamp bulb
   Front side marker lamp bulb socket
- 4. Front side marker lamp bulb
- <□ : Vehicle front

# Removal and Installation

**CAUTION:** 

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7</u>, "<u>Precautions for Removing Battery Terminal</u>".

#### REMOVAL

- 1. Remove front bumper fascia. Refer to EXT-17, "Removal and Installation".
- 2. Remove front combination lamp mounting bolts and nut.
- 3. Pull out front combination lamp forward the vehicle, and then disconnect connector before removing the front combination lamp.

#### INSTALLATION

Note the following item, and then install in the reverse order of removal.

#### CAUTION:

Interference of front combination lamp lens with front fender may cause intrusion of water into front combination lamp or rusting of fender due to damage of painted surface. Be careful to operate without allowing parts to interfere with each other.

## Replacement

INFOID:000000012201683

#### CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u>.
- After installing the bulb, install the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

## PARKING LAMP BULB

#### **CAUTION:**

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to <u>EXL-100, "Removal and Installation"</u>.

#### FRONT TURN SIGNAL LAMP BULB

- 1. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 2. Remove front turn signal lamp bulb from the front turn signal lamp bulb socket.

#### FRONT SIDE MARKER LAMP BULB

- 1. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 2. Remove front side marker lamp bulb from the front side marker lamp bulb socket.

# Disassembly and Assembly

#### DISASSEMBLY

- 1. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 2. Remove front turn signal lamp bulb from the front turn signal lamp bulb socket.
- 3. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 4. Remove front side marker lamp bulb from the front side marker lamp bulb socket.

#### ASSEMBLY

Note the following item, and then assemble in the reverse order of disassembly.

#### After installing the bulb, install the bulb socket securely for watertightness.

**Revision: November 2015** 

# EXL-100

#### 2016 JUKE

INFOID:000000012201684

# DAYTIME RUNNING LIGHT

## < REMOVAL AND INSTALLATION >

DAYTIME RUNNING LIGHT

# Exploded View

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DAYTIME RUNNING LIGHT

#### CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace daytime running light as a set. Refer to <u>EXL-101, "Removal and Installation"</u>.

**Revision: November 2015** 

#### **EXL-101**

#### 2016 JUKE

# FRONT FOG LAMP

## **Exploded View**

INFOID:000000012201688

[XENON TYPE]



- Front bumper fascia a
   Front fog lamp
- 4. Front fog lamp

<□ : Vehicle front

. N·m (kg-m, in-lb)

# Removal and Installation

#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u>.

#### REMOVAL

1. Remove front fender protector to make work space. Refer to EXT-31, "Removal and Installation".

5.

U nut

- 2. Disconnect front fog lamp harness connector.
- 3. Remove front fog lamp fixing screws, and then remove front fog lamp from front fog lamp bracket.
- 4. Remove front fog lamp bracket mounting bolt and fixing clips, and then remove front fog lamp bracket.

INFOID:000000012201689

# FRONT FOG LAMP

#### < REMOVAL AND INSTALLATION >

#### INSTALLATION

Note the following item, and then install in the reverse order of removal. **NOTE:** 

After installation, perform aiming adjustment. Refer to EXL-93, "Description".

#### Replacement

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[XENON TYPE]

#### **CAUTION:**

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u>.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect
   The performance of lamp. When replacing bulb, be sure to replace it with new one.

#### FRONT FOG LAMP BULB

- 1. Remove fender protector to make work space. Refer to EXT-31. "Removal and Installation".
- 2. Remove front fog lamp bulb connector (1).
- 3. Rotate front fog lamp bulb (2) counterclockwise and unlock it.



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# SIDE TURN SIGNAL LAMP

#### < REMOVAL AND INSTALLATION >

SIDE TURN SIGNAL LAMP

#### Exploded View

Refer to MIR-17, "Exploded View".

Removal and Installation

#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u>.

#### REMOVAL

- 1. Remove door mirror cover. Refer to MIR-20, "DOOR MIRROR COVER : Removal and Installation".
- 2. Remove side turn signal lamp fixing screws (A), and then disconnect side turn signal lamp harness connector (B).



INSTALLATION Install in the reverse order of removal.

#### Replacement

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#### CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7</u>, "<u>Precautions for Removing Battery Terminal</u>".

SIDE TURN SIGMNAL LAMP BULB

#### CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace side turn signal lamp as a set. Refer to <u>EXL-104</u>, "<u>Removal and Installation</u>".

INFOID:000000012201692

[XENON TYPE]



# **OPTICAL SENSOR**

#### < REMOVAL AND INSTALLATION >

# **OPTICAL SENSOR**

# **Exploded View**

INFOID:000000012201694

[XENON TYPE]



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**Revision: November 2015** 

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Removal and Installation

REMOVAL

Remove light & turn signal switch. Refer to BCS-95, "Removal and Installation".

INSTALLATION

Install in the reverse order of removal.

INFOID:000000012201696

# **HAZARD SWITCH**

# < REMOVAL AND INSTALLATION >

# HAZARD SWITCH

# Exploded View

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1. Instrument panel assembly2. Hazard switch $2 - 3$ : Pawl	G
Removal and Installation	, Н
CAUTION: Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u> .	I I
REMOVAL	I
<ol> <li>Remove audio unit. Refer to <u>AV-50, "Removal and Installation"</u>.</li> <li>Disengage fixing pawls, and then remove hazard switch from instrument panel inside to outside.</li> </ol>	0
INSTALLATION Install in the reverse order of removal.	K
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# **REAR COMBINATION LAMP**

## < REMOVAL AND INSTALLATION >

# REAR COMBINATION LAMP

# Exploded View

REMOVAL

INFOID:000000012201699



: N·m (kg-m, in-lb)

DISASSEMBLY
#### REAR COMBINATION LAMP

#### < REMOVAL AND INSTALLATION >



Replacement

#### CAUTION:

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- · Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-7, "Precautions for Removing Battery Terminal".
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.

INFOID:000000012201701

# **REAR COMBINATION LAMP**

#### < REMOVAL AND INSTALLATION >

- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### TAIL LAMP (LED)

#### CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace rear combination lamp as a set. Refer to <u>EXL-109</u>, "Removal and Installation".

STOP/TAIL LAMP BULB (REAR SIDE MARKER LAMP)

- 1. Remove rear combination lamp assembly. Refer to EXL-109, "Removal and Installation".
- 2. Rotate stop/tail lamp bulb socket counterclockwise, and then remove stop/tail lamp bulb socket.
- 3. Remove stop/tail lamp bulb from stop/tail lamp bulb socket.

#### REAR TURN SIGNAL LAMP BULB

- 1. Remove rear combination lamp assembly. Refer to EXL-109, "Removal and Installation".
- 2. Rotate rear turn signal lamp bulb socket counterclockwise, and then remove rear turn signal lamp bulb socket.
- 3. Remove rear turn signal lamp bulb from rear turn signal lamp bulb socket.

#### BACK-UP LAMP BULB

- 1. Remove rear combination lamp assembly. Refer to EXL-109, "Removal and Installation".
- 2. Rotate back-up lamp bulb socket counterclockwise, and then remove back-up lamp bulb socket.
- 3. Remove back-up lamp bulb from back-up lamp bulb socket.

#### < REMOVAL AND INSTALLATION >

# **HIGH-MOUNTED STOP LAMP**

# **Exploded View**

EXCEPT FOR NISMO AND NISMO RS





#### 1. Rear spoiler

2. High-mounted stop lamp

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#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-7, "Precautions for Removing Battery Terminal".

#### REMOVAL

Except for NISMO and NISMO RS

**Removal and Installation** 

Remove blind seal from back door inside. 1. **CAUTION:** 

[XENON TYPE]

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# **HIGH-MOUNTED STOP LAMP**

#### < REMOVAL AND INSTALLATION >

#### Never damage the blind seal, so that it can be reused.

- 2. Remove high-mounted stop lamp mounting nuts and connector.
- 3. Pull high-mounted stop lamp toward vehicle upside, and then remove high-mounted stop lamp.

NISMO and NISMO RS

- 1. Remove rear spoiler. Refer to EXT-49, "Removal and Installation".
- 2. Remove high-mounted stop lamp cover mounting bolts, and then remove high-mounted stop lamp cover.
- 3. Remove high-mounted stop lamp harness connector from rear spoiler.
- 4. Pull out high-mounted stop lamp, and then remove high-mounted stop lamp.

#### INSTALLATION

Note the following item, and then install in the reverse order of removal.

#### **CAUTION:**

Seal packing cannot be reused.

# LICENSE PLATE LAMP

#### < REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

# Exploded View

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# Removal and Installation

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#### CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7, "Precautions for Removing Battery Terminal"</u>.

#### REMOVAL

- 1. While pressing the license plate lamp to direction right side, pull it to direction outside and then remove it.
- 2. Disconnect license plate lamp connector.



#### INSTALLATION Install in the reverse order of removal.

#### Replacement

CAUTION:

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- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-7</u>, "<u>Precautions for Removing Battery Terminal</u>".
   Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### LICENSE PLATE LAMP BULB

- 1. Remove license plate lamp. Refer to EXL-113, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.

# LICENSE PLATE LAMP

#### < REMOVAL AND INSTALLATION >

3. Remove the bulb from the socket.

#### < REMOVAL AND INSTALLATION >

# **REAR FOG LAMP**

# **Exploded View**

#### REMOVAL

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#### < REMOVAL AND INSTALLATION >

# REAR REFLEX REFLECTOR

# **Exploded View**

INFOID:000000012201709

[XENON TYPE]

#### EXCEPT FOR NISMO AND NISMO RS



: N·m (kg-m, in-lb)

#### NISMO AND NISMO RS



- Rear bumper fascia lower 1.
- : Metal clip

# Removal and Installation

#### REMOVAL

#### Except for NISMO and NISMO RS

1. Remove rear bumper fascia lower. Refer to EXT-23, "Removal and Installation".

#### **EXL-116**

INFOID:000000012201710

# REAR REFLEX REFLECTOR

#### < REMOVAL AND INSTALLATION >

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2. Remove rear reflex reflector fixing screw.

3. Disengage rear reflex reflector fixing pawls, and then remove rear reflex reflector.

NISMO and NISMO RS

- 1. Remove rear bumper fascia lower. Refer to EXT-23, "Removal and Installation".
- 2. Disengage rear reflex reflector fixing metal clip, and then remove rear reflex reflector according to numerical order  $1\rightarrow 3$  indicated by arrows as shown in the figure.



INSTALLATION Install in the reverse order of removal.

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#### SERVICE DATA AND SPECIFICATIONS (SDS)

#### < SERVICE DATA AND SPECIFICATIONS (SDS)

[XENON TYPE]

# SERVICE DATA AND SPECIFICATIONS (SDS) SERVICE DATA AND SPECIFICATIONS (SDS)

# **Bulb Specifications**

INFOID:000000012201711

## EXCEPT FOR NISMO AND NISMO RS

	Item	Туре	Wattage (W)
Hoadlamp	High Beam	HB3 (Halogen)	60
пеацапр	Low Beam	D2S (Xenon)	35
	Front turn signal lamp	WY21W (Amber)	21
Front combination lamp	Front side marker lamp	W5W	5
	Parking lamp	LED	_
Front fog lamp		H11	55
Side turn signal lamp		LED	_
	Tail lamp (LED)	LED	_
Rear combination lamp	Stop lamp/Tail lamp (Rear side marker)	W21/5W	21/5
	Rear turn signal lamp	WY21W (Amber)	21
	Back-up lamp	W16W	16
High-mounted stop lamp		LED	—
License plate lamp		W5W	5

#### NISMO AND NISMO RS

Item		Туре	Wattage (W)
Headlamn	High Beam	HB3 (Halogen)	60
neadiamp	Low Beam	D2S (Xenon)	35
	Front turn signal lamp	WY21W (Amber)	21
Front combination lamp	Front side marker lamp	W5W	5
	Parking lamp	LED	—
Daytime running light		LED	—
Side turn signal lamp		LED	—
	Tail lamp (LED)	LED	—
Rear combination lamp	Stop lamp/Tail lamp (Rear side marker)	W21/5W	21/5
	Rear turn signal lamp	WY21W (Amber)	21
	Back-up lamp	W16W	16
High-mounted stop lamp	+	LED	—
License plate lamp		W5W	5

# < PRECAUTION > PRECAUTION PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

#### WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

#### PRECAUTIONS WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

#### WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery or batteries, and wait at least 3 minutes before performing any service.

#### Precaution for Procedure without Cowl Top Cover

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When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.

# 

# Precautions for Removing Battery Terminal

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.

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# PRECAUTIONS

#### < PRECAUTION >

#### [HALOGEN TYPE]

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:

D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		
YD25DDTi	: 2 minutes		



#### NOTE:

ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

• After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

#### NOTE:

- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
- Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
- Driving for 30 minutes or more on a steep slope.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

#### NOTE:

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC. **NOTE:** 

The removal of 12V battery may cause a DTC detection error.

# **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION COMPONENT PARTS

**Component Parts Location** 



\*<sup>1</sup>: With front fog lamp

\*2: With daytime running light system

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# \*<sup>3</sup>: With auto light system \*<sup>4</sup>: Except for NISMO models with daytime running light system

# **Component Description**

INFOID:000000012201715

Part	Description
ВСМ	<ul> <li>Detects each switch condition by the combination switch reading function</li> <li>Judges that the headlamp is turned ON according to the vehicle condition</li> <li>Requests the headlamp relay (High/Low) ON to IPDM E/R (via CAN communication)</li> <li>Requests the high beam indicator lamp and position lamp indicator lamp ON to the combination meter (via CAN communication)</li> <li>Judges the outside brightness from the optical sensor signal.</li> <li>Judges the ON/OFF status of the exterior lamp from the outside brightness and the vehicle condition.</li> </ul>
IPDM E/R	Controls the integrated relay and daytime running light relay, and supplies voltage to the load according to the request from BCM (via CAN communication).
Combination meter	<ul> <li>Turns the high beam indicator lamp and position lamp indicator lamp ON according to the request from BCM (via CAN communication).</li> <li>Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (via CAN communication).</li> <li>Combination meter transmits parking brake switch signal to BCM via CAN communication.</li> </ul>
ECM*1	ECM transmits engine status signal to BCM via CAN communication.
Optical sensor* <sup>2</sup>	Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
Door switch	Refer to DLK-10, "Component Description".
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "COMBINATION SWITCH READING SYSTEM : System Description".
Hazard switch	Inputs the hazard switch ON/OFF signal to BCM.

\*1: With daytime running light system

\*<sup>2</sup>: With auto light system

INFOID:000000012201717

# SYSTEM HEADLAMP SYSTEM



# **HEADLAMP SYSTEM : System Description**

#### OUTLINE

Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay control function of IPDM E/R.

#### HEADLAMP (LO) OPERATION

- · BCM detects the combination switch condition with the combination switch reading function.
- BCM transmits the low beam request signal to IPDM E/R via CAN communication according to the headlamp (LO) ON condition.

Headlamp (LO) ON condition

- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to <u>EXL-124, "AUTO LIGHT SYSTEM : System Description"</u>.)
- Lighting switch PASS
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp (LO) ON according to the low beam request signal.

#### HEADLAMP (HI) OPERATION

• BCM transmits the high beam request signal to IPDM E/R and the combination meter via CAN communication according to the headlamp (HI) ON condition.

#### Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch HI with the lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to <u>EXL-124, "AUTO LIGHT SYSTEM : System Description"</u>.)
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp (HI) ON according to the high beam request signal.

#### FOLLOW ME HOME FUNCTION

When the driver is moving to the house entrance from the own vehicle, headlamp is kept still ON by the follow me home function of BCM.

• When BCM detects the input of lighting switch PASS while all of following conditions satisfied, it transmits the low beam request signal for a period of time to IPDM E/R through CAN communication.

Follow me home ON condition - Ignition switch OFF

- ignition switch OFF

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#### < SYSTEM DESCRIPTION >

#### - Lighting switch OFF

- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp (LO) ON according to the low beam request signal.
- When in any of following conditions, follow me home function can be cancelled while follow me home function is operating.

Follow me home OFF condition

- Ignition switch is turned from  $OFF \rightarrow ACC$  or ON
- Lighting switch is turned from  $OFF \rightarrow ON$

NOTE:

- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).
- Follow me home function activating time can be set by CONSULT. Refer to <u>EXL-132</u>, "<u>HEADLAMP : CON-</u> <u>SULT Function (BCM - HEAD LAMP) (HALOGEN TYPE)</u>".

#### **HEADLAMP SYSTEM : Fail-Safe**

INFOID:000000012201718

INFOID:000000012201719

#### CAN COMMUNICATION CONTROL

When CAN communication with BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation		
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>		

# AUTO LIGHT SYSTEM

# AUTO LIGHT SYSTEM : System Diagram



# AUTO LIGHT SYSTEM : System Description

#### OUTLINE

• Auto light system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch reading function
- Headlamp control function

#### Revision: November 2015

#### **EXL-124**

#### 2016 JUKE

INFOID:000000012201720

<ul> <li>Auto light function</li> <li>Delay timer function</li> <li>Wiper linked auto lighting function</li> </ul>	А
<ul> <li>Control by IPDM E/R</li> <li>Relay control function</li> <li>Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function and delay timer function</li> </ul>	В
- Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness	С
<ul> <li>Wiper linked auto lighting function automatically turns ON/OFF the exterior lamps* and each illumination when the light switch is in the AUTO position, according to a front wiper operation.</li> <li>When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF, depending on the vahicle condition with the auto light function after a cortain period.</li> </ul>	D
<ul> <li>*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, tail lamp and side marker lamp (Head-lamp HI and front fog lamp depend on the combination switch condition.)</li> </ul>	Е
<b>NOTE:</b> The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT. Refer to <u>EXL-132</u> , " <u>HEADLAMP</u> : <u>CONSULT Function</u> ( <u>BCM - HEAD LAMP</u> ) ( <u>HALOGEN TYPE</u> )".	F
AUTO LIGHT FUNCTION (WITH TWILIGHT LIGHTING FUNCTION)	
<ul><li>Description</li><li>BCM detects the combination switch condition with the combination switch reading function.</li></ul>	G
<ul> <li>BCM supplies voltage to the optical sensor when the ignition switch is turned ON.</li> <li>Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.</li> <li>BCM filters outside brightness based on the optical sensor signal and judges outside brightness.</li> </ul>	Н
<ul> <li>BCM detects change status of outside brightness according to outside brightness from the optical sensor signal and filtered outside brightness. Based on the change status, BCM judges ON/OFF condition of the exterior lamp.</li> </ul>	I
<ul> <li>BCM transmits each request signal to IPDM E/R and combination meter via CAN communication, according to ON/OFF condition by the auto light function.</li> </ul>	
As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed with CONSULT. Refer to EXL-132, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (HALOGEN TYPE)".	J
<ul> <li>DELAY TIMER FUNCTION</li> <li>BCM turns the headlamp (LO) OFF depending on the vehicle condition with the auto light function when the ignition switch is turned OFF</li> </ul>	K
<ul> <li>Turns the headlamp (LO) OFF 5 minutes after the ignition switch is turned OFF.</li> <li>Turns the headlamp (LO) OFF 5 minutes after detecting that any door opens. (Door switch ON).</li> </ul>	EXL
<ul> <li>Delay timer function turns OFF, when the ignition switch is other than OFF or the lighting switch is other than AUTO.</li> </ul>	M
*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>EXL-132.</u> <u>"HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (HALOGEN TYPE)"</u> . NOTE:	
When any position other than the lighting switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.	Ν
WIPER LINKED AUTO LIGHTING FUNCTION BCM turns the exterior lamps ON when detecting 4 operations of the front wiper work the light switch in AUTO	0
position. <b>NOTE:</b> BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned from ON⇒OFF.	Р

DAYTIME RUNNING LIGHT SYSTEM

#### < SYSTEM DESCRIPTION >

# DAYTIME RUNNING LIGHT SYSTEM : System Diagram

INFOID:000000012201721

[HALOGEN TYPE]

#### EXCEPT FOR NISMO MODELS



#### NISMO MODELS



# DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000012201722

#### OUTLINE

Except for NISMO Models

- Turns the headlamp (HI) ON [Headlamp (HI) at approximately half illumination] as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

#### NISMO Models

Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

#### DAYTIME RUNNING LIGHT OPERATION

Except for NISMO Models

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects vehicle condition depending on the following signals.
- Engine status signal (received from ECM via CAN communication)
- Parking brake switch signal (received from combination meter via CAN communication)
- BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

Éngine running with the parking brake released, and any following conditions are satisfied.

#### Revision: November 2015

#### **EXL-126**

#### < SYSTEM DESCRIPTION >

 Lighting switch OFF Lighting switch 1ST А · IPDM E/R controls the daytime running light relay (ground-side) to turn ON according to the daytime running light request signal. Power is supplied from the daytime running light relay through headlamp high RH and IPDM E/R to head-В lamp high LH. And high beam headlamps are illuminated (approximately half illumination) as the daytime running light. NISMO Models BCM detects the combination switch condition by the combination switch reading function. • BCM detects vehicle condition depending on the following signals. - Engine status signal (received from ECM via CAN communication) Parking brake switch signal (received from combination meter via CAN communication) D BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition. Е Daytime running light ON condition - Engine running with the parking brake released, and any following conditions are satisfied. Lighting switch OFF Lighting switch 1ST • IPDM E/R turns the integrated daytime running light relay ON, and turns the daytime running light ON according to the daytime running light request signal. TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram



# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

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#### OUTLINE

Turn signal lamp and hazard warning lamp is controlled by combination switch reading function and the flasher control function of BCM.

#### TURN SIGNAL LAMP OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM supplies voltage to the right (left) turn signal lamp circuit when the ignition switch is ON and the turn signal switch is in the right (left) position. BCM blinks the turn signal lamp.

#### HAZARD WARNING LAMP OPERATION

BCM supplies voltage to both turn signal lamp circuits when the hazard switch is ON. BCM blinks the hazard warning lamp.

#### TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

• BCM transmits the turn indicator signal to the combination meter using CAN communication while the turn signal lamp and the hazard warning lamp are operating.

# EXL-127

#### < SYSTEM DESCRIPTION >

Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn indicator signal.

#### **3-TIME FLASHER FUNCTION**

- By a short touch of the turn signal lever, BCM blinks the turn signal lamps 3 times in the selected direction.
- Cancels the operation when short touch of the turn signal lever in the reverse direction during the 3-time flasher function operation.

#### HIGH FLASHER OPERATION

- BCM detects the turn signal lamp circuit status from the current value.
- BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.
  - NOTE:

The blinking speed is normal while operating the hazard warning lamp.

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

# PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Diagram



#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description INFOID:000000012201726

#### OUTLINE

Parking, license plate, side marker and tail lamps are controlled by combination switch reading function and parking, license plate, side marker and tail lamps control function of BCM, and relay control function of IPDM E/R.

#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R and the combination meter via CAN communication according to the parking, license plate, side marker and tail lamps ON condition.

Parking, license plate, side marker and tail lamps ON condition (When any of the following conditions are satisfied)

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-124, "AUTO LIGHT SYSTEM : System Description".)
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
- Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : Fail-Safe

INFOID:000000012201727

CAN COMMUNICATION CONTROL

**Revision: November 2015** 

2016 JUKE

#### < SYSTEM DESCRIPTION >

When CAN communication with BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation	В
<ul><li>Parking lamp</li><li>License plate lamp</li><li>Tail lamp</li></ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>	С

# FRONT FOG LAMP SYSTEM

# FRONT FOG LAMP SYSTEM : System Diagram



# FRONT FOG LAMP SYSTEM : System Description

#### OUTLINE

Front fog lamp is controlled by combination switch reading function and front fog lamp control function of BCM, and relay control function of IPDM E/R.

#### FRONT FOG LAMP OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front fog light request signal to IPDM E/R via CAN communication according to the front fog lamp ON condition.

#### Front fog lamp ON condition

- Front fog lamp switch ON, and any of the following conditions are satisfied. [Except headlamp (HI) ON condition]
- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to EXL-124, "AUTO LIGHT SYSTEM : System Description".)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.

#### FRONT FOG LAMP SYSTEM : Fail-Safe

#### CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation	
Front fog lamp	Front fog lamp relay OFF	Р

# EXTERIOR LAMP BATTERY SAVER SYSTEM

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INFOID:000000012201729

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#### < SYSTEM DESCRIPTION >

# EXTERIOR LAMP BATTERY SAVER SYSTEM : System Diagram



# EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000012201732

#### OUTLINE

- Exterior lamp battery saver system is controlled by combination switch reading function and exterior lamp battery saver function of BCM, and relay control function of IPDM E/R.
- BCM turns the exterior lamp\* OFF, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.
- \*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp

#### EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM activates the timer and turns the exterior lamp OFF 45 seconds after the ignition switch is turned from ON → OFF with the exterior lamps ON.
- When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps can be turned ON.
- Ignition switch is turned from  $\mathsf{OFF}\to\mathsf{ON}$
- Lighting switch is changed
- Front fog lamp switch is changed

INFOID:000000012201731

# < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

# COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

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#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	
Data Monitor	The BCM input/output signals are displayed.	E
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>	F

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

			Diagnosis mode			
System	Sub system selection item	Work Support	Work Support Data Monitor		1	
Door lock	DOOR LOCK	×	×	×	I	
Rear window defogger	REAR DEFOGGER		×	×		
Warning chime	BUZZER		×	×	J	
Interior room lamp timer	INT LAMP	×	×	×		
Exterior lamp	HEAD LAMP	×	×	×	K	
Wiper and washer	WIPER	×	×	×	N	
Turn signal and hazard warning lamps	FLASHER	×	×	×		
Air conditioning system	AIR CONDITONER		×	×*	EXI	
<ul><li>Intelligent Key system</li><li>Engine start system</li></ul>	INTELLIGENT KEY	×	×	×		
Combination switch	COMB SW		×		$\mathbb{N}$	
Body control system	BCM	×				
NVIS - NATS	IMMU	×	×	×	NI	
Interior room lamp battery saver	BATTERY SAVER	×	×	×	IN	
Back door open	TRUNK		×			
Theft warning alarm	THEFT ALM	×	×	×	0	
RAP	RETAINED PWR		×			
Signal buffer system	SIGNAL BUFFER		×	×	-	
TPMS	AIR PRESSURE MONITOR	×	×	×	Ρ	

#### NOTE:

\*: For models with automatic A/C, this diagnosis mode is not used.

#### FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

#### < SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description		
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected		
Odo/Trip Meter	km	Total mileage (Odometer	value) of the moment a particular DTC is detected	
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power position is "LOCK"*.)	
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power position is "OFF".)	
	LOCK>ACC		While turning power position from "LOCK"* *to "ACC"	
	ACC>ON		While turning power position from "ACC" to "IGN"	
	RUN>ACC		While turning power position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)	
	CRANK>RUN		While turning power position from "CRANKING" to "RUN" (From cranking up the engine to run it)	
	RUN>URGENT	Power position status of the moment a particular DTC is detected	While turning power position from "RUN" to "ACC" (Emergency stop operation)	
	ACC>OFF		While turning power position from "ACC" to "OFF"	
Vehicle Condition	OFF>LOCK		While turning power position from "OFF" to "LOCK"*	
	OFF>ACC		While turning power position from "OFF" to "ACC"	
	ON>CRANK		While turning power position from "IGN" to "CRANKING"	
	OFF>SLEEP		While turning BCM status from normal mode (Power position is "OFF".) to low power consumption mode	
	LOCK>SLEEP		While turning BCM status from normal mode (Power position is "LOCK"*.) to low power consumption mode	
	LOCK		Power position is "LOCK"*	
	OFF		Power position is "OFF" (Ignition switch OFF)	
	ACC		Power position is "ACC" (Ignition switch ACC)	
	ON		Power position is "IGN" (Ignition switch ON with engine stopped)	
	ENGINE RUN		Power position is "RUN" (Ignition switch ON with engine running)	
	CRANKING		Power position is "CRANKING" (At engine cranking)	
IGN Counter	0 - 39	<ul> <li>The number of times that ignition switch is turned ON after DTC is detected</li> <li>The number is 0 when a malfunction is detected now.</li> <li>The number increases like 1 → 2 → 338 → 39 after returning to the normal con whenever ignition switch OFF → ON.</li> <li>The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.</li> </ul>		

#### NOTE:

\*: Power position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position (A/T models and CVT models), and any of the following conditions are met.

- · Closing door
- · Opening door
- · Door is locked using door request switch
- Door is locked using Intelligent Key

The power position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK".

#### HEADLAMP

# HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (HALOGEN TYPE)

INFOID:000000012201734

WORK SUPPORT

#### < SYSTEM DESCRIPTION >

#### [HALOGEN TYPE]

Service item	Setting item	Setting			
	MODE1*2	Normal			
	MODE2	More sensitive setting	More sensitive setting than normal setting (Turns ON earlier than normal operation)		
CUSTOM A/LIGHT SETTING	MODE3	More sensitive setting than MODE2 (Turns ON earlier than MODE2)			
	MODE4	Less sensitive setting	than normal setting (Turns ON later than normal operation)		
	On* <sup>2</sup>	With the exterior lam	p battery saver function		
DATTERT SAVER SET	Off	Without the exterior la	amp battery saver function		
	MODE1* <sup>2</sup>	45 sec.			
ILL DELAY SET* <sup>1</sup>	MODE2	Without the function			
	MODE3	30 sec.			
	MODE4	60 sec.	Sets delay timer function timer operation time.		
	MODE5	90 sec.	(All doors closed)		
	MODE6	120 sec.			
	MODE7	150 sec.			
	MODE8	180 sec.			
	MODE1	10 sec.	Cate fellow me home function activisting time		
HEAD LIGHT TIMER	MODE2*2	30 sec.	Sets tollow the nome function activating time		
	MODE1*2	With twilight ON custom & with wiper INT, LO and HI			
	MODE2	With twilight ON custom & with wiper LO and HI			
AUTO LIGHT LOGIC SET* <sup>1</sup>	MODE3	With twilight ON custom & without			
	MODE4	Without twilight ON c	ustom & with wiper INT, LO and HI		
	MODE5	Without twilight ON custom & with wiper LO and HI			
	MODE6	Without twilight ON c	ustom & without		

\*<sup>1</sup>: For models without auto light system, this item cannot be used.

\*<sup>2</sup>: Factory setting

# DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	M
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch	
ENGINE STATE [STOP/STALL/CRANK/RUN]	Indicates [STOP/STALL/CRANK/RUN] condition of engine states	Ν
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from combination meter by numerical value [km/h]	0

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#### < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor item [Unit]	Description		
TURN SIGNAL R [On/Off]			
TURN SIGNAL L [On/Off]			
TAIL LAMP SW [On/Off]			
HI BEAM SW [On/Off]			
HEAD LAMP SW 1 [On/Off]	Each switch status that BCM judges from the combination switch reading function		
HEAD LAMP SW 2 [On/Off]			
PASSING SW [On/Off]			
AUTO LIGHT SW* <sup>1</sup> [On/Off]			
FR FOG SW* <sup>2</sup> [On/Off]			
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)		
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)		
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH		
DOOR SW-RL [On/Off]	Indicated [On/Off] condition of rear door switch LH		
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch		
OPTI SEN (DTCT) [V]	The value of outside brightness voltage input from the optical sensor		
OPTI SEN (FILT) [V]	The value of outside brightness voltage filtered by BCM		
OPTICAL SENSOR [On/Off/NG]	NOTE: This item cannot be monitored		

\*<sup>1</sup>: For models without auto light system, this item cannot be monitored.

\*<sup>2</sup>: For models without front fog lamp, this item cannot be monitored.

# ACTIVE TEST

Test item	Operation	Description			
TAIL LAMP	On	<ul> <li>Transmits the position light request signal to IPDM E/R via CAN communication turn the parking, license plate and tail lamps ON</li> <li>Transmits the position light request signal to combination meter via CAN communication to turn the position lamp indicator lamp ON</li> </ul>			
	Off	Stops the position light request signal transmission			
HEAD LAMP	HI	<ul> <li>Transmits the high beam request signal to IPDM E/R via CAN communication to turn the headlamp (HI) ON</li> <li>Transmits the high beam request signal to combination meter via CAN communication to turn the high beam indicator lamp ON</li> </ul>			
	Low	Transmits the low beam request signal to IPDM E/R via CAN communication to turn the headlamp (LO) ON			
	Off	Stops the high beam request signal and low beam request signal transmission			

**Revision: November 2015** 

#### < SYSTEM DESCRIPTION >

### [HALOGEN TYPE]

Test item	Operation	Description	
FR FOG LAMP* <sup>1</sup>	On	<ul> <li>Transmits the front fog light request signal to IPDM E/R via CAN communication to turn the front fog lamp ON (With front fog lamp)</li> <li>Transmits the daytime running light request signal to IPDM E/R via CAN communication to turn the daytime running light ON (NISMO models with daytime running light system)</li> </ul>	B
	Off	<ul> <li>Stops the front fog light request signal transmission (With front fog lamp)</li> <li>Stops the front fog light request signal transmission (NISMO models with daytime running light system)</li> </ul>	С
DAYTIME RUNNING LIGHT*2	On	Transmits the daytime running light request signal to IPDM E/R via CAN communi- cation to turn the headlamp (HI) ON [Headlamp (HI) at approximately half illumina- tion]	D
	Off	Stops the daytime running light request signal transmission	
	On	NOTE:	F
ILL DIVI SIGNAL	Off	This item cannot be tested	

\*<sup>1</sup>: For models without front fog lamp and except for NISMO models with daytime running light system, this item cannot be tested.

\*<sup>2</sup>: For models without daytime running light system and NISMO models with daytime running light system, this item cannot be tested.

#### FLASHER

# FLASHER : CONSULT Function (BCM - FLASHER) (HALOGEN TYPE)

WORK SUPPORT

Service item	Setting item	Setting		
	Lock Only	With locking only		
HAZARD ANSWER BACK	Unlock Only	With unlocking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the door request switch and In-	J
	Lock/ Unlock*	With locking/unlocking	telligent Key	K
	Off	Without the function		

\*: Factory setting

#### DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	N
REQ SW -DR [On/Off]	Indicates [On/Off] condition of door request switch (driver side)	
REQ SW -AS [On/Off]	Indicates [On/Off] condition of door request switch (passenger side)	0
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch	P
TURN SIGNAL R [On/Off]	Each switch status that PCM datasts from the combination switch reading function	
TURN SIGNAL L [On/Off]		
HAZARD SW [On/Off]	The switch status input from the hazard switch	

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#### < SYSTEM DESCRIPTION >

Monitor item [Unit]	Description		
RKE-LOCK [On/Off]	Indicates [On/Off] condition of LOCK signal from Intelligent Key		
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key		
RKE-PANIC* [On/Off]	Indicates [On/Off] condition of PANIC button of Intelligent Key		

\*: For models without panic alarm function, this item cannot be used.

## ACTIVE TEST

Test item	Operation	Description
FLASHER	RH	<ul> <li>Outputs voltage to turn the right side turn signal lamps ON</li> <li>Transmits the turn indicator signal to combination meter via CAN communication to turn the turn signal indicator lamp (RH) ON</li> </ul>
	LH	<ul> <li>Outputs voltage to turn the left side turn signal lamps ON</li> <li>Transmits the turn indicator signal to combination meter via CAN communication to turn the turn signal indicator lamp (LH) ON</li> </ul>
	Off	<ul> <li>Stops the voltage to turn the turn signal lamps OFF</li> <li>Stops the turn indicator signal transmission</li> </ul>

# DIACNOSIS SVSTEM (IDDM E/D)

DIAGNUSIS STSTEIM (IFDIM E/R)	Λ
Diagnosis Description	~
AUTO ACTIVE TEST	В
Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation. • Rear window defogger • Front wiper motor • Parking Jamp	С
<ul> <li>License plate lamp</li> <li>Tail lamp</li> <li>Side marker lamp</li> <li>Front fog lamp</li> </ul>	D
<ul> <li>Headlamp (LO, HI)</li> <li>A/C compressor (magnet clutch)</li> <li>Cooling fan</li> </ul>	
Operation Procedure	F
CAUTION: Wiper arm interferes with hood when wiper is operated while wiper arm is in the raised position. Always perform auto active test without setting wiper arm in the raised position. Always pour water on front windshield glass in advance to auto active test so that damage on front windshield glass surface is prevented.	G
1. Turn the ignition switch OFF.	Н
2. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.	
Close passenger door.	
3. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.	I
CAUTION:	J
A After a series of the following operations is repeated 3 times, auto active test is completed	
NOTE:	Κ
<ul> <li>When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.</li> <li>When auto active test is not activated, door switch may be the cause. Check door switch. Refer to <u>DLK-77</u>, <u>"Component Function Check"</u>.</li> </ul>	EXL
Inspection in Auto Active Test Mode	

When auto active test mode is actuated, the following operation sequence is repeated 3 times.

Operation sequence	Inspection location	Operation	
1	Rear window defogger	10 seconds	Ν
2	Front wiper motor	LO for 5 seconds $\rightarrow$ HI for 5 seconds	
3	<ul> <li>Parking lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> <li>Side marker lamp</li> <li>Front fog lamp</li> </ul>	10 seconds	O
4	Headlamp	LO for 10 seconds $\rightarrow$ HI ON $\Leftrightarrow$ OFF 5 times	
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 \text{ times}$	
6	Cooling fan	50% duty for 5 seconds $\rightarrow$ 100% duty for 5 seconds	

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#### < SYSTEM DESCRIPTION >

#### Concept of auto active test



• IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.

• The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger operate?	NO	<ul> <li>Rear window defogger</li> <li>Rear window defogger ground circuit</li> <li>Harness or connector between IPDM E/R and rear window defogger</li> <li>IPDM E/R</li> </ul>
Any of the following components do not		YES	BCM signal input circuit
operate • Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp • Headlamp (HI, LO) • Front wiper motor	Perform auto active test. Does the applicable system operate?	NO	<ul> <li>Lamp or motor</li> <li>Lamp or motor ground circuit</li> <li>Harness or connector between IPDM E/R and applicable system</li> <li>IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	<ul> <li>A/C amp. signal input circuit</li> <li>CAN communication signal between A/C amp. and ECM</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
	ate?	NO	<ul> <li>Magnet clutch</li> <li>Harness or connector between IPDM E/R and magnet clutch</li> <li>IPDM E/R</li> </ul>

#### < SYSTEM DESCRIPTION >

#### [HALOGEN TYPE]

Symptom	Inspection contents		Possible cause
		YES	<ul> <li>ECM signal input circuit</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	<ul> <li>Harness or connector between IPDM E/R and cooling fan relay</li> <li>Harness or connector between IPDM E/R and cooling fan control module.</li> <li>Harness or connector between cooling fan control module and cooling fan motor</li> <li>Cooling fan motor</li> <li>Cooling fan relay</li> <li>Cooling fan control module</li> <li>IPDM E/R</li> </ul>

# CONSULT Function (IPDM E/R)

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#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Diagnosis mode	Description	
Ecu Identification	Allows confirmation of IPDM E/R part number.	0
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.	-
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.	
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.	
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.	_

#### SELF DIAGNOSTIC RESULT

Refer to PCS-24, "DTC Index".

#### DATA MONITOR

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	MAIN SIGNALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN com- munication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN com- munication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN com- munication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN com- munication.

**Revision: November 2015** 

#### < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor Item [Unit]	MAIN SIGNALS	Description
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the ignition power supply (M/T models) or shift position (CVT models) judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN com- munication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN com- munication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		NOTE: This item is indicated, but not monitored.
S/L STATE [LOCK/UNLK/UNKWN]		NOTE: This item is indicated, but not monitored.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. <b>NOTE:</b> This item is monitored only for the except for NISMO models.
OIL P SW [Open/Close]		NOTE: This item is indicated, but not monitored.
HOOD SW [Off/On]		NOTE: This item is indicated, but not monitored.
HL WASHER REQ [Off/On]		NOTE: This item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder request signal received from BCM via CAN communication.

#### ACTIVE TEST

Test item

Test item	Operation	Description	
HORN	On	Operates horn relay for 20 ms.	
REAR DEFOGGER	Off	OFF	
	On	Operates the rear window defogger relay.	
FRONT WIPER	Off	OFF	
	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	
MOTOR FAN	1	OFF	
	2	Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module.	
	3	Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module.	
	4	Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module.	
HEAD LAMP WASHER	On	NOTE: This item is indicated, but cannot be tested.	

#### < SYSTEM DESCRIPTION >

#### [HALOGEN TYPE]

Test item	Operation	Description	
EXTERNAL LAMPS	Off	OFF	F
	TAIL	Operates the tail lamp relay.	
	Lo	Operates the headlamp low relay.	E
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.	
	Fog	Operates the front fog lamp relay.	C

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# ECU DIAGNOSIS INFORMATION

# BCM, IPDM E/R

# List of ECU Reference

INFOID:000000012201738

ECU	Reference
	BCS-39, "Reference Value"
PCM	BCS-60. "Fail-safe"
	BCS-61, "DTC Inspection Priority Chart"
	BCS-62, "DTC Index"
	PCS-17, "Reference Value"
IPDM E/R	PCS-23. "Fail-safe"
	PCS-24, "DTC Index"

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# WIRING DIAGRAM EXTERIOR LIGHTING SYSTEM

# Wiring Diagram



# **EXTERIOR LIGHTING SYSTEM**



JRLWF5312GB


## **EXTERIOR LIGHTING SYSTEM**

< WIRING DIAGRAM >



JRLWF5314GB

## **EXTERIOR LIGHTING SYSTEM**

## [HALOGEN TYPE]



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JRLWF5316GB

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Connector No.         E105           Connector Name         HMI TO WRE           Connector Name         Win TO WRE           Connector Name         NMI TO WRE           Connector Name         NMI TO WRE           Image: Name         Signal Name           Image: Name <td< th=""><th>73         8         1         K           83         1         K         1         1           83         1         K         1         1         1           83         1         K         1         1         1         1           83         1         K         1</th></td<>	73         8         1         K           83         1         K         1         1           83         1         K         1         1         1           83         1         K         1         1         1         1           83         1         K         1
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< WIRING DIAGRAM >

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## **EXTERIOR LIGHTING SYSTEM**



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JRLWF5324GB

## **EXTERIOR LIGHTING SYSTEM**

## [HALOGEN TYPE]



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JRLWF5326GB

< BASIC INSPECTION >

# **BASIC INSPECTION** DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

**OVERALL SEQUENCE** 



**Revision: November 2015** 

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< BASIC INSPECTION >

## **1.**GET INFORMATION FOR SYMPTOM

- 1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
- 2. Check operation condition of the function that is malfunctioning.

#### >> GO TO 2.

## 2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

#### Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.

#### **3.**CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.

### >> GO TO 5.

### **4.**CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.

### >> GO TO 6.

## **5.**PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to DTC INSPECTION PRIORITY CHART, and determine trouble diagnosis order.

#### NOTE:

- · Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Check according to <u>GI-45. "Intermittent Incident"</u>.

6. Detect malfunctioning system by symptom diagnosis

Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

#### Is the symptom described?

- YES >> GO TO 7.
- NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.

**1**.DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	[HALOGEN TYPE]	
Inspect according to Diagnostic Procedure of the system.		
Is malfunctioning part detected?		А
YES >> GO TO 8.		
NO >> Check according to <u>GI-45, "Intermittent Incident"</u> .		D
${f \delta}$ .REPAIR OR REPLACE THE MALFUNCTIONING PART		В
<ol> <li>Repair or replace the malfunctioning part.</li> <li>Reconnect parts or connectors disconnected during Diagnostic Procedure again af ment.</li> </ol>	ter repair and replace-	С
3. Check DTC. If DTC is detected, erase it.		
>> GO TO 9.		D
9.FINAL CHECK		
When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, a malfunction is repaired securally	nd then check that the	Ε
When symptom is described by the customer, refer to confirmed symptom in step 3 or symptom is not detected.	4, and check that the	F
Is DTC detected and does symptom remain?		
YES-1 >> DTC is detected: GO TO 7.		
NO >> Before returning the vehicle to the customer, always erase DTC.		G
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## DTC/CIRCUIT DIAGNOSIS HEADLAMP (HI) CIRCUIT

**Component Function Check** 

**1.**CHECK HEADLAMP (HI) OPERATION

#### With CONSULT

#### 1. Turn ignition switch ON.

- Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT. 2.
- 3. With operating the test items, check that the headlamp (HI) blinks.

#### : Headlamp (HI) blinks (ON/OFF is repeated 1 second each.) Hi

#### Off : Headlamp (HI) OFF

### Without CONSULT

- Ĩ. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the headlamp (HI) blinks.

### Is the inspection result normal?

- YES >> Headlamp (HI) circuit is normal.
- >> Refer to EXL-162, "Diagnosis Procedure". NO

## Diagnosis Procedure

## 1.CHECK HEADLAMP (HI) FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuses are not blown (open).

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)		#51	10 Δ
Headlamp HI (LH)		#52	10 A

Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 2.

2. CHECK HEADLAMP (HI) POWER SUPPLY

# With CONSULT 1. Turn ignition sv

Turn ignition switch ON.

Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT. 2.

With operating the test items, check voltage between IPDM E/R harness connector and ground. 3.

	+ IPDM E/R		- Test item			Voltage
Conr	Connector		1			
RH		49			Hi	9 – 16 V (Repeated 1 second)
	E15		Ground EXTER LAMPS	EXTERNAL	Off	0 – 1 V
LH		50		LAMPS	Hi	9 – 16 V (Repeated 1 second)
					Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3. INFOID:0000000012201742

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## **HEADLAMP (HI) CIRCUIT**

**IHALOGEN TYPE1** 

	II DIAGNOSIS	; >					
NO >> Re	place IPDM E/F	R. Refer to <u>PCS</u>	-37, "Removal a	and Installation"			
<b>3.</b> CHECK HE/	ADLAMP (HI) P	OWER SUPPLY	Y CIRCUIT				
<ol> <li>Turn ignitio</li> <li>Disconnect</li> <li>Check cont</li> </ol>	n switch OFF. t IPDM E/R con tinuity between	nector and head IPDM E/R harn	dlamp connecto ess connector a	or. and headlamp h	arness connector.		
	IPDM E/R		Head	dlamp			
Conr	nector	Terminal	Connector	Terminal	Continuity		
RH		49	E55				
LH	E15	50	E54	1	Existed		
Is the inspectio	n result normal?	?					
YES-2 $>>$ NIS YES-3 $>>$ Ex NO $>>$ Re 4.CHECK HE/	SMO models with cept for NISMO pair or replace I ADLAMP (HI) G	th daytime runn models with da harness. ROUND CIRCU	JIT	n: GO TO 4. ight system: GC	9 TO 6.		
				ground.			
	Headlamp			Continuity			
Conr	nector	Terminal		Continuity			
						Oracurad	
RH	E55	з	Ground	Existed			
RH LH	E55 E54	3	Ground	Existed			
RH LH Is the inspectio YES >> GC NO >> Re 5.CHECK HE/	E55 E54 n result normal <sup>2</sup> TO 5. pair or replace I ADLAMP (HI) B	3 ? harness. ULB	Ground	Existed			
RH LH Is the inspectio YES >> GC NO >> Re 5.CHECK HE/ Check the appl	E55 E54 n result normal' D TO 5. pair or replace I ADLAMP (HI) B icable headlam	3 ? harness. ULB p (HI) bulb.	Ground	Existed			
RH LH Is the inspectio YES >> GC NO >> Re 5.CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re 6.CHECK ILLI	E55 E54 n result normal <sup>7</sup> TO 5. pair or replace I ADLAMP (HI) B icable headlam n result normal <sup>7</sup> eck the corresp place the corres JMINATION ST	3 harness. ULB p (HI) bulb. ? onding headlam sponding headlam Sponding headlam	Ground np (HI) harness amp (HI) bulb. F DLAMPS	Existed . Repair or repla Refer to <u>EXL-20</u>	ace if necessary. 7, "Replacement".		
RH LH Is the inspectio YES >> GC NO >> Re 5.CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re 6.CHECK ILLU Check illuminat	E55 E54 n result normal' ) TO 5. pair or replace I ADLAMP (HI) B icable headlam n result normal' eck the corresp place the corres JMINATION ST ion status of he	3 harness. ULB p (HI) bulb. 2 onding headlam sponding headla ATUS OF HEAI adlamps.	Ground np (HI) harness amp (HI) bulb. F DLAMPS	Existed . Repair or repla Refer to <u>EXL-20</u>	ace if necessary. 7, "Replacement".		
RH LH Is the inspectio YES >> GC NO >> Re 5.CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re 6.CHECK ILLU Check illuminat Which headlam	E55 E54 n result normal' TO 5. pair or replace I ADLAMP (HI) B icable headlam n result normal' eck the corresp place the corresp place the corresp uMINATION ST tion status of he up does not turn	3 2 harness. ULB p (HI) bulb. 2 onding headlam sponding headlam ATUS OF HEAI adlamps. ON?	Ground np (HI) harness amp (HI) bulb. F DLAMPS	Existed . Repair or repla Refer to <u>EXL-20</u>	ace if necessary. 7, "Replacement".		
RH LH Is the inspectio YES >> GC NO >> Re <b>5</b> .CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re <b>6</b> .CHECK ILLU Check illuminat Which headlam RH >> GC LH >> GC <b>7</b>	E55 E54 n result normal' TO 5. pair or replace I ADLAMP (HI) B icable headlamp n result normal' eck the corresp place th	3 2 harness. ULB p (HI) bulb. 2 onding headlam sponding headlam ATUS OF HEAI adlamps. ON?	Ground np (HI) harness amp (HI) bulb. F DLAMPS	Existed . Repair or repla Refer to <u>EXL-20</u>	ace if necessary. 7, "Replacement".		
$\begin{array}{c} RH \\ LH \\ \hline \\ \texttt{Is the inspectio} \\ YES >> GC \\ NO >> Re \\ \hline \\ \texttt{5.CHECK HE} \\ \hline \\ \texttt{5.CHECK HE} \\ \hline \\ \\ Check the appl \\ \hline \\ \texttt{1s the inspectio} \\ YES >> Ch \\ NO >> Re \\ \hline \\ \\ \texttt{6.CHECK ILLU} \\ \hline \\ \hline \\ \\ Check illuminat \\ \hline \\ \hline \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ $	E55 E54 n result normal' ) TO 5. pair or replace I ADLAMP (HI) B icable headlam n result normal' eck the corresp place the corresp place the corresp JMINATION ST ion status of he to does not turn ) TO 7. ) TO 11. ADLAMP (HI) R	3 2 harness. ULB p (HI) bulb. 2 onding headlam sponding headlam ATUS OF HEAI adlamps. ON? H GROUND CI	Ground np (HI) harness amp (HI) bulb. F DLAMPS RCUIT-1	Existed . Repair or repla Refer to <u>EXL-20</u>	ace if necessary. 7, "Replacement".		
RH LH Is the inspectio YES >> GC NO >> Re <b>5.</b> CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re <b>6.</b> CHECK ILLU Check illuminat Which headlam RH >> GC LH >> GC <b>7.</b> CHECK HE/ 1. Remove da 2. Check contor.	E55 E54 n result normal' ) TO 5. pair or replace I ADLAMP (HI) B icable headlamp n result normal' eck the corresp place the corresp place the corresp place the corresp place the corresp of the corresp place the corresp DININATION ST ion status of he p does not turn ) TO 7. ) TO 11. ADLAMP (HI) R aytime running I tinuity between	3 2 harness. ULB p (HI) bulb. 2 onding headlam sponding headlam ATUS OF HEAI adlamps. ON? H GROUND CI ight relay. headlamp harn	Ground hp (HI) harness amp (HI) bulb. F DLAMPS RCUIT-1 less connector	Existed . Repair or repla Refer to <u>EXL-20</u> and daytime rur	ace if necessary. 7, "Replacement".		
RH LH Is the inspectio YES >> GC NO >> Re <b>5</b> .CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re <b>6</b> .CHECK ILLU Check illuminat Which headlam RH >> GC LH >> GC <b>7</b> .CHECK HE/ 1. Remove da 2. Check contor.	E55 E54 n result normal' TO 5. pair or replace I ADLAMP (HI) B icable headlam n result normal' eck the corresp place the corresp place the corresp place the corresp JMINATION ST ion status of he p does not turn tion status of he p does not turn TO 7. TO 7. TO 11. ADLAMP (HI) R aytime running I tinuity between	3 2 harness. ULB p (HI) bulb. 2 onding headlam sponding headlam adlamps. ON? H GROUND CI ight relay. headlamp harn Daytime runn	Ground hp (HI) harness amp (HI) bulb. F DLAMPS RCUIT-1 less connector hing light relay	Existed . Repair or repla Refer to <u>EXL-20</u> and daytime rur	ace if necessary. 7, "Replacement".		
RH LH Is the inspectio YES >> GC NO >> Re <b>5</b> .CHECK HE/ Check the appl Is the inspectio YES >> Ch NO >> Re <b>6</b> .CHECK ILLU Check illuminat Which headlam RH >> GC LH >> GC <b>7</b> .CHECK HE/ 1. Remove da 2. Check contor tor.	E55 E54 n result normal' ) TO 5. pair or replace I ADLAMP (HI) B icable headlamp n result normal' eck the corresp place the corresp place the corresp place the corresp JMINATION ST ion status of he p does not turn ) TO 7. ) TO 7. ) TO 71. ADLAMP (HI) R aytime running I tinuity between	3 Anness. ULB p (HI) bulb. Conding headlam sponding headlam adlamps. ON? H GROUND CI ight relay. headlamp harn Daytime runn Connector	Ground hp (HI) harness amp (HI) bulb. F DLAMPS RCUIT-1 ess connector hing light relay Terminal	Existed . Repair or repla Refer to <u>EXL-20</u> and daytime rur Continuity	ace if necessary. 7, "Replacement".		

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK HEADLAMP (HI) RH GROUND CIRCUIT-2

Check continuity between daytime running light relay harness connector and ground.

## **HEADLAMP (HI) CIRCUIT**

## < DTC/CIRCUIT DIAGNOSIS >

Daytime runn	ning light relay		Continuity
Connector	Terminal		Continuity
E65	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

**9.**CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-164, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace daytime running light relay.

**10.**CHECK HEADLAMP (HI) RH BULB

Check the headlamp (HI) RH bulb.

Is the inspection result normal?

YES >> Check the headlamp (HI) RH harness. Repair or replace if necessary.

NO >> Replace headlamp (HI) RH bulb. Refer to EXL-207, "Replacement".

## 11. CHECK HEADLAMP (HI) LH GROUND CIRCUIT

Check continuity between headlamp harness connector and ground.

Head	Headlamp			
Connector	Connector Terminal		Continuity	
E54	3	Ground	Existed	

Is the inspection result normal?

YES >> GO TO 12.

NO >> Repair or replace harness.

12.CHECK HEADLAMP (HI) LH BULB

Check the headlamp (HI) LH bulb.

Is the inspection result normal?

YES >> Check the headlamp (HI) LH harness. Repair or replace if necessary.

NO >> Replace headlamp (HI) LH bulb. Refer to EXL-207. "Replacement".

## Component Inspection

#### INFOID:000000012201743

## 1. CHECK DAYTIME RUNNING LIGHT RELAY

- 1. Turn ignition switch OFF.
- 2. Remove daytime running light relay.
- 3. Apply battery voltage to daytime running light relay between terminals 2 and 1.
- 4. Check continuity of daytime running light relay terminals.

Daytime running light relay Terminal		Condition		Continuity	
		Battery voltage	Not apply	Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace daytime running light relay.

## **HEADLAMP (LO) CIRCUIT**

HEADLAM	P (LO) CIRO	CUIT					
Component	Function Che	eck				INFOID:000000012201744	
1.снеск не	Adlamp (LO) of	PERATION					
With CONSU 1. Turn ignitio 2. Select "EX 3. With operation	ILT n switch ON. TERNAL LAMPS ting the test items	' in "Active Test s, check that the	t" mode of "IP e headlamp (L	DM E/R" using O) is turned (	g CONSULT. DN.		(
Lo Off	: Headlamp (L : Headlamp (L	O) ON O) OFF					ļ
Without CON 1. Start IPDM 2. Check that	ISULT E/R auto active t the headlamp (Lo	est. Refer to <u>P(</u> )) is turned ON	<u>CS-12, "Diagr</u> I.	iosis Descripti	<u>on"</u> .		ļ
<u>Is the inspection</u> YES >> Hea NO >> Ref	<u>n result normal?</u> adlamp (LO) circu fer to <u>EXL-165, "[</u>	uit is normal. Diagnosis Proce	edure".				ļ
Diagnosis P	rocedure					INFOID:000000012201745	(
1. СНЕСК НЕА	ADLAMP (LO) FU	ISE					
<ol> <li>Turn ignitio</li> <li>Check that</li> </ol>	n switch OFF. the following fuse	es are not blow	n (open).				I
Unit	Location	Fuse No.	Capacity				
Headlamp LO (RH Headlamp LO (LH	H) H) IPDM E/R	#54 #53	15 A				
Is the fuse blow	<u>(open)?</u>						
YES >> Rep NO >> GO <b>2.</b> CHECK HEA	place the blown fi TO 2. ADLAMP (LO) PC	use after repair WER SUPPLY	ing the affecte	ed circuit if a fu	use is blown (d	open).	
With CONSU Turn ignitio Select "EX With operat	ILT n switch ON. TERNAL LAMPS <sup>*</sup> ting the test items	' in "Active Test s, check voltage	t" mode of "IP e between IPE	DM E/R" using DM E/R harnes	g CONSULT. ss connector a	and ground.	Е
	+						
	IPDM E/R		-	Te	est item	Voltage	
	nector	Terminal			10	0 16)/	
Conr		52		LO	9 – 16 V		
Conr RH		52			Off	0 - 1 V	
Conr	E15 —	52	Ground	EXTERNAL LAMPS	Off LO	0 – 1 V 9 – 16 V	(

3. CHECK HEADLAMP (LO) POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R connector and headlamp connector.

3. Check continuity between IPDM E/R harness connector and headlamp harness connector.

## HEADLAMP (LO) CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

IPDM E/R			Headlamp		Continuity	
Conr	nector	Terminal	Connector Terminal		Continuity	
RH	F15	52	E55	1	Evisted	
LH		51	E54	4	LAIsted	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK HEADLAMP (LO) GROUND CIRCUIT

Check continuity between headlamp harness connector and ground.

	Headlamp		Continuity	
Conr	Connector			
RH	E55	2	Ground	Existed
LH	E54	2	Ground	LAISIEU

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK HEADLAMP (LO) BULB

Check the applicable headlamp (LO) bulb.

Is the inspection result normal?

YES >> Check the corresponding headlamp (LO) harness. Repair or replace if necessary.

NO >> Replace the corresponding headlamp (LO) bulb. Refer to EXL-207, "Replacement".

PARKING	LAMP CIR	CUIT					Δ
Component	Function Cl	neck				INFOID:000000012201746	A
<b>1.</b> CHECK TAI	L LAMP OPER	ATION					В
Check that the	tail lamp is turn	ed ON.					
Is the inspectio	n result normal	<u>?</u>					C
YES >> GC NO >> Ch	) TO 2. eck tail lamp cii	cuit. Refer to E	XL-171, "Com	onent Function	Check".		0
2.CHECK PAR	, RKING LAMP C	PERATION	,				
() With CONSU	JLT						D
<ol> <li>Turn ignitic</li> <li>Select "EX</li> <li>With operation</li> </ol>	on switch ON. TERNAL LAMP ting the test iter	'S" in "Active Te ms, check that t	est" mode of "IF the parking lam	PDM E/R" using p is turned ON.	CONSULT.		Е
TAIL	: Parking lar	np ON					_
Off	: Parking lar	np OFF					F
Without CON 1. Start IPDM 2. Check that	NSULT E/R auto active the parking lan	e test. Refer to l np is turned ON	PCS-12, "Diagi	nosis Description	<u>1"</u> .		G
Is the inspectio YES >> Pa NO >> Re	<u>n result normal</u> rking lamp circu fer to <u>EXL-167,</u>	<u>?</u> iit is normal. <u>"Diagnosis Pro</u>	cedure".				Н
Diagnosis P	rocedure					INFOID:000000012201747	I
1.CHECK PAR	RKING LAMP P	OWER SUPPL	Y				I
With CONSU 1. Turn ignitic 2. Select "EX 3. With opera	JLT on switch ON. TERNAL LAMF ting the test iter	'S" in "Active Te ns, check volta	est" mode of "IF ge between IPI	PDM E/R" using DM E/R harness	CONSULT.	round.	J
	+						
IPDI	M E/R	-	Tes	st item	Voltage		EXI
Connector	Terminal						
E14	43	Ground	EXTERNAL LAMPS	Off	9 - 16 V 0 - 1 V		M
Is the inspectio YES >> GC NO >> Re 2.CHECK PAR	⊥ <u>n result normal</u> ) TO 2. place IPDM E/F RKING LAMP P	⊥ ? R. Refer to <u>PCS</u> OWER SUPPL	<u>-37, "Removal</u> Y CIRCUIT	and Installation'	<u> </u>		Ν
<ol> <li>Turn ignitic</li> <li>Disconnect</li> <li>Check con</li> </ol>	on switch OFF. t IPDM E/R con tinuity between	nector and park IPDM E/R harn	king lamp conn less connector	ector. and parking lam	p harness conne	ctor.	0
	IPDM F/R		Parki	ng lamp			Ρ
Coni	nector	Terminal	Connector	Terminal	Continuity		
RH	F14	43	E44	1	Existed		
		10		1	LAIOLOU		

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

LH

E28

## PARKING LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

3. CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between parking lamp harness connector and ground.

	Parking lamp		Continuity	
Conr	nector	Terminal		Continuity
RH	E44	2	Ground	Existed
LH	E28		Ground	Existed

Is the inspection result normal?

YES >> Replace the corresponding front combination lamp. Refer to EXL-211. "Removal and Installation".

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOS	IS >			[HA	LOGEN TYPE]
FRONT SIDE MARK	Ker Lamp (	CIRCUIT			
Component Function (	Check				INFOID:000000012201748
1.CHECK PARKING LAMP	OPERATION				
Check that the parking lamp	is turned ON.				
Is the inspection result norm	al?				
YES >> GO TO 2.	mp circuit Dofor	to EXI 167 "C	omponent Func	tion Chock"	
2 CHECK FRONT SIDE MA	ARKER I AMP OF	$\frac{10}{\text{ERATION}}$		<u>lion check</u> .	
1. Turn ignition switch ON.					
<ol> <li>Select "EXTERNAL LAM</li> <li>With operating the test it</li> </ol>	IPS" in "Active Te ems, check that t	est" mode of "IPI the front side ma	OM E/R" using ( arker lamp is tu	CONSULT. rned ON.	
TAIL : Front sid	e marker lamp C	N			
Off : Front sid	e marker lamp C	)FF			
Without CONSULT 1. Start IPDM E/R auto acti	ve test. Refer to	PCS-12, "Diagn	osis Descriptior	<u>ו"</u> .	
<ol><li>Check that the front side</li></ol>	marker lamp is t	urned ON.			
YES >> Front side marke NO >> Refer to EXL-16	er lamp circuit is r 9 "Diagnosis Pro	normal. 			
Diagnosis Procedure		<u></u> .			INFOID:000000012201749
			CIRCUIT		
1 Turn ignition switch OFF					
<ol> <li>Disconnect IPDM E/R co</li> </ol>	onnector and fron	t side marker la	mp connector.		
3. Check continuity betwee	n IPDM E/R harn	less connector a	and front side m	arker lamp harn	ess connector.
IPDM E/R		Front side r	narker lamp		
Connector	Terminal	Connector	Terminal	Continuity	_
RH E14	42	E32	1	Eviated	1
E14	43	E31	1	Existed	
Is the inspection result norm	al?				
YES >> GO TO 2.	- harness				
$2_{\rm CHECK}$ FRONT SIDE MA	RKER LAMP GE		т		
Check continuity between fro	nt side marker la	mp harness cor	nector and aro	und	
check continuity between ne			incotor and gro		
Front side marker	lamp		Continuity		
Connector	Terminal		Continuity		
RH E32	2	Ground	Existed		
LH E31					
Is the inspection result norma	<u>al'?</u>				
NO >> Repair or replace	e harness.				
3. CHECK FRONT SIDE MA	RKER LAMP BU	JLB			
Check the applicable front si	de marker lamp b	oulb.			

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> Check the corresponding front side marker lamp bulb socket. Repair or replace if necessary.

NO >> Replace the corresponding front side marker lamp bulb. Refer to EXL-211, "Replacement".

## **TAIL LAMP CIRCUIT**

< DTC/CIRCUI	T DIAGNOS	SIS >			
AIL LAMP	CIRCUI	Т			
Component	Function (	Check			INFOID:0000000122017
CHECK TAIL	LAMP OPE	RATION			
With CONSU 1. Turn ignition 2. Select "EXT 3. With operat	LT n switch ON. FERNAL LAN ing the test i	VIPS" in "Active tems, check th	e Test" mode c nat the tail lam	of "IPDM E/R" usir p is turned ON.	g CONSULT.
TAIL Off	: Tail lamp : Tail lamp	ON OFF			
Without CON I. Start IPDM 2. Check that	SULT E/R auto act the tail lamp	tive test. Refer is turned ON.	<sup>-</sup> to <u>PCS-12, "[</u>	<u>Diagnosis Descrip</u>	ion".
<u>s the inspectior</u> YES >> Tail NO >> Ref	<u>i result norm</u> lamp circuit er to <u>EXL-17</u>	<u>⊧al?</u> is normal. ′ <u>1, "Diagnosis</u>	Procedure".		
Diagnosis Pi	rocedure				INFOID:0000000122017
1.CHECK FUS	ε				
<ol> <li>Turn ignition</li> <li>Check that</li> </ol>	n switch OFF the following	<u>-</u> I fuse is not bl	own (open).		
Unit		Location	Fuse No.	Capacity	
<ul> <li>Parking lamp RI</li> <li>Parking lamp LI</li> <li>Front side mark</li> <li>Front side mark</li> <li>Tail lamp RH</li> <li>Tail lamp LH</li> <li>License plate la</li> </ul>	H H er lamp RH er lamp LH mp RH mp L H	IPDM E/R	#47	10 A	
<ul> <li>License plate la</li> </ul>					
License plate la <u>Is the fuse blow</u> YES >> Rep     NO >> GO	n (open)? blace the blo TO 2.	wn fuse after i	repairing the a	ffected circuit if a	ūse is blown (open).
License plate la <u>Is the fuse blow</u> YES >> Rep     NO >> GO     2.CHECK TAIL	n (open)? blace the blo TO 2. . LAMP POV	wn fuse after i VER SUPPLY	repairing the a	ffected circuit if a	use is blown (open).
<ul> <li>License plate la</li> <li><u>is the fuse blow</u></li> <li>YES &gt;&gt; Reg</li> <li>NO &gt;&gt; GO</li> <li>2.CHECK TAIL</li> <li>With CONSU</li> <li>1. Turn ignition</li> <li>2. Select "EXT</li> <li>3. With operat</li> </ul>	n (open)? olace the blo TO 2. LAMP POV LT n switch ON. ERNAL LAM ing the test i	Wn fuse after VER SUPPLY MPS" in "Active tems, check v	repairing the a e Test" mode c oltage betwee	ffected circuit if a f of "IPDM E/R" usir n IPDM E/R harne	use is blown (open). g CONSULT. ss connector and ground.
<ul> <li>License plate la</li> <li><u>s the fuse blow</u></li> <li>YES &gt;&gt; Rep</li> <li>NO &gt;&gt; GO</li> <li>CHECK TAIL</li> <li>With CONSU</li> <li>Turn ignition</li> <li>Select "EXT</li> <li>With operat</li> </ul>	n (open)? place the blo TO 2. LAMP POV LT switch ON. ERNAL LAM ing the test i	Wn fuse after VER SUPPLY MPS" in "Active tems, check v	repairing the a e Test" mode c oltage betwee	ffected circuit if a formation of "IPDM E/R" usin n IPDM E/R harne	iuse is blown (open). Ig CONSULT. Isss connector and ground.
<ul> <li>License plate la</li> <li>Is the fuse blow</li> <li>YES &gt;&gt; Reg</li> <li>NO &gt;&gt; GO</li> <li>2.CHECK TAIL</li> <li>With CONSU</li> <li>1. Turn ignition</li> <li>2. Select "EXT</li> <li>3. With operat</li> </ul>	n (open)? olace the blo TO 2. LAMP POV LT n switch ON. ERNAL LAN ing the test i	Wn fuse after i VER SUPPLY MPS" in "Active tems, check v	repairing the a e Test" mode c oltage betwee	ffected circuit if a f of "IPDM E/R" usir n IPDM E/R harne Test item	iuse is blown (open). Ig CONSULT. Isss connector and ground.
<ul> <li>License plate la</li> <li><u>Is the fuse blow</u></li> <li>YES &gt;&gt; Rep</li> <li>NO &gt;&gt; GO</li> <li><b>2.</b>CHECK TAIL</li> <li>With CONSU</li> <li>1. Turn ignition</li> <li>2. Select "EXT</li> <li>3. With operat</li> <li>IPDW</li> <li>Connector</li> <li>E14</li> </ul>	n (open)? olace the blo TO 2. LAMP POV LT n switch ON. ERNAL LAN ing the test i	WN fuse after I VER SUPPLY MPS" in "Active tems, check v	repairing the a	ffected circuit if a f of "IPDM E/R" usir n IPDM E/R harne Test item	Tuse is blown (open).

<u>Is the inspection result normal?</u>

YES >> GO TO 3.

>> Replace IPDM E/R. Refer to PCS-37, "Removal and Installation". NO

**3.**CHECK TAIL LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

## TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R connector and rear combination lamp connector.

3. Check continuity between IPDM E/R harness connector and rear combination lamp harness connector.

IPDM E/R			Rear combination lamp		Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity	
RH	E14	44	B59	2	Existed	
LH	E14	44	B80	Z		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

**4.**CHECK TAIL LAMP GROUND CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

R	ear combination la		Continuity		
Conr	Connector			Continuity	
RH	B59	3	Ground	Existed	
LH	B80	- J	Ground	Existed	

Is the inspection result normal?

YES-1 >> Stop lamp / tail lamp (Bulb side): GO TO 5.

YES-2 >> Tail lamp (LED side): Check the corresponding tail lamp harness, and if check result is normal, replace the corresponding rear combination lamp. Refer to <u>EXL-220</u>, "<u>Removal and Installation</u>".

NO >> Repair or replace harness.

**5.**CHECK STOP LAMP / TAIL LAMP BULB

Check the applicable stop lamp / tail lamp bulb.

Is the inspection result normal?

- YES >> Check the corresponding stop lamp / tail lamp bulb socket and harness. Repair or replace if necessary.
- NO >> Repair or replace the corresponding stop lamp / tail lamp bulb. Refer to EXL-220, "Replacement".

## LICENSE PLATE LAMP CIRCUIT

LICENSE F	PLATE LAN	/IP CIRCUI	Т			Λ
Component	Function Ch	leck			INFOID:000000012201752	A
1.CHECK TAIL	LAMP OPERA	TION				В
Check that the t	ail lamp is turne	ed ON.				
Is the inspection	n result normal?	<u>)</u>				C
YES >> GO	TO 2. eck tail lamp cir	cuit Refer to E	XI -171 "Comp	onent Function Check"		0
2.CHECK LICE	ENSE PLATE L	AMP OPERATI	ON	<u> </u>		
With CONSU	LT					D
<ol> <li>Turn ignition</li> <li>Select "EXT</li> <li>With operat</li> </ol>	n switch ON. FERNAL LAMP ing the test iter	S" in "Active Teans, check that t	st" mode of "IP he license plate	DM E/R" using CONSUL e lamp is turned ON.	Г.	E
TAIL	: License pla	te lamp ON				_
Off	: License pla	te lamp OFF				F
Without CON 1. Start IPDM 2. Check that	SULT E/R auto active the license plat	e test. Refer to <u>F</u> e lamp is turned	<u>PCS-12, "Diagr</u> d ON.	osis Description".		G
YES >> Lice NO >> Ref	n result normal ense plate lamp fer to <u>EXL-173,</u>	<u>′</u> circuit is norma <u>"Diagnosis Pro</u>	al. <u>cedure"</u> .			Η
Diagnosis Pi	rocedure				INFOID:000000012201753	
				<u>ит</u>		
		AMP POWER 3		JII		
<ol> <li>Disconnect</li> <li>Check cont</li> </ol>	IPDM E/R coni inuity between	nector and back IPDM E/R harn	door opener s ess connector	witch connector. and back door opener sw	itch harness connector.	J
IPDM	1E/R	Back door o	pener switch			Κ
Connector	Terminal	Connector	Terminal	Continuity	r	
E14	44	D107	5	Existed		EXI
Is the inspection YES >> GO NO >> Rep 2.CHECK LICE	<u>result normal?</u> TO 2. pair or replace f ENSE PLATE L	narness. AMP GROUND	CIRCUIT			M
Check continuit	y between back	door opener s	witch harness of	connector and ground.		Ν
Back door or	hener switch					
Connector	Terminal	—	Continuity			$\bigcirc$
D107	6	Ground	Existed	-		0
Is the inspection YES >> GO NO >> Rep <b>3.</b> CHECK LICE	<u>result normal?</u> TO 3. pair or replace f ENSE PLATE L	narness. AMP BULB		-		Ρ
Check the appli	cable license p	ate lamp bulb.				

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

## LICENSE PLATE LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

- YES >> Check the corresponding license plate lamp bulb socket and harness. Repair or replace if necessary.
- NO >> Replace the corresponding license plate lamp bulb. Refer to EXL-224, "Replacement".

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUI	T DIAGNOSIS >	•		[HALOGEN TYPE]
DAYTIME F	RUNNING L	IGHT RE	LAY CIRCI	JIT
Component	Function Che	eck		INFOID:000000012201754
1.CHECK DAY	TIME RUNNING	LIGHT OPE	RATION	
<ul> <li>With CONSU</li> <li>Select "HE/</li> <li>Select "DAY</li> <li>With operationately half</li> </ul>	LT AD LAMP" of "BC TIME RUNNING ting the test items fillumination].	M" using CO LIGHT" in "A , check that t	NSULT. Active Test" mod he daytime runn	e. ing light is turned ON [Headlamp (HI) at approx-
On	: Daytime runn	ning light ON	[Headlamp (H	) at approximately half illumination]
Un	: Daytime runi		<b>-</b>	
YES >> Day	time running ligh	nt relay circuit	is normal.	
Diagnosis Pi	rocedure		<u>cedure</u> .	INFOID:000000012201755
1.CHECK DAY	TIME RUNNING	LIGHT RELA	AY FUSE	
<ol> <li>Turn ignition</li> <li>Check that</li> </ol>	n switch OFF. the following fuse	es are not blo	wn (open).	
Unit	Fuse	No. Ca	pacity	
Daytime running l	ight relay #24	1 1	0 A	
YES >> Rep NO >> GO 2.CHECK DAY	TO 2. TIME RUNNING	LIGHT RELA	iring the affecte	d circuit if a fuse is blown (open). PPLY
2. Check volta	age between day	time running I	ight relay harnes	ss connector and ground.
	F		Voltage	
Daytime runn	ing light relay	-	(Approx.)	Let a let
Connector	Ierminal			_
E65	5	Ground	Battery voltage	
Is the inspection YES >> GO NO >> Rep <b>3.</b> CHECK DAY	<u>n result normal?</u> TO 3. pair or replace ha /TIME RUNNING	irness. LIGHT RELA	λY	
Check daytime	running light rela	y. Refer to EX	(L-176, "Compo	nent Inspection".
Is the inspection	n result normal?	-		
YES >> GO NO >> Rep	TO 4. place daytime rur	ning light rela	ay.	
4.CHECK DAY	TIME RUNNING		Y CONTROL S	IGNAL
With CONSU 1. Install dayti 2. Turn ignition 3. Select "HEA 4. Select "DAY	LT me running light n switch ON. AD LAMP" of "BC /TIME RUNNING	relay. CM" using CO G LIGHT" in " <i>A</i>	NSULT. Active Test" mod	e.

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

5. With operating the test item, check voltage between IPDM E/R harness connector and ground.

	+					
IPDM E/R		-	Test item		Voltage	
Connector	Terminal	*				
E13	28	Ground	DAYTIME RUNNING LIGHT	On	0 – 1 V	
LIJ	26 6100			Off	9 – 16 V	

#### Is the inspection result normal?

YES >> Daytime running light relay circuit is normal.

NO-1 >> Fixed at 0 - 1 V: GO TO 6.

NO-2 >> Fixed at 9 – 16 V: GO TO 5.

**5.**CHECK DAYTIME RUNNING LIGHT REQUEST SIGNAL

#### (I) With CONSULT

1. Select "DTRL REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.

2. With operating the daytime running light ON condition, check the monitor status.

Monitor item	Conditi	Monitor status	
	Davtime rupping light	ON condition	On
DIREREQ		OFF condition	Off

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-37, "Removal and Installation"</u>.

NO >> Replace BCM. Refer to <u>BCS-94. "Removal and Installation"</u>.

## 6.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Remove daytime running light relay.
- 3. Disconnect IPDM E/R harness connector.
- Check continuity between IPDM E/R harness connector and daytime running light relay harness connector.

IPDM E/R		Daytime runr	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
E13	28	E65	2	Existed	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-37, "Removal and Installation".

NO >> Repair or replace harness.

## Component Inspection

INFOID:000000012201756

## **1.**CHECK DAYTIME RUNNING LIGHT RELAY

- 1. Turn ignition switch OFF.
- 2. Remove daytime running light relay.
- 3. Apply battery voltage to daytime running light relay between terminals 1 and 2.
- 4. Check continuity of daytime running light relay terminals.

Daytime runr	ning light relay			Continuity	
Terminal		Con	dition		
5	з	Battery voltage	Apply	Existed	
	3	Dattery voltage	Not apply	Not existed	

Is the inspection result normal?

YES >> INSPECTION END

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

## [HALOGEN TYPE]

NO >> Replace daytime running light relay.

< DTC/CIRCUIT DIAGNOSIS >

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## DAYTIME RUNNING LIGHT CIRCUIT

## **Component Function Check**

**1.**CHECK DAYTIME RUNNING LIGHT OPERATION

With CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 2. With operating the test items, check that the daytime running light is turned ON.

Fog : Daytime running light ON

### Off : Daytime running light OFF

Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the daytime running light is turned ON.

#### Is the measurement normal?

YES >> Daytime running light circuit is normal.

NO >> Refer to EXL-178, "Diagnosis Procedure".

## Diagnosis Procedure

## **1.**CHECK DAYTIME RUNNING LIGHT FUSE

1. Turn ignition switch OFF.

2. Check that the following fuse is not blown (open).

Unit	Location	Fuse No.	Capacity
Daytime running light	IPDM E/R	#50	15 A

Is the fuse blown (open)?

YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown (open).

NO >> GO TO 2.

2.CHECK DAYTIME RUNNING LIGHT POWER SUPPLY

#### With CONSULT

- Turn ignition switch ON.
- 2. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 3. With operating the test items, check the voltage between IPDM E/R harness connector and ground.

+			_	Test item		Voltage
IPDM E/R						
Connector Terminal						
RH		10	19 Ground 20	EXTERNAL LAMPS	Fog	9 – 16 V
	<b>E</b> 12	19			Off	0 – 1 V
LH		20			Fog	9 – 16 V
					Off	0 – 1 V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to PCS-37. "Removal and Installation".

 ${
m 3.}$ CHECK DAYTIME RUNNING LIGHT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector and daytime running light connector.

3. Check continuity between IPDM E/R harness connector and daytime running light harness connector.

INFOID:000000012201757

INFOID:000000012201758

## DAYTIME RUNNING LIGHT CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

IPDM E/R		Daytime running light		Continuity		
Con	nector	Terminal	Connector	Terminal	Continuity	
RH	F12	19	E75	1	Fristed	
LH		20	E76	I	Existed	
<u>s the inspectic</u> YES >> G( NO >> Re .CHECK DA	on result normal? O TO 4. epair or replace h YTIME RUNNIN	2 narness. IG LIGHT GRO	UND CIRCUIT			
Check continu	ity between dayt	ime running lig	ht harness conr	ector and grour	ıd.	-
	Daytime running ligh	nt				
Con	nector	Terminal		Continuity		
RH	E75	•				
LH	E76	2	Ground	Existed		
s the inspection	on result normal?	?	1	l		
YES >> Re NO >> Re	eplace the corres epair or replace h	sponding daytin narness.	ne running light.	Refer to <u>EXL-2</u>	12. "Removal and Installation".	

< DTC/CIRCUIT DIAGNOSIS >

## FRONT FOG LAMP CIRCUIT

Component Function Check

## 1.CHECK FRONT FOG LAMP OPERATION

With CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 2. With operating the test items, check that the front fog lamp is turned ON.

Fog : Front fog lamp ON

Off : Front fog lamp OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-12, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

### Is the measurement normal?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-180, "Diagnosis Procedure".

## Diagnosis Procedure

## **1**.CHECK FRONT FOG LAMP FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuses are not blown (open).

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#50	15 A

### Is the fuse blown (open)?

- YES >> Replace the blown fuse after repairing the affected circuit if a fuse is blown (open).
- NO >> GO TO 2.

2.CHECK FRONT FOG LAMP POWER SUPPLY

#### (D) With CONSULT

- 1. Disconnect front fog lamp connector.
- 2. Turn ignition switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R" using CONSULT.
- 4. With operating the test items, check the voltage between IPDM E/R harness connector and ground.

+			_	Test item		
IPDM E/R						Voltage
Connector Terminal		Terminal	1			
RH	E12	10			Fog	9 – 16 V
		15	Ground	EXTERNAL	Off	0 – 1 V
LH		20	Ground	LAMPS	Fog	9 – 16 V
					Off	0 – 1 V

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to PCS-37. "Removal and Installation".

 $\mathbf{3}$ .check front fog lamp power supply circuit

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

3. Check continuity between IPDM E/R harness connector and front fog lamp harness connector.

INFOID:000000012201760
# FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

	IPDM E/R		Front f	og lamp	Continuity	
Conn	ector	Terminal	Connector	Terminal	Continuity	
RH	F12	19	E48	1	Eviated	
LH	E12	20	E30	- 1	Existed	
he inspection	<u>ı result normal</u>	?				
ES >> GO	TO 4.					
0 >> Rej	bair or replace	narness.				
CHECK FRO	ONT FOG LAM	P GROUND CIF	RCUIT			
eck continuit	y between from	t fog lamp harne	ess connector a	and ground.		
	Front fog Jamp					
Conn		Terminal		Continuity		
RH	F48	Terrindi				
I H		2	Ground	Existed		
ne inspection	n result normal	2				
ES >> Rei	place the corre	<u>.</u> spondina front f	og lamp bulb. F	Refer to EXL-214	. "Replacement".	
) >> Re	pair or replace	harness.	-9		<u> </u>	

# TURN SIGNAL LAMP CIRCUIT

**Component Function Check** 

**1.**CHECK TURN SIGNAL LAMP OPERATION

#### (B) With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "FLASHER" of "BCM" using CONSULT.
- 3. Select "FLASHER" in "Active Test" mode.
- 4. With operating the test items, check that the turn signal lamps is turned ON.
  - RH : Turn signal lamps (RH) ON
  - LH : Turn signal lamps (LH) ON
  - Off : Turn signal lamps OFF

#### Is the inspection result normal?

YES >> Turn signal lamp circuit is normal.

#### NO >> Refer to <u>EXL-182</u>, "Diagnosis Procedure".

# Diagnosis Procedure

**1.**CHECK TURN SIGNAL LAMP POWER SUPPLY

#### (B) With CONSULT

- Turn ignition switch OFF.
- 2. Disconnect the following connectors.
- Front turn signal lamp
- Door mirror
- Rear combination lamp
- 3. Turn ignition switch ON.
- 4. Select "FLASHER" of "BCM" using CONSULT.
- 5. Select "FLASHER" in "Active Test" mode.
- 6. With operating the test items, check voltage between BCM harness connector and ground.

+ BCM		- Test iten		item	Voltage		
Conr	nector	Terminal	•				
PH		61			RH	9 – 16 V	
	M69	01	Cround		Off	0 V	
LH	60	Ground	FLASHER	LH	9 – 16 V		
		30			Off	0 V	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# **2.**CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (SHORT)

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Check continuity between BCM harness connector and ground.

	BCM		Continuity		
Conr	Connector				
RH	M60	61	Ground	Not existed	
LH	MOS	60	Globalia	Not existed	

Is the inspection result normal?

INFOID:000000012201761

INFOID:000000012201762

# **TURN SIGNAL LAMP CIRCUIT**

	T DIAGNOSIS	3 >			[HALC	GEN TYPEJ
YES >> Rep	place BCM. Re	efer to <u>BCS-94. '</u>	"Removal and Ir	nstallation".		
J.CHECK TUP				(OPEN)		
. Turn Ignition	n switch OFF. BCM connect	or.				
. Check cont	inuity between	BCM harness of	connector and e	ach turn signal	lamp harness conr	ector.
Front turn signa	al lamp					
	BCM		Front turn s	signal lamp	Continuity	
Conn	ector	Terminal	Connector	Terminal	Continuity	
RH	M69	61	E47	1	Evisted	
LH	Wide	60	E34	I	LAISted	
Side turn signa	l lamp					
	BCM		Door	mirror	Continuity	
Conn	ector	Terminal	Connector	Terminal	Continuity	
RH	Meo	61	D9	13	Frietod	
LH	1009	60	D30	15	LAISteu	
Rear turn signa	ıl lamp					
	BCM		Rear combi	nation lamp	Continuity	
	ector	Terminal	Connector	Terminal	Continuity	
Conn						
Conn RH	Meo	61	B59	5	Evictod	
Conn RH LH S the inspection YES >> GO NO >> Rep 1 CHECK TUR	M69 <u>1 result normal</u> TO 4. Dair or replace	61 60 ? harness.	B59 B80	5	Existed	
Conn RH LH S the inspection YES >> GO NO >> Rep A.CHECK TUF Check continuit	M69 TO 4. TO 4. N SIGNAL LA y between eac	61 60 ? harness. MP GROUND ( h turn signal lan	B59 B80 CIRCUIT np harness conr	5 nector and grou	Existed	
Conn RH LH S the inspection YES >> GO NO >> Rep A.CHECK TUF Check continuit	M69 TO 4. Dair or replace N SIGNAL LA y between eac	61 60 harness. MP GROUND ( h turn signal lan	B59 B80 CIRCUIT np harness conr	5 nector and grou	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep 1.CHECK TUF Check continuity front turn signal lam	M69 TO 4. Dair or replace N SIGNAL LA y between eac p Tont turn signal lar	61 60 ? harness. MP GROUND ( h turn signal lan	B59 B80 CIRCUIT np harness conr	5 nector and grou	Existed	
Conn RH LH S the inspection YES >> GO NO >> Rep 4.CHECK TUF Check continuity Front turn signal lam Fr Conn	M69 TO 4. TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector	61 60 Parness. MP GROUND ( h turn signal lan np Terminal	B59 B80 CIRCUIT np harness conr	5 nector and grou Continuity	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep 1.CHECK TUF Check continuity front turn signal lam Fr Conn RH	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47	61 60 ? harness. MP GROUND ( h turn signal lan np Terminal 2	B59 B80 CIRCUIT np harness conr  Ground	5 nector and grou Continuity Existed	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep 1.CHECK TUF Check continuity ront turn signal lam Fr Conn RH LH	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34	61 60 ? harness. MP GROUND ( h turn signal lan np Terminal 2	B59 B80 CIRCUIT np harness conr Ground	5 nector and grou Continuity Existed	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep Check continuity ront turn signal lam Fr Conn RH LH ide turn signal lamp	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34	61 60 ? harness. MP GROUND ( h turn signal lan np Terminal 2	B59 B80 CIRCUIT np harness conr — Ground	5 nector and grou Continuity Existed	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep Check continuit front turn signal lam RH LH side turn signal lamp	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror	61 60 Parness. MP GROUND ( h turn signal lan p Terminal 2	B59 B80 CIRCUIT np harness conr Ground	5 nector and grou Continuity Existed	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep CHECK TUF Check continuit Fr Conn RH LH Side turn signal lamp Conn	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector	61 60 Press harness. MP GROUND ( h turn signal lan np Terminal 2 Terminal	B59 B80 CIRCUIT np harness conr Ground	5 nector and grou Continuity Existed Continuity	Existed	
Conn RH LH s the inspection YES >> GO NO >> Rep Check continuit front turn signal lam Fr Conn RH LH Side turn signal lamp Conn RH	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector D9	61 60 Parness. MP GROUND ( h turn signal lan np Terminal 2 Terminal 2	B59 B80 CIRCUIT mp harness conr Ground Ground	5 nector and grou Continuity Existed Continuity Existed	Ind.	
RH         LH         s the inspectior         YES       >> GO         YES       >> Rep         1.CHECK TUF         Check continuit         Cront turn signal lam         Fr         Conn         RH         LH         Side turn signal lamp         Conn         RH         LH         Side turn signal lamp         Conn         RH         LH	M69 n result normal TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector Door mirror ector D9 D30	61 60 Parness. MP GROUND ( h turn signal lan Terminal 2 Terminal 2	B59 B80 CIRCUIT np harness conr Ground Ground	5 nector and grou Continuity Existed Continuity Existed	Ind.	
RH         LH         s the inspection         YES       >> GO         YES       >> Rep         I.CHECK TUF         Check continuit         ront turn signal lam         Fr         Conn         RH         LH         ide turn signal lamp         Conn         RH         LH         ide turn signal lamp         Conn         RH         LH         ide turn signal lamp	M69 TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector D9 D30	61 60 Parness. MP GROUND ( th turn signal lan np Terminal 2 Terminal 2	B59 B80 CIRCUIT np harness conr Ground Ground	5 nector and grou Continuity Existed Continuity Existed	Ind.	
Conn RH LH Sthe inspection YES >> GO NO >> Rep Check continuit ront turn signal lam RH LH ide turn signal lamp Conn RH LH ide turn signal lamp RH LH Rear turn signal lamp Ref RH RH Ref RH Ref RH Ref Ref RH Ref	M69 n result normal TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector D9 D30 p ar combination la	61 60 Parness. MP GROUND ( h turn signal lan p Terminal 2 Terminal 2 mp	B59 B80 CIRCUIT np harness conr Ground Ground	5 nector and grou Continuity Existed Continuity Existed	Ind.	
RH LH s the inspection YES >> GO NO >> Rep CHECK TUF Check continuit Front turn signal lamp Conn RH LH Side turn signal lamp Conn RH LH Rear turn signal lamp Rep Conn	M69 n result normal TO 4. pair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector D9 D30 ar combination la ector	61 60 Parness. MP GROUND ( h turn signal lan np Terminal 2 Terminal 2 mp Terminal	B59 B80 CIRCUIT np harness conr Ground Ground	5 Continuity Existed Continuity Existed Continuity Continuity	Ind.	
RH         LH         is the inspection         YES       > GO         YES       > Rep         4.CHECK TUF         Check continuit         Front turn signal lam         Front turn signal lam         RH         LH         Side turn signal lamp         Conn         RH         LH         Side turn signal lamp         Conn         RH         LH         Rear turn signal lamp         Rear turn signal lamp         Rear turn signal lamp         RH         LH	M69 n result normal TO 4. Dair or replace N SIGNAL LA y between eac p ront turn signal lar ector E47 E34 Door mirror ector D9 D30 D30 D30 D30 D30 D30 D30 D30	61 60 (? harness. .MP GROUND ( h turn signal lan np Terminal 2 Terminal 2 mp Terminal 3	B59 B80 CIRCUIT mp harness conr Ground Ground Ground	5 Continuity Existed Continuity Existed Continuity Existed Continuity Existed	Ind.	

NO >> Repair or replace harness.

#### **Revision: November 2015**

< DTC/CIRCUIT DIAGNOSIS >

# $5. {\sf CHECK TURN SIGNAL LAMP BULB}$

Check the applicable turn signal lamp bulb.

Is the inspection result normal?

- YES-1 >> Front turn signal lamp: Check the corresponding front turn signal lamp bulb socket. Repair or replace if necessary.
- YES-2 >> Rear turn signal lamp: Check the corresponding rear turn signal lamp bulb socket and harness. Repair or replace if necessary.
- NO >> Replace the corresponding turn signal lamp bulb. Refer to <u>EXL-211, "Replacement"</u> (front turn signal lamp) or <u>EXL-220, "Replacement"</u> (rear turn signal lamp).

#### < DTC/CIRCUIT DIAGNOSIS >

# OPTICAL SENSOR

					А
Component Function Che	eck			INFOID:000000012201763	
1.CHECK OPTICAL SENSOR	SIGNAL				В
<ul> <li>With CONSULT</li> <li>1. Turn ignition switch ON.</li> <li>2. Select "HEAD LAMP" of "BOOM (DTCT)"</li> <li>3. Select "OPTI SEN (DTCT)"</li> <li>4. Turn lighting switch AUTO.</li> <li>5. With the optical sensor illum</li> </ul>	CM" using COI in "Data Monit ninating, check	NSULT or" mo	de. onitor status.		C
Monitor item 0	Condition		Voltage (Approx.)		F
	When illuminati	ng	3.1 V or more *		
OPTI SEN (DTCT) Optical sensor	When shutting	off light	0.6 V or less		
*: Illuminates the optical sensor. <u>Is the inspection result normal?</u> YES >> Optical sensor is no	The value ma	y be le	ss than the standard v	alue if brightness is weak.	F
NO >> Refer to <u>EXL-185, "</u>	Diagnosis Pro	cedure	<u>.</u>		G
Diagnosis Procedure				INFOID:000000012201764	
1. CHECK OPTICAL SENSOR	POWER SUP	PLY			Η
<ol> <li>Turn ignition switch ON.</li> <li>Turn lighting switch AUTO.</li> <li>Check voltage between option</li> </ol>	ical sensor har	ness c	onnector and ground.		I
+					1
Ontical sensor		Vo	Itage		J
	-	(Ap	prox.)		
	Cround		= \/		Κ
	Ground				
YES >> GO TO 2. NO >> GO TO 4. 2.CHECK OPTICAL SENSOR	GROUND				EX
Check voltage between optical s	sensor harness	s conne	ector and ground.		M
+					
Optical sensor	-	Vo	ltage		Ν
Connector Terminal		(Ap	φισχ.)		
M84 3	Ground		) V		$\cap$
Is the inspection result normal?					0
YES >> GO TO 3. NO >> GO TO 6. 3.CHECK OPTICAL SENSOR	SIGNAL				Ρ

With illuminating the optical sensor, check voltage between optical sensor harness connector and ground.

# **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

+ Optical sensor						
		-	Condition		Voltage (Approx.)	
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
M84	2	Ground	Ontical sensor	When illuminating	3.1 V or more*	
1010-4	2	Ground	Optical serisor	When shutting off light	0.6 V or less	

\*: Illuminate the optical sensor. The value may be less than the standard if brightness is weak. <u>Is the inspection result normal?</u>

YES >> GO TO 7.

NO >> Replace optical sensor. Refer to EXL-216. "Removal and Installation".

**4.**CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.

2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

Optical	Optical sensor		CM	Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M84	1	M68	17	Existed	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

**5.**CHECK OPTICAL SENSOR POWER SUPPLY CIRCUIT (SHORT)

Check continuity between optical sensor harness connector and ground.

Optica	sensor		Continuity
Connector	Terminal		Continuity
M84	1	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-94</u>, "Removal and Installation".

NO >> Repair or replace harness.

#### $\mathbf{6}$ .CHECK OPTICAL SENSOR GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

Optica	l sensor	B	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M84	3	M68	18	Existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

NO >> Repair or replace harness.

# 7. CHECK OPTICAL SENSOR SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.

2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

# **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

Optica	l sensor	BC	CM	Continuity	A
Connector	Terminal	Connector	Terminal		
M84	2	M68	14	Existed	В
Is the inspection YES >> GC NO >> Re 8.CHECK OP	<u>n result normal</u> TO 8. pair or replace l TICAL SENSOF	? harness. R SIGNAL CIRC	UIT (SHORT)		C
Check continui	ty between optic	cal sensor harne	ess connector	and ground.	D
Optica	l sensor		Continuity	-	
Connector	Terminal		Continuity	_	Е
M84	2	Ground	Not existed	_	
Is the inspectio	n result normal	<u></u>			
YES >> Re	place BCM. Re	fer to <u>BCS-94, "</u>	Removal and I	nstallation".	F
INU >> Re	pair of replace I	lamess.			
					G
					Н
					J
					K
					EXL
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					P

### < DTC/CIRCUIT DIAGNOSIS >

# HAZARD SWITCH

# Component Function Check

# 1.CHECK HAZARD SWITCH SIGNAL

With CONSULT

- 1. Turn ignition switch ON.
- 2. Select "FLASHER" of "BCM" using CONSULT.
- 3. Select "HAZARD SW" in "Data Monitor" mode.
- 4. With operating the hazard switch, check the monitor status.

Monitor item	Con	Monitor status	
	Hazard switch	ON	On
		OFF	Off

Is the inspection result normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-188, "Diagnosis Procedure".

#### Diagnosis Procedure

# 1.CHECK HAZARD SWITCH SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect hazard switch connector.
- 3. Check voltage between hazard switch connector and ground.

Hazaro	+ I switch	-	Voltage (Approx.)	
Connector	Terminal	+ 		
M45	2	Ground	12 V	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

2. CHECK HAZARD SWITCH SIGNAL CIRCUIT (OPEN)

- 1. Disconnect BCM connector.
- 2. Check continuity between hazard switch harness connector and BCM harness connector.

Hazaro	Hazard switch		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M45	2	M68	29	Existed

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3.CHECK HAZARD SWITCH SIGNAL CIRCUIT (SHORT)

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity	
Connector	Terminal		Continuity	
M45	2	Ground	Not existed	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

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# **HAZARD SWITCH**

DTC/CIRCUI	T DIAGNOSIS	;>		[HALOGEN I TPE]
O >> Rep	pair or replace h	harness.		
CHECK HAZ	ARD SWITCH	GROUND CIR	CUIT	
heck continuity	y between haza	ard switch harn	ess connector and ground.	
Hazard	switch		Continuity	
Connector	Ierminai	Cround	Eviated	
M45	1	Ground	Existed	
<u>s the inspection</u> YES >> Rep NO >> Rep	blace hazard sv bair or replace h	<u>′</u> vitch. Refer to <u>E</u> harness.	EXL-218, "Removal and Insta	llation".

# SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

# Symptom Table

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#### EXCEPT FOR NISMO MODELS

#### Without Daytime Running Light System

#### NOTE:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symptom		Possible cause	Inspection item	
Headlamp (HI) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (HI) power supply/ ground circuit</li> <li>Headlamp (HI) bulb</li> <li>Headlamp assembly</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-162, "Component Func-</u> tion Check".	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) AR Refer to <u>EXL-198. "Diagnosis Proces</u>	E NOT TURNED ON" dure".	
High beam indicator lamp is [Headlamp (HI) is turned ON	not turned ON I]	Combination meter	<ul> <li>Combination meter Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEAD LAMP"</li> </ul>	
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply/ ground circuit</li> <li>Headlamp (LO) bulb (Xenon bulb)</li> <li>Headlamp assembly</li> <li>HID control unit</li> <li>Xenon bulb socket</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-165, "Component Func-</u> tion Check".	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-199. "Diagnosis Procedure".		
Each lamp is not turned ON/	OFF with lighting switch	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .	
AUTO		<ul> <li>Optical sensor power supply/ ground/signal circuit</li> <li>Optical sensor</li> <li>BCM</li> </ul>	Optical sensor Refer to <u>EXL-185, "Component Func-</u> tion Check".	
Parking lamp is not turned ON		<ul> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp</li> <li>LED (Parking lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-167, "Component Func-</u> tion Check".	
Front side marker lamp is no	ot turned ON	<ul> <li>Front side marker lamp power supply/ground circuit</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb socket</li> </ul>	Front side marker lamp circuit Refer to EXL-169, "Component Func- tion Check".	

# < SYMPTOM DIAGNOSIS >

#### [HALOGEN TYPE]

Symp	tom	Possible cause	Inspection item
Tail lamp is not turned ON	Stop lamp / Tail lamp (Bulb side) Tail lamp (LED side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Stop lamp / Tail lamp bulb</li> <li>Stop lamp / Tail lamp bulb socket/ harness</li> <li>IPDM E/R</li> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>LED (Tail lamp)</li> <li>Tail lamp harness</li> <li>IPDM E/R</li> </ul>	Tail lamp circuit Refer to <u>EXL-171, "Component Func-</u> tion Check".
License plate lamp is not tur	ned ON	<ul> <li>License plate lamp power supply/ ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket/ harness</li> </ul>	License plate lamp circuit Refer to <u>EXL-173, "Component Func-</u> tion Check".
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-200, "Diagnosis Procedure"</u> .	
Position lamp indicator is no (Parking lamp, license plate and tail lamp are turned ON)	t turned ON lamp, side marker lamp )	Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>
Front fog lamp is not turned	One side	<ul> <li>Front fog lamp power supply/ ground circuit</li> <li>Front fog lamp bulb</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-180, "Component Func-</u> tion Check".
ON	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS A Refer to <u>EXL-201, "Diagnosis Proces</u>	ARE NOT TURNED ON" dure".
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher activa- tion)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power supply/ground circuit</li> <li>Front turn signal lamp bulb</li> <li>Front turn signal lamp bulb socket</li> <li>BCM</li> <li>Side turn signal lamp</li> <li>Side turn signal lamp</li> <li>BCM</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp power supply/ground circuit</li> <li>Rear turn signal lamp bulb</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-182, "Component Func-</u> tion Check".
	Indicator lamp is included	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .

#### < SYMPTOM DIAGNOSIS >

#### [HALOGEN TYPE]

Symptom		Possible cause	Inspection item
	One side	Combination meter	_
Turn signal indicator lamp does not blink (Turn signal lamp is normal)	Both sides (Always)	<ul><li>Turn indicator signal</li><li>BCM</li><li>Combination meter</li></ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .
<ul> <li>Hazard warning lamp does not activate (Turn signal is normal)</li> <li>Hazard warning lamp continues activating</li> </ul>		<ul> <li>Hazard switch signal/ground circuit</li> <li>Hazard switch</li> <li>BCM</li> </ul>	Hazard switch Refer to EXL-188. "Component Func- tion Check".

With Daytime Running Light System **NOTE:** 

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symp	tom	Possible cause	Inspection item
Headlamp (HI) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (HI) power supply/ ground circuit</li> <li>Daytime running light relay</li> <li>Headlamp (HI) bulb</li> <li>Headlamp assembly</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-162. "Component Func-</u> tion Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) AR Refer to <u>EXL-198. "Diagnosis Proces</u>	E NOT TURNED ON" dure".
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	<ul> <li>Combination meter Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEAD LAMP"</li> </ul>
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply/ ground circuit</li> <li>Headlamp (LO) bulb (Xenon bulb)</li> <li>Headlamp assembly</li> <li>HID control unit</li> <li>Xenon bulb socket</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-165, "Component Func-</u> tion Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-199, "Diagnosis Procedure"</u> .	
Parking lamp is not turned ON		<ul> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp</li> <li>LED (Parking lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-167, "Component Func-</u> tion Check".
Front side marker lamp is not turned ON		<ul> <li>Front side marker lamp power supply/ground circuit</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb sock- et</li> </ul>	Front side marker lamp circuit Refer to <u>EXL-169, "Component Func-</u> tion Check".

# < SYMPTOM DIAGNOSIS >

#### [HALOGEN TYPE]

Symp	tom	Possible cause	Inspection item	
	Stop lamp / Tail lamp (Bulb side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Stop lamp / Tail lamp bulb</li> <li>Stop lamp / Tail lamp bulb socket/ harness</li> <li>IPDM E/R</li> </ul>	Tail lamp circuit	B
Tail lamp is not turned ON	Tail lamp (LED side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>LED (Tail lamp)</li> <li>Tail lamp harness</li> <li>IPDM E/R</li> </ul>	Refer to EXL-171, "Component Func- tion Check".	C D E
License plate lamp is not turned ON		<ul> <li>License plate lamp power supply/ ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket/ harness</li> </ul>	License plate lamp circuit Refer to EXL-173, "Component Func- tion Check".	F
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-200, "Diagnosis Procedure"</u> .		G
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>	Η
Daytime running light is not turned ON [Headlamp (HI) at approximately half illumination] [Headlamp (HI) is turned ON]		<ul> <li>Fuse</li> <li>Daytime running light relay power supply/control signal circuit</li> <li>Daytime running light relay</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light relay circuit Refer to <u>EXL-175</u>, "Component <u>Function Check"</u>.</li> <li>BCM (HEAD LAMP) Data monitor "ENGINE STATE"</li> <li>Combination meter Data monitor "PKB SW"</li> </ul>	J
Front fog lamp is not turned	One side	<ul> <li>Front fog lamp power supply/ ground circuit</li> <li>Front fog lamp bulb</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-180, "Component Func-</u> tion Check".	EXI
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS A Refer to EXL-201, "Diagnosis Proceed	ARE NOT TURNED ON" dure".	M

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#### < SYMPTOM DIAGNOSIS >

#### [HALOGEN TYPE]

Symp	tom	Possible cause	Inspection item
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher activa- tion)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power supply/ground circuit</li> <li>Front turn signal lamp bulb</li> <li>Front turn signal lamp bulb socket</li> <li>BCM</li> <li>Side turn signal lamp</li> <li>Side turn signal lamp</li> <li>BCM</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp bulb</li> <li>Rear turn signal lamp bulb</li> <li>Rear turn signal lamp bulb</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> <li>BCM</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-182. "Component Func-</u> tion Check".
	Indicator lamp is included	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink (Turn signal lamp is normal)	Both sides (Always)	<ul><li>Turn indicator signal</li><li>BCM</li><li>Combination meter</li></ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53</u> , "COMBINATION METER : Diagnosis Procedure".
<ul> <li>Hazard warning lamp doe: (Turn signal is normal)</li> <li>Hazard warning lamp cont</li> </ul>	s not activate inues activating	<ul> <li>Hazard switch signal/ground circuit</li> <li>Hazard switch</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-188, "Component Func-</u> tion Check".

# NISMO MODELS

#### NOTE:

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symp	tom	Possible cause	Inspection item
Headlamp (HI) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (HI) power supply/ ground circuit</li> <li>Headlamp (HI) bulb</li> <li>Headlamp assembly</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-162, "Component Func-</u> tion Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-198, "Diagnosis Procedure".	
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	<ul> <li>Combination meter Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEAD LAMP"</li> </ul>

#### < SYMPTOM DIAGNOSIS >

#### [HALOGEN TYPE]

Symptom		Possible cause	Inspection item	٨
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply/ ground circuit</li> <li>Headlamp (LO) bulb (Xenon bulb)</li> <li>Headlamp assembly</li> <li>HID control unit</li> <li>Xenon bulb socket</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-165. "Component Func-</u> tion Check".	B
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) AR Refer to <u>EXL-199, "Diagnosis Proces</u>	E NOT TURNED ON" dure".	D
Parking lamp is not turned C	DN	<ul> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp</li> <li>LED (Parking lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-167, "Component Func-</u> tion Check".	E F
Front side marker lamp is no	ot turned ON	<ul> <li>Front side marker lamp power supply/ground circuit</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb socket</li> </ul>	Front side marker lamp circuit Refer to EXL-169, "Component Func- tion Check".	G
Tail lamp is not turned ON	Stop lamp / Tail lamp (Bulb side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Stop lamp / Tail lamp bulb</li> <li>Stop lamp / Tail lamp bulb socket/ harness</li> <li>IPDM E/R</li> </ul>	Tail lamp circuit	H
	Tail lamp (LED side)	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>LED (Tail lamp)</li> <li>Tail lamp harness</li> <li>IPDM E/R</li> </ul>	Refer to <u>EXL-171, "Component Func-</u> tion Check".	J K
License plate lamp is not tur	ned ON	<ul> <li>License plate lamp power supply/ ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket/ harness</li> </ul>	License plate lamp circuit Refer to <u>EXL-173, "Component Func-</u> tion Check".	M
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-200, "Diagnosis Procedure"</u> .		Ν
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEAD LAMP) Active test "TAIL LAMP"</li> </ul>	0
and tail lamp are turned ON) Daytime running light is not turned ON		<ul> <li>Fuse</li> <li>Daytime running light power supply/ground circuit</li> <li>Daytime running light</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light circuit Refer to <u>EXL-178, "Component</u> <u>Function Check"</u>.</li> <li>BCM (HEAD LAMP) Data monitor "ENGINE STATE"</li> <li>Combination meter Data monitor "PKB SW"</li> </ul>	Ρ

#### < SYMPTOM DIAGNOSIS >

#### [HALOGEN TYPE]

Symptom		Possible cause	Inspection item
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher activa- tion)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power sup- ply/ground circuit</li> <li>Front turn signal lamp bulb</li> <li>Front turn signal lamp bulb socket</li> <li>BCM</li> <li>Side turn signal lamp</li> <li>Side turn signal lamp</li> <li>BCM</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp bulb</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-182, "Component Func-</u> tion Check".
	Indicator lamp is included	<ul> <li>Combination switch input/output signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-92, "Symptom Table"</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink (Turn signal lamp is normal)	Both sides (Always)	<ul> <li>Turn indicator signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter Data monitor "TURN IND"</li> <li>BCM (FLASHER) Active test "FLASHER"</li> </ul>
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .
<ul> <li>Hazard warning lamp does not activate (Turn signal is normal)</li> <li>Hazard warning lamp continues activating</li> </ul>		<ul> <li>Hazard switch signal/ground circuit</li> <li>Hazard switch</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-188, "Component Func-</u> tion Check".

#### < SYMPTOM DIAGNOSIS >

# NORMAL OPERATING CONDITION

### Description

#### AUTO LIGHT SYSTEM

The headlamp may not be turned ON/OFF immediately after passing dark area or bright area (short tunnel, sky bridge, shadowed area, etc.) while using the auto light system. This is caused by for the control difference. This is normal.

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# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

#### Description

Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS.

#### **Diagnosis** Procedure

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-92, "Symptom Table"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HIGH BEAM REQUEST SIGNAL

#### () With CONSULT

1. Turn ignition switch ON.

2. Select "HL HI REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.

3. With operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL HI REQ	Lighting switch	HI or PASS	On
	(2ND)	LO	Off

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to PCS-37, "Removal and Installation".
- NO >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

INFOID:000000012201770

[HALOGEN TYPE]

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM [	DIAGNOSIS >				[HALOGEN TYPE]	
BOTH SID	E HEADLA	MPS (LO)	ARE NOT	TURNED ON		Λ
Description					INFOID:000000012201771	A
Both side head	lamps (LO) are	not turned ON i	in any condition			В
Diagnosis P	rocedure				INFOID:000000012201772	
1.COMBINATI	ON SWITCH IN	SPECTION				С
Check combina	ition switch. Re	fer to <u>BCS-92, "</u>	Symptom Table	<u>.</u> .		
Is the inspection YES >> GC	<u>n result normal'</u> ) TO 2.	<u>?</u>				D
NO >> Re	pair or replace	the malfunctioni	ing part.			
2.CHECK LOV	W BEAM REQU	EST SIGNAL				Ε
<ul> <li>With CONSU</li> <li>1. Turn ignitio</li> <li>2. Select "HL</li> <li>3. With opera</li> </ul>	JLT n switch ON. LO REQ" in "Da ting the lighting	ata Monitor" mo switch, check t	de of "IPDM E/ he monitor state	R" using CONSULT. JS.		F
Monitor item	Con	dition	Monitor status			G
HL LO REQ	Lighting switch	2ND	On			
		OFF	Off			Н
Is the inspection	n result normal	<u>}</u> D. Defente DCC		and Installation"		
NO >> Re	place IPDM E/F	fer to <u>BCS-94.</u>	Removal and li	<u>nstallation"</u> . <u>nstallation"</u> .		I

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#### PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

# PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON

# Description

The parking, license plate, side marker and tail lamps are not turned ON in any condition.

# Diagnosis Procedure

INFOID:000000012201774

INFOID:000000012201773

1. COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-92, "Symptom Table"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2. CHECK POSITION LIGHT REQUEST SIGNAL

With CONSULT

- T. Turn ignition switch ON.
- 2. Select "TAIL & CLR REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
- 3. With operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
TAIL & CLR REQ	Lighting switch	1ST	On
		OFF	Off

Is the inspection result normal?

- YES >> Perform the tail lamp diagnosis. Refer to EXL-171, "Component Function Check".
- NO >> Replace BCM. Refer to <u>BCS-94, "Removal and Installation"</u>.

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

<	SYMP	ГОМ	DIAGN	OSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

		А
Description	INFOID:000000012201775	
Both side front fog lamps are not turned ON in any condition.		В
Diagnosis Procedure	INFOID:000000012201776	
1.COMBINATION SWITCH INSPECTION		С
Check combination switch. Refer to BCS-92, "Symptom Table".	_	
Is the inspection result normal?		
YES >> GO TO 2.		D
2. CHECK FRONT FOG LIGHT REQUEST SIGNAL		Е
<ul> <li>With CONSULT</li> <li>1. Turn ignition switch ON.</li> <li>2. Select "FR FOG REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.</li> <li>3. With operating the front fog lamp switch, check the monitor status.</li> </ul>		F

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch (With lighting switch 1ST)	ON	On
		OFF	Off

#### Is the inspection result normal?

- YES >> Perform the front fog lamp diagnosis. Refer to <u>EXL-180, "Component Function Check"</u>.
- NO >> Replace BCM. Refer to <u>BCS-94. "Removal and Installation"</u>.

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[HALOGEN TYPE]

< PERIODIC MAINTENANCE >

INFOID:000000012201777

# PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

- For details, refer to the regulations in your own country.
- · Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.Adjust the tire pressure to the specification.

- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)

#### NOTE:

Do not remove the temporary tire, jack and on-vehicle tool.

• Wipe out dirt on the headlamp.

#### CAUTION:

#### Never use organic solvent (thinner, gasoline etc.).

Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



A. Headlamp RH (UP/DOWN) adjustment screw B. Headlamp LH (UP/DOWN) adjustment screw

C : Vehicle front

	Adjustment screw	Screw driver rotation	Facing direction
А	Headlamp LH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP
В	Headlamp RH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP

# Aiming Adjustment Procedure

Place the screen. 1.

#### NOTE:

- Stop the vehicle facing the wall.
- · Place the board on a plain road vertically.

INFOID:000000012201778

# HEADLAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

- 2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the headlamp center and the screen.
- 3. Start the engine. Turn the headlamp (LO) ON.

**CAUTION:** Never cover the lens surface with a tape etc. The lens is made of resin. NOTE:

Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.

Measure the distance (X) between the horizontal center line of headlamp (H) and the cutoff line (A) within 4. the light axis measurement range (R) from the vertical center line ahead of headlamp (V).

#### : 350 ± 175 mm (13.78 ± 6.89 in) Light axis measurement range (R)

Low beam distribution on the screen



Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range 5. (M–N) according to the horizontal center line of headlamp (H). unit: mm (in)

Horizontal center line of headlamp (H)	Highest cutoff line height (M)	Lowest cutoff line height (N)
700 (27.56) or less	4 (0.16)	30 (1.18)
701(27.60) - 800 (31.50)	4 (0.16)	30 (1.18)
801 (31.54) or more	17 (0.67)	44 (1.73)



Distance between the headlamp center and the screen (L) : 10 m (32.8 ft)

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[HALOGEN TYPE]

# FRONT FOG LAMP AIMING ADJUSTMENT

# Description

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

- · For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)

#### NOTE:

Do not remove the temporary tire, jack and on-vehicle tool.

- Wipe out dirt on the headlamp.
- CAUTION:
- Never use organic solvent (thinner, gasoline etc.).
- Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment.

A: UP

B: DOWN

• For the position and direction of the adjusting screw, refer to the figure.

#### NOTE:

A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.



INFOID:0000000012201780

1. Place the screen.

#### NOTE:

• Stop the vehicle facing the wall.

**Aiming Adjustment Procedure** 

- Place the board on a plain road vertically.
- 2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.
- 3. Start the engine. Turn the front fog lamp ON.

#### **CAUTION:**

# Never cover the lens surface with a tape etc. The lens is made of resin. NOTE:

Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.

4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 150 mm (5.91 in).

INFOID:000000012201779

# FRONT FOG LAMP AIMING ADJUSTMENT

#### < PERIODIC MAINTENANCE >

#### [HALOGEN TYPE]

#### Front fog lamp light distribution on the screen



- A : Cutoff line
- B : High illuminance area
- H : Horizontal center line of front fog lamp
- V : Vertical center line of front fog lamp
- X : Cutoff line height

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# < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION HEADLAMP

Exploded View

REMOVAL



1. Headlamp assembly

<□ : Vehicle front

. N·m (kg-m, in-lb)

# DISASSEMBLY

INFOID:000000012201781

# HEADLAMP

#### < REMOVAL AND INSTALLATION >



#### **CAUTION:**

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "Precautions for Removing Battery Terminal".
- After installing the bulb, install the back cover and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.

# HEADLAMP

#### < REMOVAL AND INSTALLATION >

 Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### HALOGEN BULB (LO)

Left Side of The Vehicle

- 1. Remove fixing clips (A) of air cleaner assembly (1).
- While pulling up on the (B) portion of the air duct inlet (upper) (2), disengage of the portion (C), and then remove air duct inlet (upper) as shown by the arrow in the figure.
  - <□ : Vehicle front



- 3. Remove back cover A.
- 4. Disconnect halogen bulb harness connector.
- 5. Rotate halogen bulb (LO) counterclockwise and lock it, and then remove halogen bulb.

Right Side of The Vehicle

- 1. Remove washer tank inlet. Refer to WW-43. "Removal and Installation".
- 2. Remove back cover A.
- 3. Disconnect halogen bulb harness connector.
- 4. Rotate halogen bulb (LO) counterclockwise and lock it, and then remove halogen bulb.

#### HALOGEN BULB (HI)

Left Side of The Vehicle

- 1. Remove fixing clips (A) of air cleaner assembly (1).
- While pulling up on the (B) portion of the air duct inlet (upper) (2), disengage of the portion (C), and then remove air duct inlet (upper) as shown by the arrow in the figure.

: Vehicle front



- 3. Remove back cover B.
- 4. Disconnect halogen bulb harness connector.
- 5. Rotate halogen bulb clockwise and unlock it, and then remove halogen bulb from headlamp assembly.

Right Side of The Vehicle

- 1. Remove washer tank inlet. Refer to WW-43, "Removal and Installation".
- 2. Remove back cover B.
- 3. Disconnect halogen bulb harness connector.
- 4. Rotate halogen bulb counterclockwise and unlock it, and then remove halogen bulb from headlamp assembly.

# Disassembly and Assembly

#### DISASSEMBLY

- 1. Remove back cover A.
- 2. Disconnect halogen bulb harness connector.

#### **Revision: November 2015**

#### **EXL-208**

2016 JUKE

# HEADLAMP

< REMOVAL AND INSTALLATION >

3.	Rotate halogen bulb (LO) counterclockwise and lock it, and then remove halogen bulb.	-
4.	Remove back cover B.	A
5.	Disconnect halogen bulb harness connector.	
6.	Remove halogen bulb (HI).	D
	Left side of the vehicle <ul> <li>Rotate halogen bulb (HI) clockwise and lock it, and then remove halogen bulb.</li> </ul>	D
	Right side of the vehicle <ul> <li>Rotate halogen bulb (HI) counterclockwise and lock it, and then remove halogen bulb.</li> </ul>	С
AS Not	SEMBLY te the following item, and then assemble in the reverse order of disassembly.	D
Aft	er installing the bulb, install the back cover and the bulb socket securely for watertightness.	E

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# < REMOVAL AND INSTALLATION >

# FRONT COMBINATION LAMP

# Exploded View

REMOVAL

INFOID:000000012201785



- 1. Front combination lamp
- : N·m (kg-m, in-lb)

#### DISASSEMBLY



# FRONT COMBINATION LAMP

Front side marker lamp bulb socket

Front turn signal lamp bulb

# < REMOVAL AND INSTALLATION >

INFOID:000000012201786

INFOID:000000012201787

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Front turn signal lamp bulb socket

3.

- 1. Front combination lamp
- 4. Front side marker lamp bulb
- <□ : Vehicle front

# Removal and Installation

# CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119, "Precautions for Removing Battery Terminal"</u>.

#### REMOVAL

1. Remove front bumper fascia. Refer to EXT-17, "Removal and Installation".

2.

5.

- 2. Remove front combination lamp mounting bolts and nut.
- 3. Pull out front combination lamp forward the vehicle, and then disconnect connector before removing the front combination lamp. E

#### INSTALLATION

Note the following item, and then install in the reverse order of removal. **CAUTION:** 

Interference of front combination lamp lens with front fender may cause intrusion of water into front combination lamp or rusting of fender due to damage of painted surface. Be careful to operate without allowing parts to interfere with each other.

#### Replacement

#### **CAUTION:**

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119, "Precautions for Removing Battery Terminal"</u>.
- After installing the bulb, install the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### PARKING LAMP BULB

#### **CAUTION:**

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace front combination lamp as a set. Refer to <u>EXL-211, "Removal and Installation"</u>.

#### FRONT TURN SIGNAL LAMP BULB

- 1. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 2. Remove front turn signal lamp bulb from the front turn signal lamp bulb socket.

#### FRONT SIDE MARKER LAMP BULB

- 1. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 2. Remove front side marker lamp bulb from the front side marker lamp bulb socket.

# **Disassembly and Assembly**

### DISASSEMBLY

- 1. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 2. Remove front turn signal lamp bulb from the front turn signal lamp bulb socket.
- 3. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 4. Remove front side marker lamp bulb from the front side marker lamp bulb socket.

# ASSEMBLY

Note the following item, and then assemble in the reverse order of disassembly.

After installing the bulb, install the bulb socket securely for watertightness.

#### Revision: November 2015

# EXL-211

#### 2016 JUKE

INFOID:000000012201788

# DAYTIME RUNNING LIGHT

# < REMOVAL AND INSTALLATION >

DAYTIME RUNNING LIGHT

# Exploded View

INFOID:000000012201789



- Front bumper fascia assembly 3. U nut 2
- 4 Harness connector assembly
- ▶ N·m (kg-m, in-lb)

# Removal and Installation

INFOID:000000012201790

#### CAUTION:

1.

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-119, "Precautions for Removing Battery Terminal".

#### REMOVAL

- Remove front bumper fascia lower. Refer to <u>EXT-17, "Removal and Installation"</u>.
- 2. Disconnect daytime running light harness connector.
- 3. Remove daytime running light mounting nuts.
- 4. Remove daytime running light from front bumper fascia lower.

#### INSTALLATION

Install in the reverse order of removal.

#### Replacement

INFOID:000000012201791

#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-119, "Precautions for Removing Battery Terminal".

#### DAYTIME RUNNING LIGHT

#### **CAUTION:**

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace daytime running light as a set. Refer to EXL-212, "Removal and Installation".

**Revision: November 2015** 

# **EXL-212**

2016 JUKE

### < REMOVAL AND INSTALLATION >

# FRONT FOG LAMP

# **Exploded View**

INFOID:000000012201792

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# Removal and Installation

#### **CAUTION:**

1.

4.

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to EXL-119, "Precautions for Removing Battery Terminal".

#### REMOVAL

- 1. Remove front fender protector to make work space. Refer to EXT-31, "Removal and Installation".
- 2. Disconnect front fog lamp harness connector.
- 3. Remove front fog lamp fixing screws, and then remove front fog lamp from front fog lamp bracket.
- Remove front fog lamp bracket mounting bolt and fixing clips, and then remove front fog lamp bracket. 4.

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#### < REMOVAL AND INSTALLATION >

#### INSTALLATION

Note the following item, and then install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-204, "Description".

#### Replacement

INFOID:000000012201794

#### CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "Precautions for Removing Battery Terminal".
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### FRONT FOG LAMP BULB

- 1. Remove fender protector to make work space. Refer to EXT-31. "Removal and Installation".
- 2. Remove front fog lamp bulb connector (1).
- 3. Rotate front fog lamp bulb (2) counterclockwise and unlock it.



# SIDE TURN SIGNAL LAMP

#### < REMOVAL AND INSTALLATION >

SIDE TURN SIGNAL LAMP

**Exploded View** 

Refer to MIR-17, "Exploded View".

Removal and Installation

#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "<u>Precautions for Removing Battery Terminal</u>".

#### REMOVAL

- 1. Remove door mirror cover. Refer to MIR-20, "DOOR MIRROR COVER : Removal and Installation".
- Remove side turn signal lamp fixing screws (A), and then disconnect side turn signal lamp harness connector (B).



# INSTALLATION

Install in the reverse order of removal.

#### Replacement

#### CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "Precautions for Removing Battery Terminal".

SIDE TURN SIGMNAL LAMP BULB

#### CAUTION:

Replacement of a single part is not possible due to the adoption of LED. For replacement, replace side turn signal lamp as a set. Refer to <u>EXL-215, "Removal and Installation"</u>.

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# **OPTICAL SENSOR**

### < REMOVAL AND INSTALLATION >

# **OPTICAL SENSOR**

# **Exploded View**

INFOID:000000012201798

[HALOGEN TYPE]



1. Optical sensor

2. Switch panel

A : Pawl

# Removal and Installation

INFOID:000000012201799

#### REMOVAL

- 1. Insert an appropriate tool between the switch panel and the instrument upper panel. Pull out the optical sensor upward.
- 2. Disconnect the optical sensor connector.
- 3. Remove optical sensor from switch panel.

#### INSTALLATION

Install in the reverse order of removal.
## LIGHTING & TURN SIGNAL SWITCH

	<b>IHALOGEN TYPE</b>	
LIGHTING & TURN SIGNAL SWITCH	[	٩
Removal and Installation	INFOID:000000012201800	A
REMOVAL Remove light & turn signal switch. Refer to <u>BCS-95. "Removal and Installation"</u> .		В
INSTALLATION Install in the reverse order of removal.		С
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# HAZARD SWITCH

Exploded View

INFOID:000000012201801

[HALOGEN TYPE]



- 1. Instrument panel assembly
- 2. Hazard switch

八:Pawl

## Removal and Installation

INFOID:000000012201802

#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "<u>Precautions for Removing Battery Terminal</u>".

#### REMOVAL

- 1. Remove audio unit. Refer to AV-50, "Removal and Installation".
- 2. Disengage fixing pawls, and then remove hazard switch from instrument panel inside to outside.

#### INSTALLATION

Install in the reverse order of removal.

## **REAR COMBINATION LAMP**

## < REMOVAL AND INSTALLATION >

## **REAR COMBINATION LAMP**

## Exploded View

## REMOVAL

INFOID:000000012201803

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## **REAR COMBINATION LAMP**

#### < REMOVAL AND INSTALLATION >



- 1. Rear combination lamp
- 2. Back-up lamp bulb
- 3. Harness connector

- 4. Rear turn signal lamp bulb
- 5. Stop/Tail lamp bulb (Rear side marker lamp)

## Removal and Installation

INFOID:000000012201804

#### CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "Precautions for Removing Battery Terminal".
- When removing, always use a remover tool that is made of plastic.

#### REMOVAL

- 1. Full open back door.
- 2. Remove luggage side lower finisher. Refer to <u>INT-35, "LUGGAGE SIDE LOWER FINISHER : Removal</u> <u>and Installation"</u>.
- 3. Remove rear combination lamp mounting bolts.
- 4. Insert a remover tool into the rear combination lamp and rear fender to disengage the clips.
- 5. Pull up rear combination lamp, and then remove rear combination lamp.
- 6. Disconnect rear combination lamp connector.

#### INSTALLATION

Install in the reverse order of removal.

#### Replacement

#### **CAUTION:**

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "Precautions for Removing Battery Terminal".
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.

## EXL-220

INFOID:000000012201805

## **REAR COMBINATION LAMP**

#### [HALOGEN TYPE]

- < REMOVAL AND INSTALLATION > • Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect А the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### TAIL LAMP (LED)

#### CALITION

CA Re cor	UTION: placement of a single part is not possible due to the adoption of LED. For replacement, replace rear mbination lamp as a set. Refer to <u>EXL-220, "Removal and Installation"</u> .	В
ST	OP/TAIL LAMP BULB (REAR SIDE MARKER LAMP)	С
1.	Remove rear combination lamp assembly. Refer to EXL-220, "Removal and Installation".	
2.	Rotate stop/tail lamp bulb socket counterclockwise, and then remove stop/tail lamp bulb socket.	D
3.	Remove stop/tail lamp bulb from stop/tail lamp bulb socket.	D
RE	AR TURN SIGNAL LAMP BULB	
1.	Remove rear combination lamp assembly. Refer to EXL-220, "Removal and Installation".	Ε
2.	Rotate rear turn signal lamp bulb socket counterclockwise, and then remove rear turn signal lamp bulb socket.	
3.	Remove rear turn signal lamp bulb from rear turn signal lamp bulb socket.	F
ΒA	CK-UP LAMP BULB	
1.	Remove rear combination lamp assembly. Refer to EXL-220, "Removal and Installation".	G
2.	Rotate back-up lamp bulb socket counterclockwise, and then remove back-up lamp bulb socket.	
3.	Remove back-up lamp bulb from back-up lamp bulb socket.	
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## HIGH-MOUNTED STOP LAMP

## **Exploded View**

INFOID:000000012201806

[HALOGEN TYPE]

#### EXCEPT FOR NISMO AND NISMO RS



2. Seal packing

1. High-mounted stop lamp

♀ : N·m (kg-m, in-lb)

## NISMO AND NISMO RS



#### 1. Rear spoiler

2. High-mounted stop lamp

- d stop lamp 3.
  - 3. High-mounted stop lamp cover

## Removal and Installation

INFOID:000000012201807

#### **CAUTION:**

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119</u>, "<u>Precautions for Removing Battery Terminal</u>".

#### REMOVAL

Except for NISMO and NISMO RS

1. Remove blind seal from back door inside. CAUTION:

#### **Revision: November 2015**

## **HIGH-MOUNTED STOP LAMP**

[HALOGEN	TYPE]
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	Never damage the blind seal, so that it can be reused.	
2.	Remove high-mounted stop lamp mounting nuts and connector.	А
3.	Pull high-mounted stop lamp toward vehicle upside, and then remove high-mounted stop lamp.	
NIS	MO and NISMO RS	R
1.	Remove rear spoiler. Refer to EXT-49, "Removal and Installation".	D
2.	Remove high-mounted stop lamp cover mounting bolts, and then remove high-mounted stop lamp cover.	
3.	Remove high-mounted stop lamp harness connector from rear spoiler.	С
4.	Pull out high-mounted stop lamp, and then remove high-mounted stop lamp.	
INS	STALLATION	
Not	te the following item, and then install in the reverse order of removal.	D
CA		
Sea	al packing cannot be reused.	_

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< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

## Exploded View

INFOID:000000012201808

[HALOGEN TYPE]



 1. License plate lamp housing assembly
 2. Bulb
 3. License plate lamp bulb socket

 ∧
 : Pawl

## Removal and Installation

INFOID:000000012201809

#### CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119, "Precautions for Removing Battery Terminal"</u>.

#### REMOVAL

- 1. While pressing the license plate lamp to direction right side, pull it to direction outside and then remove it.
- 2. Disconnect license plate lamp connector.



#### INSTALLATION Install in the reverse order of removal.

#### Replacement

INFOID:000000012201810

#### CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to <u>EXL-119, "Precautions for Removing Battery Terminal"</u>.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### LICENSE PLATE LAMP BULB

- 1. Remove license plate lamp. Refer to EXL-224, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.

## LICENSE PLATE LAMP

VAL AND INSTALLATION >	[HALOGEN TYPE]
ove the bulb from the socket.	

## REAR FOG LAMP

## **Exploded View**

REMOVAL



## Removal and Installation

#### REMOVAL

- 1. Remove rear bumper fascia lower. Refer to <u>EXT-23</u>, "Removal and Installation".
- 2. Remove rear fog lamp housing mounting nuts.
- 3. Remove rear fog lamp housing from the rear bumper fascia lower.
- 4. Remove rear fog lamp housing bracket from rear bumper fascia lower.

#### INSTALLATION

Installation is the reverse order of removal.

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## REAR REFLEX REFLECTOR

## Exploded View

EXCEPT FOR NISMO AND NISMO RS



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. N·m (kg-m, in-lb)

#### NISMO AND NISMO RS



- [ ] : Metal clip

## Removal and Installation

#### REMOVAL

1.

Except for NISMO and NISMO RS

1. Remove rear bumper fascia lower. Refer to EXT-23, "Removal and Installation".

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**EXL-227** 

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[HALOGEN TYPE]

## REAR REFLEX REFLECTOR

#### < REMOVAL AND INSTALLATION >

- 2. Remove rear reflex reflector fixing screw.
- 3. Disengage rear reflex reflector fixing pawls, and then remove rear reflex reflector.

NISMO and NISMO RS

- 1. Remove rear bumper fascia lower. Refer to EXT-23, "Removal and Installation".
- 2. Disengage rear reflex reflector fixing metal clip, and then remove rear reflex reflector according to numerical order  $1\rightarrow 3$  indicated by arrows as shown in the figure.



INSTALLATION Install in the reverse order of removal.

## SERVICE DATA AND SPECIFICATIONS (SDS)

## < SERVICE DATA AND SPECIFICATIONS (SDS)

# SERVICE DATA AND SPECIFICATIONS (SDS) SERVICE DATA AND SPECIFICATIONS (SDS)

## **Bulb Specifications**

## EXCEPT FOR NISMO AND NISMO RS

	Item	Туре	Wattage (W)	•
Headlamp	High Beam	HB3	60	•
	Low Beam	H11	55	-
Front combination lamp	Front turn signal lamp	WY21W (Amber)	21	-
	Front side marker lamp	W5W	5	
	Parking lamp	LED	_	-
Front fog lamp		H11	55	-
Side turn signal lamp		LED	_	-
	Tail lamp (LED)	LED	_	-
Rear combination lamp	Stop lamp/Tail lamp (Rear side marker)	W21/5W	21/5	-
	Rear turn signal lamp	WY21W (Amber)	21	-
	Back-up lamp	W16W	16	-
High-mounted stop lamp		LED	_	-
License plate lamp		W5W	5	-

#### NISMO AND NISMO RS

	Item	Туре	Wattage (W)	
Headlamp	High Beam	HB3	60	J
	Low Beam	H11	55	
Front combination lamp	Front turn signal lamp	WY21W (Amber)	21	K
	Front side marker lamp	W5W	5	
	Parking lamp	LED	—	_
Daytime running light		LED	_	EX
Side turn signal lamp		LED	_	
	Tail lamp (LED)	LED	_	N
Rear combination lamp	Stop lamp/Tail lamp (Rear side marker)	W21/5W	21/5	
	Rear turn signal lamp	WY21W (Amber)	21	N
	Back-up lamp	W16W	16	
High-mounted stop lamp	!	LED	—	
License plate lamp		W5W	5	0

[HALOGEN TYPE]

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А

В

XL

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