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#### **PRECAUTIONS**

< PRECAUTION > [LED HEADLAMP]

# **PRECAUTION**

# **PRECAUTIONS**

Precaution for Technicians Using Medical Electric

#### INFOID:0000000010634515

#### OPERATION PROHIBITION

#### **WARNING:**

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

#### NORMAL CHARGE PRECAUTION

#### **WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

#### PRECAUTION AT TELEMATICS SYSTEM OPERATION

#### WARNING:

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

#### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

#### **WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

# Point to Be Checked Before Starting Maintenance Work

The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.

NOTE:

If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

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

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#### **PRECAUTIONS**

< PRECAUTION > [LED HEADLAMP]

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 SR and SB section of this Service Manual.

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, 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 the SR section.
- Do not 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:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT 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 and wait at least three minutes before performing any service.

# Precaution for Removing 12V Battery

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Check that EVSE is not connected.

#### NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

- 2. Turn the power switch OFF o ON o OFF. Get out of the vehicle. Close all doors (including back door).
- Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

#### NOTE:

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

4. Remove 12V battery within 1 hour after turning the power switch OFF  $\rightarrow$  ON  $\rightarrow$  OFF.

#### NOTE

- The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
- Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

#### **CAUTION:**

- After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.
- After turning the power switch OFF, if "Remote A/C" is activated by user operation, stop the air conditioner and start over from Step 1.

# Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- · Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.

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## **PRECAUTIONS**

< PRECAUTION > [LED HEADLAMP]

- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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# **PREPARATION**

< PREPARATION > [LED HEADLAMP]

# **PREPARATION**

# **PREPARATION**

Special Service Tool

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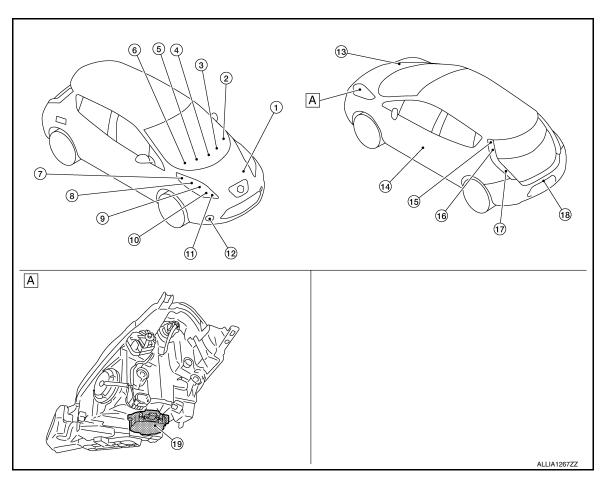
The actual shape of the tools may differ from those illustrated here.					
Tool number (TechMate No.) Tool name		Description			
(J-46534) Trim Tool Set	AWJIA0483ZZ	Removing trim components			

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# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

# **Component Parts Location**



## Front combination lamp (back)

No.	Part	Function
1.	IPDM E/R	<ul> <li>Controls the integrated relay, and supplies voltage to the load according to the request from BCM (via CAN communication).</li> <li>Refer to <u>PCS-7</u>, "Component Parts Location" for detailed installation location.</li> </ul>
2.	Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "COMBINATION SWITCH READING SYSTEM: System Description".
3.	Combination meter	<ul> <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>Turns the tail lamp indicator lamp, high beam indicator lamp, front fog lamp indicator lamp and rear fog lamp indicator lamp ON according to the request from BCM (via CAN communication).</li> <li>Inputs headlamp warning lamp signal from LED headlamp control module and turns headlamp warning lamp ON.</li> </ul>
4.	Hazard switch	Refer to EXL-14, "Hazard Switch".

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#### < SYSTEM DESCRIPTION >

No.	Part	Function	
5.	ВСМ	<ul> <li>Detects each switch condition by the combination switch reading function</li> <li>Judges that the exterior lamps are turned ON according to the vehicle condition</li> <li>Requests the headlamp relay (HI/LO), tail lamp relay and front fog lamp relay ON to IPDM E/R (via CAN communication)</li> <li>Requests the high beam indicator lamp, tail lamp indicator lamp and front fog 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 timing according to the vehicle condition.</li> <li>Judges the ON/OFF status of the exterior lamp according to the outside brightness and the vehicle condition.</li> <li>Refer to BCS-5, "BODY CONTROL SYSTEM: Component Parts Location" for detailed installation location.</li> </ul>	
6.	Optical sensor	Refer to EXL-13, "Optical Sensor".	
7.	Front side marker lamp	Refer to EXL-149, "Bulb Specifications".	
8.	Front turn signal lamp	Refer to EXL-149, "Bulb Specifications".	
9.	Headlamp LO (LED headlamp)	Refer to EXL-15, "HEADLAMP SYSTEM: System Description".	
10.	Headlamp HI	Refer to EXL-149, "Bulb Specifications".	
11.	Parking Lamp	Refer to EXL-149, "Bulb Specifications".	
12.	Front fog lamp (if equipped)	Refer to EXL-149, "Bulb Specifications".	
13.	Daytime running light relay*	Headlamp HI ground circuit is switched according to request from IPDM E/R.	
14.	Front door switch (LH)	Refer to DLK-21, "Door Switch".	
15.	Rear side marker lamp	Refer to EXL-149, "Bulb Specifications".	
16.	Tail lamp	Refer to EXL-149, "Bulb Specifications".	
17.	Rear turn signal lamp	Refer to EXL-149, "Bulb Specifications".	
18.	License plate lamp	Refer to EXL-149, "Bulb Specifications".	
19.	LED headlamp control module	Refer to EXL-13, "LED Headlamp Control Module".	

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

# LED Headlamp

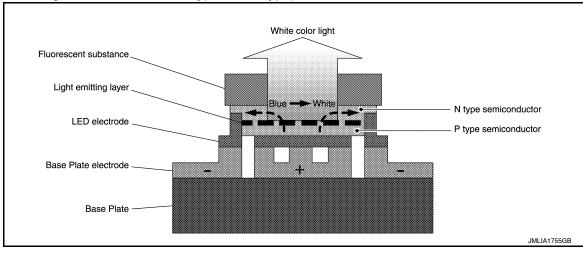
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#### **OUTLINE**

- Semiconductor device (Light emitting diode: LED), which is illuminated when forward bias electric voltage is applied, is adopted as the source of light instead of halogen bulb or xenon bulb.
- Comparing to halogen headlamp or xenon headlamp, LED headlamp is electrically power saving, durable, and is illuminated in the similar color to the sunlight. Bright, natural, and eye-friendly visibility can be obtained.

#### ILLUMINATION PRINCIPLE

White LED emits the white light through fluorescent substance on luminescent surface of blue LED using semiconductor (joint construction of P type and N type).



#### COMPONENT PARTS

#### < SYSTEM DESCRIPTION >

[LED HEADLAMP]

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- When forward bias electric voltage is applied to LED, hole (positive characteristics) and electron (negative characteristics) move toward each electrode, and electric current flows.
- Hole and electron move inside of semiconductor crystal and are connected (re-connection) again at connecting portion. A part of energies that is produced at this moment is emitted as the light.

#### PRECAUTIONS FOR TROUBLE DIAGNOSIS

Representative malfunction examples are; "Light does not turn ON", "Light blinks", and "Brightness is inadequate." Such malfunctions, however, occasionally by occur LED control module malfunction or lamp case malfunction. Specify the malfunctioning part with diagnosis procedure. **CAUTION:** 

- Never touch the harness, LED headlamp control module, the inside and metal part of lamp when turning the headlamp ON or operating the lighting switch, for preventing electrical shock.
- Never work with wet hands, for preventing electrical shock.
- Never perform LED headlamp control module circuit diagnosis with a circuit tester or an equivalent.
- Temporarily install the headlamps on the vehicle. Always connect power supply to the connector (vehicle side) when checking ON/OFF status.
- Disconnect the 12V battery negative terminal before disconnecting the lamp socket connector or the harness connector. Refer to EXL-8, "Precaution for Removing 12V Battery".
- Check for fusing of the fusible link(s), open around connector, short, disconnection if the symptom is caused by electric error.
- Always check for deformation or hole of headlamp housing and engagement of bulb cover. Otherwise, water may enter into headlamp because of damage of headlamp housing and contact to LED headlamp control module connector. The normal operation may be inhibited when short circuit to power supply is detected.

NOTE:

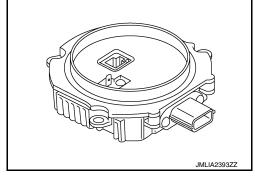
Turn the switch OFF once before turning ON, if the ON/OFF is inoperative.

# **LED Headlamp Control Module**

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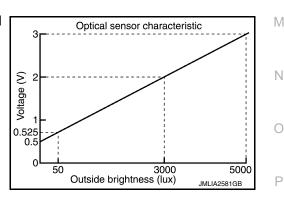
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- Headlamp (LO) circuit is connected to LED headlamp control module integrated in the front combination lamp.
- Headlamp (LO) circuit turns LED headlamp ON.
- Outputs the headlamp warning lamp signal to the combination meter.



**Optical Sensor** 

Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.



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**EXL-13** Revision: June 2014 2015 Leaf NAM

# **COMPONENT PARTS**

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Hazard Switch

Inputs the hazard switch ON/OFF signal to BCM.

		OFF	ON
	1 Hazard switch ON/OFF signal		•
<b></b> }	2 Ground		•
3 1 2 4	3 Illumination +	•	
		d	
	4 Illumination -		5
	7 Indimination		JMLIA2580

## SYSTEM

# **HEADLAMP SYSTEM**

# **HEADLAMP SYSTEM: System Description**

INFOID:0000000010634525

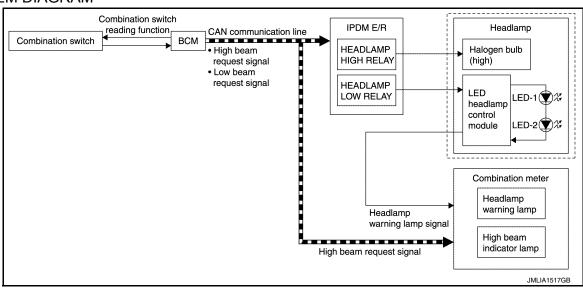
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#### SYSTEM DIAGRAM



#### **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 with CAN communication according to the headlamp (LO) ON condition.

#### Headlamp (LO) ON condition:

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)
- Lighting switch AUTO, with the front fog lamp switch ON and the power switch ON
- Lighting switch PASS
- IPDM E/R turns integrated headlamp low relay ON according to low beam request signal and supplies power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (LO) ON according to the power supply from IPDM E/R.

#### HEADLAMP (HI) OPERATION

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

#### Headlamp (HI) ON condition:

- Lighting switch HI with the lighting switch 2ND or AUTO (auto light function ON judgment)
- Lighting switch PASS
- Lighting switch AUTO, with the front fog lamp switch ON, the power switch ON and lighting switch HI
- 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 ON according to the high beam request signal.

#### HEADLAMP WARNING LAMP OPERATION

- LED headlamp control module outputs the headlamp warning lamp signal to combination meter when the following malfunction is detected:
- LED
- LED headlamp control module
- Circuit between LED headlamp control module and LED.
- Circuit between LED headlamp control module and combination meter.

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 Combination meter turn the headlamp warning lamp ON according to the headlamp waning lamp signal inputs.

#### NOTE:

Headlamp LO may turn ON while headlamp warning lamp is turned ON, because 2 pieces of LED are used so that headlamp may continuously turn ON even if one of LED is not operative.

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

INFOID:0000000010634526

#### 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

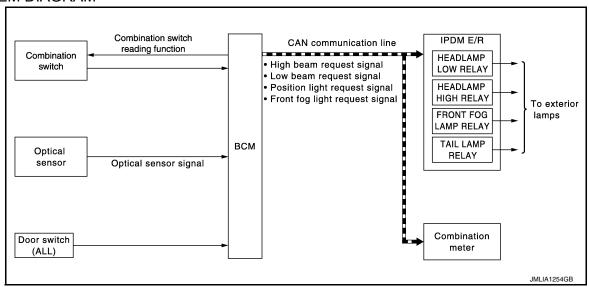
Control part	Fail-safe operation	
Headlamp	<ul> <li>Turns ON the headlamp low relay when the power switch is turned ON</li> <li>Turns OFF the headlamp low relay when the power switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>	

# AUTO LIGHT SYSTEM (EXCEPT FOR CANADA)

# AUTO LIGHT SYSTEM (EXCEPT FOR CANADA): System Description

INFOID:0000000010634527

#### SYSTEM DIAGRAM



#### **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
- Auto light function
- Delay timer function
- Wiper linked auto lighting function
- Auto light adjustment system

#### Control by IPDM E/R:

- Relay control function
- Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps\* and each illumination automatically, depending on the outside brightness.
- 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.

#### SYSTEM

#### < SYSTEM DESCRIPTION >

[LED HEADLAMP]

- When auto light system turns the exterior lamps ON with the power switch OFF, delay timer function turns the exterior lamps OFF, depending on the vehicle condition with the auto light function after a certain period
- \*: Headlamp (LO/HI), parking lamp, tail lamp, front fog lamp and side marker lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT. Refer to BCS-17, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP)".

#### AUTO LIGHT FUNCTION (WITH TWILIGHT LIGHTING FUNCTION)

#### Description

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to the optical sensor when the power switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM filters outside brightness based on the optical sensor signal and judges outside brightness.
- 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.
- 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.

As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed with CONSULT. Refer to BCS-17, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP)".

#### 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.

#### NOTE:

BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned from ON⇒OFF.

#### AUTO LIGHT ADJUSTMENT SYSTEM

The auto light adjustment system automatically, dims/brightens the display and combination meter, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to INL-13, "AUTO LIGHT ADJUSTMENT SYSTEM: System Description".

#### DELAY TIMER FUNCTION

BCM turns the exterior lamps OFF depending on the vehicle condition with the auto light function when the power switch is turned OFF.

- Turns the exterior lamps OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamps OFF a certain period of time\* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamps OFF with the power switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to BCS-17, "HEAD-LAMP: CONSULT Function (BCM - HEAD LAMP)".

#### NOTE:

When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

#### FOG OVERRIDE FUNCTION

When front fog lamp switch is ON while power switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps\* regardless of outside brightness.

\*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp.

#### NOTE:

- Headlamp (HI) depending on the combination switch condition.
- Front fog light reminder warning is cancelled when fog override function is Off.

#### How to Set

#### (P)With CONSULT

- 1. Turn power switch ON.
- Select "INT LAMP" of "BCM" using CONSULT.
- Select "FOG LAMP OVERRIDE" in "Work Support" mode.

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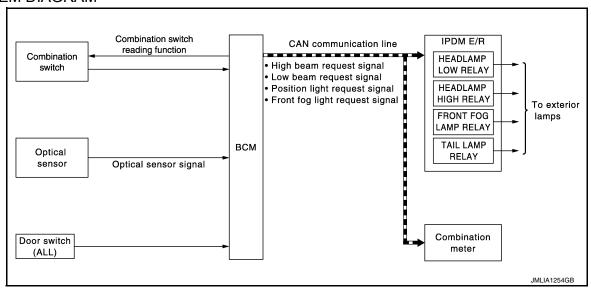
Service item	Setting item	Setting
FOG LAMP OVERRIDE	On	With fog override function
TOG LAWIF OVERVIDE	Off	Without fog override function

# AUTO LIGHT SYSTEM (FOR CANADA)

# AUTO LIGHT SYSTEM (FOR CANADA): System Description

INFOID:000000001063452

#### SYSTEM DIAGRAM



#### **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
- Auto light function
- Delay timer function
- Auto light adjustment system

#### Control by IPDM E/R:

- Relay control function
- Auto light system has the auto light function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps\* and each illumination automatically, depending on the outside brightness.
- When auto light system turns the exterior lamps ON with the power 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.
- \*: Headlamp (LO/HI), parking lamp, side marker lamp, tail lamp and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

#### AUTO LIGHT FUNCTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to optical sensor when the power switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination according to the outside brightness.
- 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.

#### NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to BCS-17, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP)".

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#### AUTO LIGHT ADJUSTMENT SYSTEM

The auto light adjustment system automatically, dims/brightens the display, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to <a href="INL-13">INL-13</a>, "AUTO LIGHT ADJUSTMENT SYSTEM: System Description".

#### DELAY TIMER FUNCTION

BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the power switch is turned OFF.

- Turns the exterior lamp OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamp OFF a certain period of time\* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamp OFF with the power switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-17</u>, "<u>HEAD-LAMP</u>: <u>CONSULT Function (BCM HEAD LAMP)</u>".

#### NOTE:

When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

#### FOG OVERRIDE FUNCTION

When front fog lamp switch is ON while power switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps\* regardless of outside brightness.

\*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp.

#### NOTE:

- Headlamp (HI) depending on the combination switch condition.
- Front fog light reminder warning is cancelled when fog override function is Off.

#### How to Set

#### (P)With CONSULT

- Turn power switch ON.
- Select "INT LAMP" of "BCM" using CONSULT.
- 3. Select "FOG LAMP OVERRIDE" in "Work Support" mode.

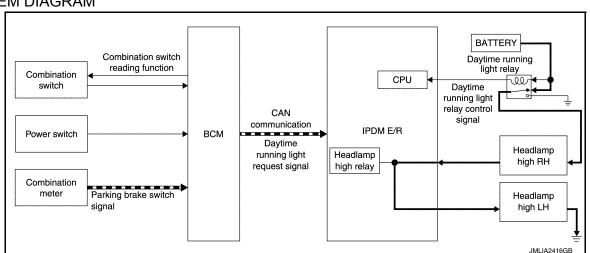
Service item	Setting item	Setting
FOG LAMP OVERRIDE	On	With fog override function
1 OG LAWIF OVERVIDE	Off	Without fog override function

#### DAYTIME RUNNING LIGHT SYSTEM

# DAYTIME RUNNING LIGHT SYSTEM: System Description

INFOID:0000000010634529

#### SYSTEM DIAGRAM



#### OUTLINE

- Turns the headlamp high ON (high beam 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.

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#### DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects the vehicle condition according to power switch
- BCM detects the parking brake condition by the parking brake switch signal received from combination meter using CAN communication.
- BCM transmits the daytime running light request signal to IPDM E/R using CAN communication according to the daytime running light ON condition.

#### Daytime running light ON condition:

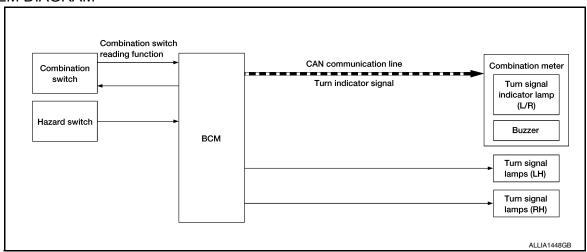
- Vehicle condition READY
- Lighting switch OFF or 1ST
- Lighting switch AUTO, and the auto light function OFF judgment
- Parking brake switch OFF
- IPDM E/R controls the daytime running light relay (ground-side) to turn ON according to the daytime running light request signal.
- Power is supplied from the daytime running light relay through headlamp high RH and IPDM E/R to headlamp high LH. And high beam headlamps are illuminated (approximately half illumination) as the daytime running light.

## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM: System Description

INFOID:0000000010634530

# SYSTEM DIAGRAM



#### **OUTLINE**

Turn signal lamp and the 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 power 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 circuit when the hazard switch is ON. BCM blinks the hazard warning lamp.

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

- BCM transmits the turn signal indicator lamp signal to the combination meter using CAN communication while the turn signal lamp and the hazard warning lamp are operating.
- Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn signal indicator lamp signal.

#### 3-TIME FLASH FUNCTION

• By a short touch of the turn signal lever, BCM blinks the turn signal 3 times in the selected direction.

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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.

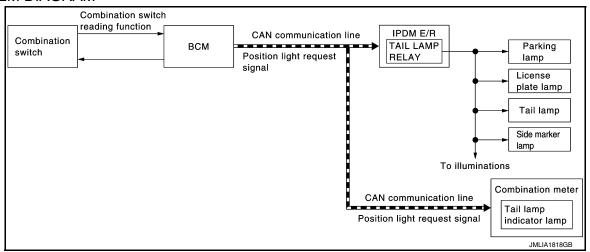
#### NOTE:

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 Description INFOID:0000000010634531

#### SYSTEM DIAGRAM



#### **OUTLINE**

Parking, license plate, side marker and tail lamps are controlled by combination switch reading function and headlamp 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 ON/OFF condition of the parking, license plate, side marker and tail lamps.

Parking, license plate, side marker and tail lamps ON condition:

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- Lighting switch AUTO, with the front fog lamp switch ON and the power switch ON
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate, side marker and tail lamps ON according to the position light reguest 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:0000000010634532

#### 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

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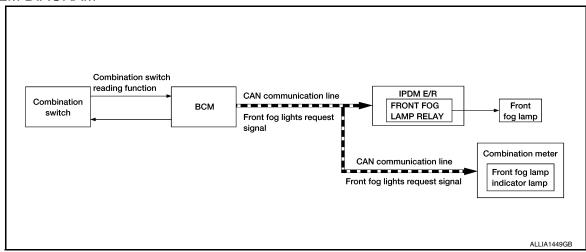
Control part	Fail-safe operation
<ul><li>Parking lamp</li><li>License plate lamp</li><li>Illumination</li><li>Tail lamp</li><li>Side marker lamp</li></ul>	Turns ON the tail lamp relay when the power switch is turned ON Turns OFF the tail lamp relay when the power switch is turned OFF

# FRONT FOG LAMP SYSTEM

# FRONT FOG LAMP SYSTEM: System Description

INFOID:0000000010634533

#### SYSTEM DIAGRAM



#### OUTLINE

Front fog lamp is controlled by combination switch reading function, 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 lights request signal to IPDM E/R and the combination meter 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 condition is satisfied.(except for the high beam ON):
- Lighting switch 2ND
- · Lighting switch AUTO and the power switch ON

IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog lights request signal.

Combination meter turns the front fog lamp indicator lamp ON according to the front fog lights request signal.

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

INFOID:000000010634534

#### 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
Front fog lamp	Front fog lamp relay OFF

#### EXTERIOR LAMP BATTERY SAVER SYSTEM

# EXTERIOR LAMP BATTERY SAVER SYSTEM: System Description

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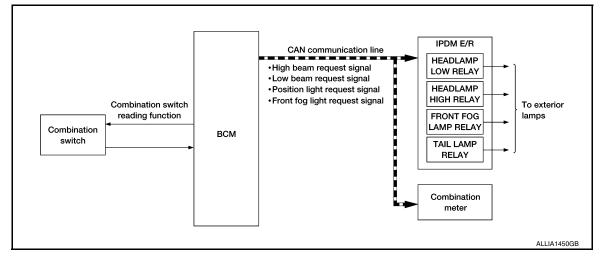
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#### SYSTEM DIAGRAM



#### **OUTLINE**

• Exterior lamp battery saver system is controlled by each function of BCM and IPDM E/R.

#### Control by BCM:

- Combination switch reading function
- Headlamp control function
- Exterior lamp battery saver function

#### Control by IPDM E/R:

- Relay control function
- BCM turns the exterior lamps\* OFF after a period of time to prevent the battery from over-discharge when the power switch is turned OFF with the exterior lamps ON.
- \*: Headlamp (LO/HI), parking lamp, tail lamp, side marker lamp, license plate lamp and front fog lamp

#### EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM activates the timer and turns the exterior lamp OFF 5 minutes after the power switch is turned from ON  $\rightarrow$  OFF with the exterior lamps ON.

#### NOTE:

- Headlamp control function turns the exterior lamps ON normally when the power switch is turned ACC or set the vehicle to READY (both before and after the exterior lamp battery saver is turned OFF).
- The timer starts at the time that the lighting switch is turned from OFF → 1ST or 2ND with the exterior lamps OFF.

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# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

# DIAGNOSIS SYSTEM (BCM)

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010634536

#### **APPLICATION ITEM**

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	<ul> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul>
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

#### SYSTEM APPLICATION

BCM can perform the following functions.

			Direct Diagnostic Mode					
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×	×			
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS AIR PRESSURE MONITOR			×	×	×	×		

**HEADLAMP** 

# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

# HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

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#### **DATA MONITOR**

N communication line. on CAN communication line.	
on CAN communication line.	
Indicates condition of combination switch.	
tical sensor.	

#### **ACTIVE TEST**

Test Item	Description
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].
HEAD LAMP	This test is able to check headlamp operation [Off/Low/Hi].
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].
TAIL LAMP	This test is able to check taillamp operation [Off/On].

## **WORK SUPPORT**

Support Item	Setting	Description	
	MODE6		
	MODE5	Autolamp function OFF.	
	MODE4		
AUTO LIGHT LOGIC SET	MODE3	Autolamp function ON at twilight.	
	MODE2	Autolamp function ON at twilight or with wiper LO and HI operation.	
	MODE1*	Autolamp function ON at twilight or with wiper INT, LO and HI operation.	
BATTERY SAVER SET	Off	Exterior lamp battery saver function OFF.	
DAITERT SAVER SET	On*	Exterior lamp battery saver function ON.	

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# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Support Item	Setting		Description	
	MODE4		Less sensitive than normal setting (turns ON later).	
CUSTOM A/LIGHT SETTING	MODE3		More sensitive than MODE2.	
COSTONIA/LIGITI SETTING	MODE2		More sensitive than normal setting (turns ON earlier).	
	MODE1*		Normal setting.	
	MODE 8	180 sec.		
	MODE 7	150 sec.		
	MODE 6	120 sec.		
ILL DELAY SET	MODE 4	90 sec.	Autolamp delay timer operation time.	
ILL DELAT SET	MODE 5	60 sec.	Autolamp delay timer operation time.	
	MODE 3	30 sec.		
	MODE 2	OFF		
	MODE 1*	45 sec.		

<sup>\*:</sup> Initial setting

# **FLASHER**

FLASHER: CONSULT Function (BCM - FLASHER)

INFOID:0000000010634538

## **DATA MONITOR**

Monitor Item [Unit]	Description	
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.	
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.	
PUSH SW [On/Off]	Indicates condition of power switch.	
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.	
TURN SIGNAL L [On/Off]		
HAZARD SW [On/Off]	Indicates condition of hazard switch.	
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.	
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.	
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.	

## **ACTIVE TEST**

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

#### **WORK SUPPORT**

Support Item	Setting	Description
	Lock/Unlock	Hazard warning lamp answer back for LOCK and UNLOCK with request switch or Intelligent Key.
HAZARD ANSWER BACK	Unlock Only	Hazard warning lamp answer back for UNLOCK only with request switch or Intelligent Key.
	Lock Only	Hazard warning lamp answer back for LOCK only with request switch or Intelligent Key.
	Off	Hazard warning lamp answer back OFF.

# **DIAGNOSIS SYSTEM (IPDM E/R)**

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

# DIAGNOSIS SYSTEM (IPDM E/R)

# **Diagnosis Description**

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#### **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
- Front fog lamp
- Side marker lamp
- Headlamp (LO, HI)

#### Operation Procedure

#### NOTE:

Never perform auto active test in the following conditions.

- · CONSULT is connected.
- · Passenger door is open.
- 1. Turn the power switch OFF.
- Turn the power switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the power switch OFF.
- 3. Turn the power switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.

#### NOTE:

Never depress brake pedal while operating power switch so that auto active test is not activated.

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 power switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to <u>DLK-103</u>.
   "Component Function Check".

#### Inspection in Auto Active Test Mode

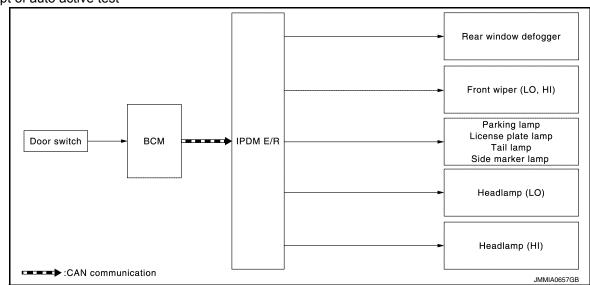
When auto active test mode is actuated, the following operation sequence is repeated 3 times.

Operation sequence	Inspection location	Operation
1	Rear window defogger	10 seconds
2	Front wiper motor	LO for 5 seconds → HI for 5 seconds
3	Parking lamp License plate lamp Tail lamp Front fog lamp Side marker lamp	10 seconds
4	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times

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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
	Perform auto active test. Does the rear window defogger operate?		BCM signal input circuit
Rear window defogger does not operate			Rear window defogger Rear window defogger ground circuit Harness or connector between IPDM E/R and rear window defogger IPDM E/R
Any of the following components do not		YES	BCM signal input circuit
operate Parking lamp License plate lamp Tail lamp Front fog lamp Headlamp (HI, LO) Side marker lamp Front wiper motor	Perform auto active test. Does the applicable system operate?	NO	Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R

# CONSULT Function (IPDM E/R)

INFOID:0000000010634540

#### APPLICATION ITEM

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

Direct Diagnostic Mode	Description		
Ecu Identification	The IPDM E/R part number is displayed.		
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.		
Data Monitor	The IPDM E/R input/output data is displayed in real time.		
Active Test	The IPDM E/R activates outputs to test components.		
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.		

SELF DIAGNOSTIC RESULT

Refer to PCS-19, "DTC Index".

**DATA MONITOR** 

# **DIAGNOSIS SYSTEM (IPDM E/R)**

# < SYSTEM DESCRIPTION >

[LED HEADLAMP]

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Monitor Item [Unit]	Main Signals	Description	
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communic tion line	
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line	
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication	
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communication line	
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communicatione	
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal	
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation	
IGN RLY1 -REQ [On/Off]		Indicates power switch ON signal received from BCM on CAN communication line	
IGN RLY [On/Off]	×	Indicates condition of ignition relay-1	
PUSH SW [On/Off]		Indicates condition of power switch	
DETENT SW [On/Off]		Indicates condition of shift position (park position switch)	
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communication line	
HOOD SW [On/Off]		Indicates condition of hood switch	
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line	
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line	

# **ACTIVE TEST**

Test item	Description		
HORN	This test is able to check horn operation [On].		
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].		
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].		
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].		

# CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

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# **ECU DIAGNOSIS INFORMATION**

BCM, IPDM E/R

List of ECU Reference

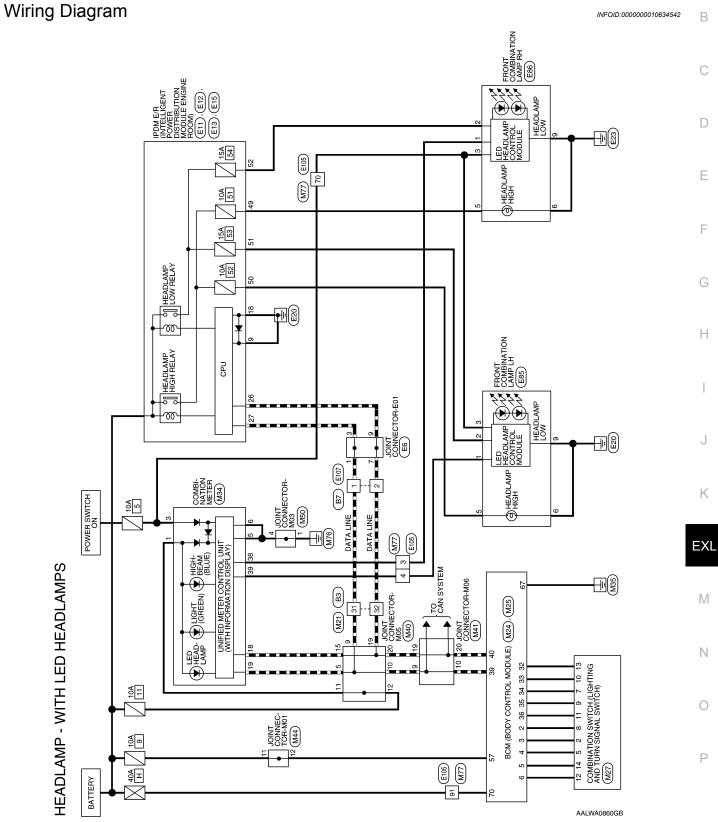
INFOID:0000000010634541

ECU	Reference
	BCS-28, "Reference Value"
BCM	BCS-46. "Fail-safe"
DCIVI	BCS-47, "DTC Inspection Priority Chart"
	BCS-48, "DTC Index"
	PCS-15, "Reference Value"
IPDM E/R	PCS-18. "Fail-Safe"
	PCS-19, "DTC_Index"

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# **WIRING DIAGRAM**

# **HEADLAMP**



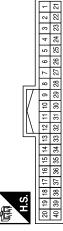
# HEADLAMP - WITH LED HEADLAMPS CONNECTORS

M21	Connector No.	M24
Connector Name WIRE TO WIRE	Connector Name	Connector Name BCM (BODY CONTROL
WHITE		MODULE)
		20

Signal Name	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L	
Color of Wire	ŋ	>	GR	Y	Μ	BG	۵	٦	Ь	
Terminal No. Wire	5	9	32	33	34	35	36	39	40	
							ı			1

	_
M34	Connector Name COMBINATION METER
Connector No.	onnector Name
Ŭ	0

Connector No.	M34
Connector Name	Connector Name COMBINATION METER
Connector Color WHITE	WHITE



Signal Name	BAT	IGN	GND	GND	CAN-L	CAN-H	LED HEAD LAMP-R CUT SIG	LED HEAD LAMP-L
Color of Wire	rg	GR	В	В	Ь	_	>	- E
Terminal No. Wire	-	ဇ	5	9	18	19	38	39

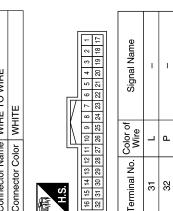
			19 20 39 40				
4	BCM (BODY CONTROL MODULE)	BLACK	9 10 11 12 13 14 15 16 17 18	Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3
M24	me BC		6 7 8	Color of Wire	_	GB	HH HH
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	2	ε	4

Signal Nam	0	COMBINATIONS SW INPUT	COMBINATION SW INPUT
Color of	Wire	GR	BB
Terminal No.	2	ო	4

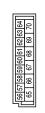
M27	Connector Name COMBINATION SWITCH	/HITE	
Connector No. M	Connector Name C	Connector Color WHITE	

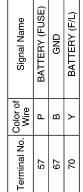
	4 5 6	9 10 11 12 13 14	Signal Name	
	9	6	<u>م</u> و	Г
	2	8	Color of Wire	!
	-	7	ତ ≤	ľ
	ď	5	ninal No.	

Signal Name	1	ı	ı	ı	-	ı	I	_	ı	ı
Color of Wire	GR	BR	W	٦	BG	Y	Ь	۸	GR	G
Terminal No.	2	5	7	8	6	10	F	12	13	14



Connector No.	M25
Connector Name	Connector Name BCM (BODY CONTRO MODULE)
Connector Color WHITE	WHITE





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Connector No. M41  Connector Name JOINT CONNECTOR-M06  Connector Color BLUE  Terminal No. Wire 9 L
Connector No. Connector Nam Connector Colo Connector Colo Terminal No. Connector Colo Terminal No. Connector Colo Terminal No. Connector Colo Terminal No. Connector Nam C

Connector No.	Signal Name
	Pector No.   M77   Pector No.   M77   Pector No.   M77   Pector Name   WIRE TO WIRE   Pector Color   Wire   State of the

Connector No.	). M50	0
Connector Name	ame JOI	JOINT CONNECTOR-M03
Connector Color	olor PINK	*
管	10 9 8 7	6 5 4 3 2 1
H.S.	20 19 18 1	20 19 18 17 16 15 14 13 12 11
Terminal No.   Color of Wire	Color of Wire	Signal Name
1	В	1
4	В	1

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Revision: June 2014 EXL-33 2015 Leaf NAM

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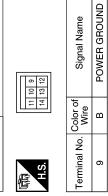
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Connector No.	E12
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN
原 H.S.	77 (77 (18 15)

22 21 20 19 18	Signal Name	GND S
17 22 21	Color of Wire	B/W
Ä.S.	rminal No.	18

Connector Name   Mare   Mare	POWER DIST	BROWN	21 20 19 18	f Sign	o.
Connector No Connector Connector Connector Connector Connector Connector Connector Connector Connector No.		-	17 [	Color of Wire	W.
	Connector Na	Connector Co	赋项 H.S.	Terminal No.	18

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK	BLACK
	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0



Signal Name

			,					
	JOINT CONNECTOR-E01	JE	8 7 6 5 4 4 3 2 1	Signal Name	-	_	1	ı
9		lor BLUE	12 11 10 9	Color of Wire	_	7	Д	۵
Connector No.	Connector Name	Connector Color	IZI SH	Terminal No.	-	3	7	σ:

Cologo Co		FRONT COMBINATION LAMP LH (WITH LED HEADLAMPS)	BLACK	1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	ı	I	I	ı	I	I
Connector No Conne	. E85		_		Color of Wire	LG	Г	BR	ŋ	B/W	B/W
	Connector No	Connector Na	Connector Co	麻利 H.S.	Terminal No.	-	2	3	5	9	6

Connector No.	·	E15	
Connector Name	зше	₽8₽ 8	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	-	WHITE	TE
原本 H.S.	53 52 5	52 51 50 61 60 59	253 52 51 50
Terminal No.	Color of Wire	r of re	Signal Name
49	>		H/LAMP HI RH
09	മ		H/LAMP HI LH
12	_		H/LAMP LO LH
25	₫		H/LAMP LO RH
		1	

Oolor Wir.	Connector No.		E13 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODILL F FNGINF ROOM)
1   1   1   1   1   1   1   1   1   1	tor Colc	_	, ITE
Color of Wire P		82 82 72 88 83 88	23 23 23 23 23 23 23 23 23 23 23 23 23 2
	Terminal No.	olor of Wire	Signal Name
L CAN-H		Ь	CAN-L
		_	CAN-H

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Connector No.	o. E86	36	Connector No. E105	Terminal No Color of	Color of	Signal Name	
	냰	FRONT COMBINATION	Connector Name WIRE TO WIRE		Wire		
Connector No	ame LA	Connector Name   LAMP RH (WITH LED	Connector Color WHITE	3	ч	-	_
	Ĭ [	EADLAINI 3)		4	LG	1	
Connector Color   BLACK	olor BL	ACK		70	BB	ı	
E				91	>	ı	
H.S.	2 0 0 4 4	0 4 6	20 40				
			11 21   31 41   51 61   71 81				
Terminal No. Color of Wire	Color of Wire	f Signal Name	_				
1	Œ	ı	24 34 44 54 64 74				
2	Ь	1	+				
ဇ	BR	ı	27 37 47 57 67 77				
5	<b>\</b>	ı	5 10 18 28 38 48 58 68 78 88 95 100				
9	_	– (WITH DAYTIME RUNNING LIGHT)	19 29 39 49 55 69 77 89				
9	В/У	- (WITHOUT DAYTIME RUNNING LIGHT)					
6	B√	ı					
							1

	RE TO WIRE	里	12 11 10 9 8 7 6 5 4 3 24 23 22 21 20 19 18 17 16 15		Signal Na	_	1
. B7	me WIF	lor WH	12 11 10 9 24 23 22 21		Color of Wire	٦	Ь
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. 12 24	]	Terminal No. Color of Wire	1	2
	WIRE			1 12 13 14 15 16 7 28 29 30 31 32	Signal Name	_	1

	WIRE TO WIRE					10 11 12 13 14	26 27 28 29 30	Signal N	-	
	IR	WHITE				6	22	±		
B3	⋝	⋝				∞ .	3 24	olor o Wire		╻
	μe	ō			Ц	2 9	22 23	Color of Wire		"
No.	Na	8				2	21			
tor	tor	호				4	20	Z		
Эес	) Jec	) je		U	5	က	3 19	ins	31	32
Connector No.	Connector Name	Connector Color	é	E ST		1	17 18	Terminal No.		

	12	24		a
	Ξ	14 15 16 17 18 19 20 21 22 23 24		Signal Name
	9	22		Ιž
$\Box$	6	21		<u> </u>
	8	20		2
		19		٠.
1	2 9 9	18		
Ш	2	17		
ဌ	4	16		₽
	က	15		<u>ō</u> :
	2	14		S
	-	13		_
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				Terminal No Color of
	_ c	4		3
幄	7	1		ام ا

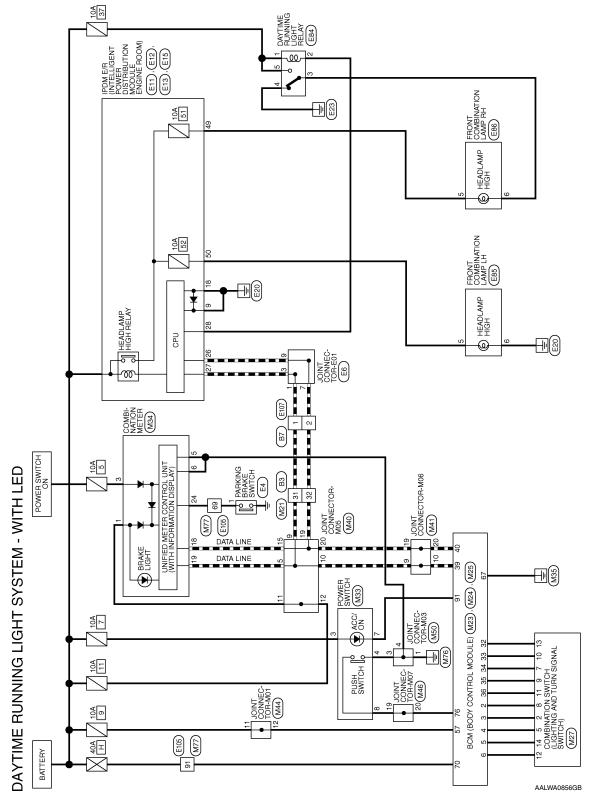
Connector No. E107
Connector Name WIRE TO WIRE
Connector Color WHITE

Signal Name	-	ı
Color of Wire	٦	Ь
Terminal No.	1	2

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# **DAYTIME LIGHT SYSTEM**

Wiring Diagram



Connector Name BCM (BODY CONTROL MODULE)

M25

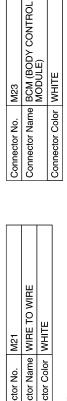
Connector No.

Connector Color WHITE

# DAYTIME RUNNING LIGHT SYSTEM WITH LED CONNECTORS

M23

Connector Name WIRE TO WIRE Connector Color WHITE	Connector No.	M21
Connector Color WHITE	Connector Name	WIRE TO WIRE
	Connector Color	WHITE





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17	II .	ē			
18		au			ı
19		Z	l i l	1	ı
20		Signal Name			ı
21		Sig			
22		0,			ı
23					ı
24					
25		o o			ı
26		e i		Д	ı
27		Color of Wire			ı
28					ı
29		Z			ı
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17		Terminal No.	31	32	
31		j į	`	`	
32		<u> </u>			ı

[	06	110	1			
	79 80 81 82 83 84 85 86 87 88 89	99 100 101 102 103 104 105 106 107 108 109		Signal Name	ENG START SW	POWER POSITION LED
	75 76 77 78 79	96 96 98 8		Color of Wire	SB	>
	75	92		0.		

81				
91   92   93   94   95   96   97   98   99   100 101 102 103 104 105 106 107 108 109	Signal Name	ENG START SW	POWER POSITION LED	
92 38 8	Terminal No. Wire	SB	>	
92	٠.			
8	ž			
88	nal	9/	91	
88	Ē	-	رن	
6	Te			

 Terminal No.	Color of Wire	Signal Nar
9/	SB	ENG START
91	^	POWER POSITI

Signal Name	ı	ı	
Color of Wire	٦	d	
rminal No. Color of Wire	31	32	

Signal Name	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	H-NYO
Color of Wire	GR	٨	M	BG	Ь	٦
Terminal No.   Color of   Wire	Terminal No.		34	32	98	68

Signal Name	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L	
Color of Wire	GR	<b>\</b>	W	BG	Ь	L	Р	
Terminal No.	32	33	34	35	98	39	40	

_				19 20 39 40						
	BCM (BODY CONTROL MODULE)	BLACK		9 10 11 12 13 14 15 16 17 18 19 19 29 30 31 32 33 34 35 36 37 38 39	Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1
		_		6 7 8 26 27 28	Color of Wire	_	GR	BB	В	>
	Connector Name	Connector Color	南 H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	2	3	4	5	9

BATTERY (FUSE)

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Signal Name

Color of Wire

Terminal No.

BATTERY (F/L)

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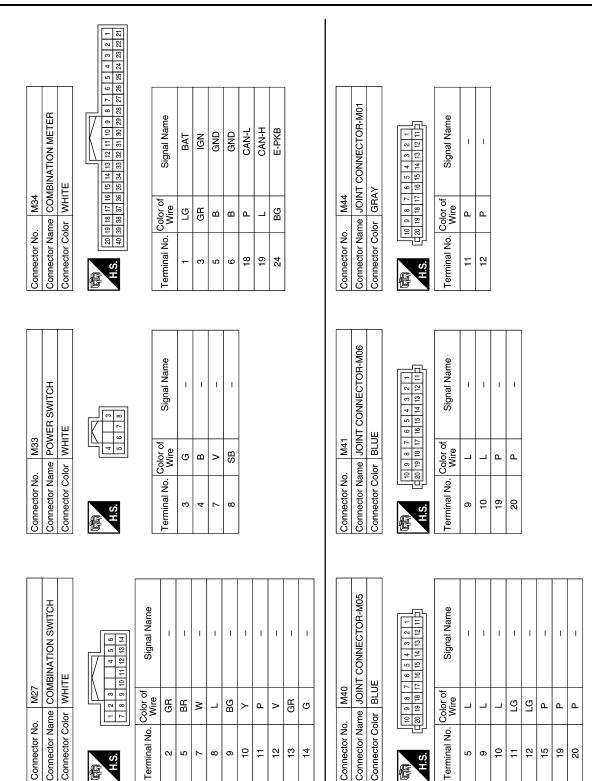
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Connector No. M24



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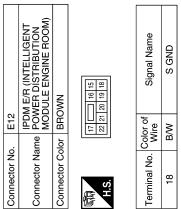
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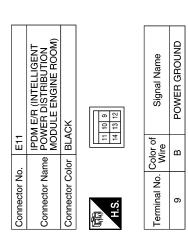
Connector No.   E6   Connector Name   Joint Connector Connector Color   BLUE	A B C D
Connector No.   M50   Connector Name   JOINT CONNECTOR-M03   Connector Color   PINK	F G H
Connector No. M46  Connector Name JOINT CONNECTOR-MO7  Connector Color OFANGE  19 SB	lor of Signal Name Vire

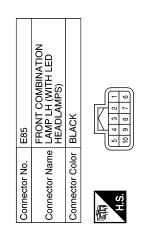
Revision: June 2014 EXL-39 2015 Leaf NAM

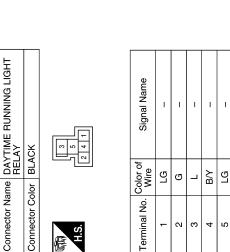
Connector No.	E13
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
	% 77 % 7% 7% 7% 7% 7% 7% 7% 7% 7% 7% 7%
Š.	23 23 23 23 23 23 23 23 23 23 23 23 23 2

28 27 28 25 24 23 34 33 32 31 30 29	Signal Name	CAN-L	CAN-H	ATH DITA
88 82	Color of Wire	۵	ـ	១
用.S.	Terminal No. Wire	26	27	28









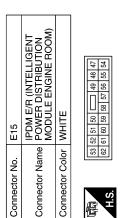
Signal Name П 1

Color of Wire

Terminal No. 2 9

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E84

Connector No.

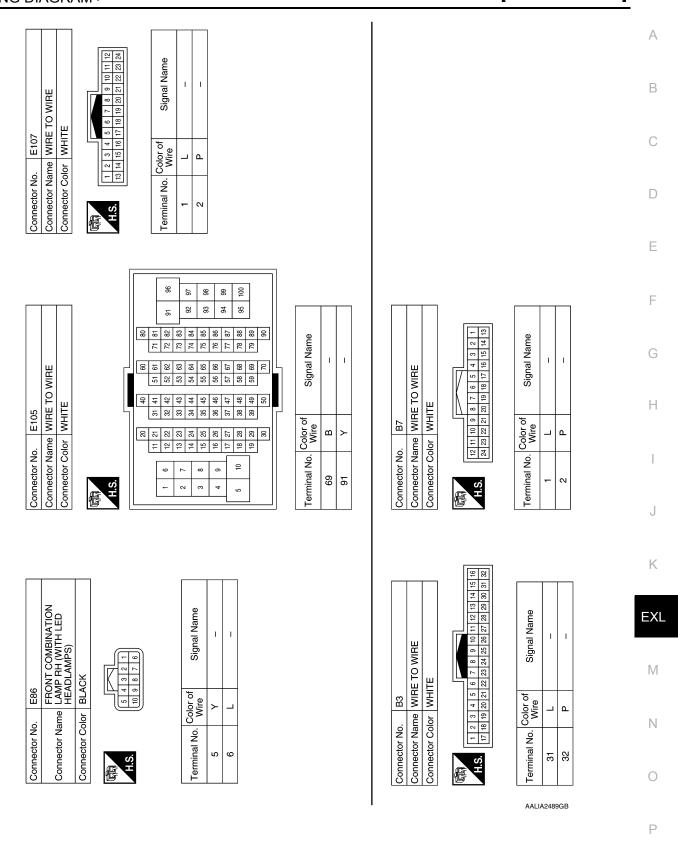
Signal Name	H/LAMP HI RH	H/LAMP HI LH	
Color of Wire	Υ	ŋ	
Terminal No.	49	50	

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### **DAYTIME LIGHT SYSTEM**

< WIRING DIAGRAM >

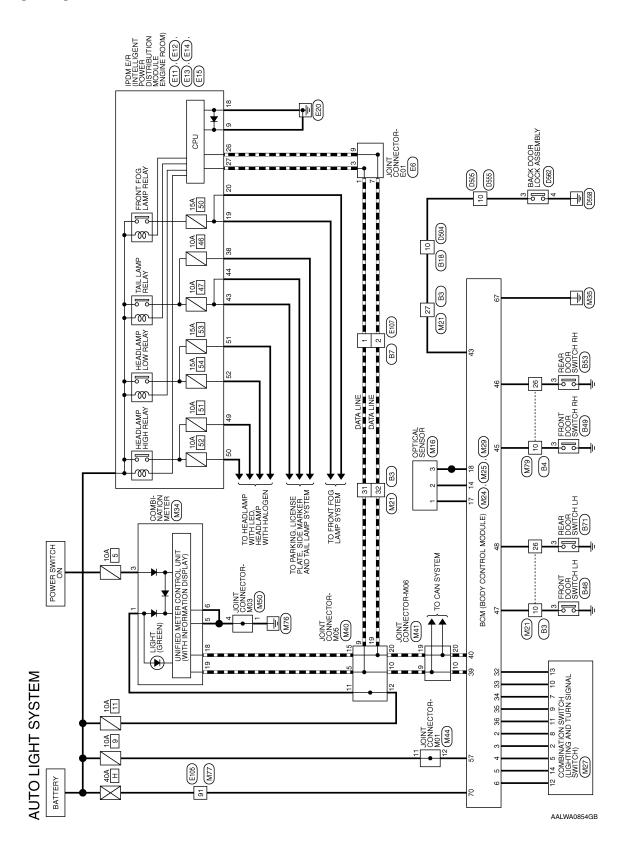
### [LED HEADLAMP]



Revision: June 2014 EXL-41 2015 Leaf NAM

# **AUTO LIGHT SYSTEM**

Wiring Diagram



# AUTO LIGHT SYSTEM CONNECTORS

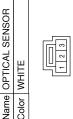
M16	Connector Name OPTICAL SENSOR	WHITE
Connector No.	Connector Name	Connector Color WHITE

Connector Name WIRE TO WIRE

M21

Connector No.

Connector Color WHITE



Signal Name	-	ı	I	
Color of Wire	Υ	ŋ	^	
Terminal No. Wire	1	2	ဧ	

Signal Name

Color of Wire

Terminal No.

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M (BODY CONTROL DDULE)	#IE	7   558   59   60   61   62   63   64	Signal Name
e BC	×	65	olor of Mire
Nam	Solo		ر اه
Connector	Connector	H.S.	Terminal No. Color of Wire
	Connector Name BCM (BODY CONTROL MODULE)	Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE	Connector Name BCM (BODY CONTROL MODULE)  Connector Color WHITE  (S)

Signal Name	COMBINATION SW INPUT 1	AUTO LIGHT SENSOR INPUT	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT	KEYLESS TUNER, AUTO LIGHT SENSOR GND	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	>	Ö	>	Г	GR	<b>\</b>	W	BG	Ь	Т	Ь
Terminal No.	9	14	17	18	32	33	34	35	36	68	40

BATTERY (FUSE)

BATTERY (F/L)

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				19 20 39 40					
_	BCM (BODY CONTROL MODULE)	ÓK		9 10 11 12 13 14 15 16 17 18 18 29 30 31 32 33 34 35 38 37 38 3	Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2
. M24	l	lor BLACK		7 8 27 28	Color of Wire		GR	BR	5
Connector No.	Connector Name	Connector Color	(中)	1 2 3 4 5 6 21 22 23 24 25 26	Terminal No.	2	3	4	5

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**EXL-43** 2015 Leaf NAM Revision: June 2014

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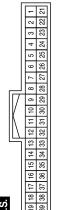
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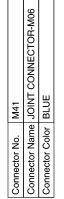
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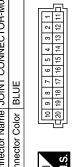
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	2	22 21							
	3	23							
	4	24							
	5	25	စ္						
	9	26	ац			_	_		I
	7	27	Z	BAT	<u>8</u>	GND	GND	ż	ż
	8	28	Signal Name	B	=	G	G	CAN-L	CAN-H
	6	53	) ig						_
		30	0,						
	11	31							
	12	32							
ī	13	33	Color of Wire						
	14	34	흥호	2	GR	В	В	ᅀ	_
	15	35	0-		_				
	16	36	o.						
	17	37	Z						
	18	38	na	-	က	5	9	8	19
	20 19 18 17 16 15 14 13 12 11 10	39	erminal No.					<u>'</u>	_
	20	40	jō						





	Signal Name	ı	ı	-	1
-	Color of Wire	٦	_	Ь	۵
i.S.	Terminal No. Wire	6	10	19	20

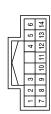
M29	Connector Name BCM (BODY CONTROL MODULE)	BLACK	
Connector No.	onnector Name	Connector Color BLACK	

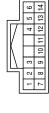


Signal Name	DOOR SW (BACK)	DOOR SW (AS)	DOOR SW (RR)	DOOR SW (DR)	DOOR SW (RL)
Color of Wire	<b>&gt;</b>	BR	В	SB	8
Terminal No. Wire	43	45	46	47	48

Signal Name	I	I	ı	I	ı	ı
Color of Wire	٦	ГG	LG	۵	Ь	۵
Terminal No. Wire	10	11	12	15	19	20

M27	Connector Name COMBINATION SWITCH	WHITE	1 2 3 4 5 6	7 8 9 10 11 12 13 14
Connector No.	Connector Name	Connector Color WHITE	\ \frac{1}{2}	į







Signal Name	1	ı	1	-	ı	1	-	1	1	_	
Color of Wire	GR	BR	Μ	٦	BG	Υ	Ь	>	GR	Э	
Terminal No.	2	5	7	8	6	10	11	12	13	14	

•	Connector Name JOINT CONNECTOR-M05	<u> </u>	10 9 8 7 6 5 4 3 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	-	-
. M40	Ime JOI	lor BLL	20 19 18	Color of Wire	_	_
Connector No.	Connector Na	Connector Color BLUE	南 H.S.	Terminal No.	2	6

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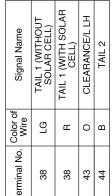
Р

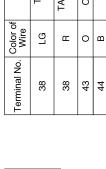
Connector No. M77  Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.  H.S.  The state of	Connector No. E11  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color BLACK  Terminal No. Wire Signal Name  9 B POWER GROUND	A B C D
Connector No.   M50   Connector Name   JOINT CONNECTOR-M03   Connector Color   PINK	Connector No.   E6   Connector Name   JOINT CONNECTOR-E01   Connector Color   BLUE	G H J
Connector No.   M44	Connector No.   M79   Connector Name   WIRE TO WIRE   Connector Name   WIRE TO WIRE   Connector Color   WHITE	M N

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Connector No.	E14
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BROWN	BROWN

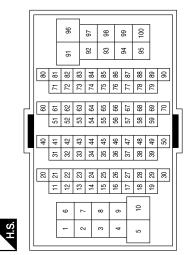












E13	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE
Connector No.	Connector Name	Connector Color WHITE



	Color of Wire	
	Terminal No.	
,		

Signal Name

CAN-L CAN-H

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Signal Name	S GND	FR FOG RH	FR FOG LH	
Color of Wire	B/W	8	۸	
nal No.	81	6	50	

Connector	Connector	唇

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name Connector Color

E15

Connector No.

WHITE

Name WIRE TO WIRE

E105

Connector No.

Color WHITE

_			_	l L
	47	\$		Signal Name
	49 48 47	99		<u>=</u>
	49	99		Ë
	П	29		i <u>s</u>
	$  \sqcup  $	89		
	20	29		
	51	09		75
	52	62 61		olor
	23	62		Color of

H.S.

Signal Name	H/LAMP HI RH	H/LAMP HI LH	H/LAMP LO LH	H/LAMP LO RH
Color of Wire	>	G	٦	۵
Terminal No. Wire	49	20	51	52

E12	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN
Connector No.	Connector Name	Connector Color BROWN



Color of Wire	B/W	8	^	
Terminal No.	18	19	20	

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	32						
TO WIRE	S   S   S   S   S   S   S   S   S   S	Signal Name	ı	1			
B4 le WIRE r WHITI	3 4 5 20 21 2	olor of Wire	BR	œ			
Connector No. B4 Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 17 18	Terminal No. Wire	10	26			
	15 16 31 32						
E TO WIRE	6 7 8 9 10 11 12 13 14 22 23 24 25 26 27 28 29 30	Signal Name	1	ı	ı	ı	I
B3 ne WIRE or WHIT	2 3 4 5 5 18 19 20 21	Solor of Wire	SB	LG	>	_	۵
Connector No. B3 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Wire	10	26	27	31	32
7 E TO WIRE TE	5 6 7 8 9 10 111 12 17 18 19 20 21 22 23 24	Signal Name	1	ı			
me WIRE or WHIT	2 3 4 14 15 16	Solor of Wire	_	۵			
Connector No. E107 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Wire	-	2			

Connector No.	lo. B7		Connector No.	o. B18		Connector No.	B48
Connector Name WIRE TO WIRE	lame WIRE	E TO WIRE	Connector Name WIRE TO WIRE	ame WIRE	E TO WIRE	Connector Name	Connector Name FRONT DOOR SWITCH LH
Connector Color WHITE	olor WHIT		Connector Color WHITE	olor WHIT	Щ	Connector Color WHITE	r WHITE
H.S. 24	24 2 2 2 2 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	0 19 18 17 16 15 14 13	H.S.	2 8 6 41	10 11 12 13 19 20 15 16 17 18 19 20	H.S.	2 S S S S S S S S S S S S S S S S S S S
Terminal No. Color of Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Color of Wire	olor of Signal Name
-	_	ı	10	>	I	ო	SB -
2	۵	1					

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Signal Name

1	Connector Name REAR DOOR SWITCH LH	IITE	2 3 4	Signal Name	1
. B71	me RE	lor WH		Color of Wire	9
Connector No.	Connector Na	Connector Color WHITE	哥 H.S.	Terminal No. Wire	c:
	Connector Name REAR DOOR SWITCH RH	ІТЕ	P	Signal Name	_
. B53	me RE/	or WH		Color of Wire	а
Connector No. B53	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	æ
6	Name FRONT DOOR SWITCH RH	НТЕ	2 2 3 4	اأ Signal Name	_
o. B49	ame FF	Color WHITE		Color of Wire	BB
r No.	Ž	r.		Š	

	Connector No. D505	D505	Connector No. D555	D555
TO WIRE	Connector Name	connector Name WIRE TO WIRE	Connector Name	onnector Name WIRE TO WIRE
	Connector Color   WHITE	WHITE	Connector Color   WHITE	WHITE

	Connector No. D504	lo.	)504	Connector No. D505	). D505		Connector No. D555	D555	
	Connector N	lame V	Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE	ame WIRE	E TO WIRE	Connector Name WIRE TO	ne WIRE	707
	Connector Color WHITE	olor V	VHITE	Connector Color WHITE	olor   WHIT	E	Connector Color WHITE	or   WHITI	111
	H.S.	5 20 19	4 3 2 1 1 10 10 9 8 2 1 18 1 17 16 15 14 8 7	H.S.	5 1 11 11	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	 H.S.	0 1 2 8 3	0 0
	Terminal No. Wire	Color	of Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Solor of Wire	
	10	SB	ı	10	SB	ı	10	SB	
Δ									

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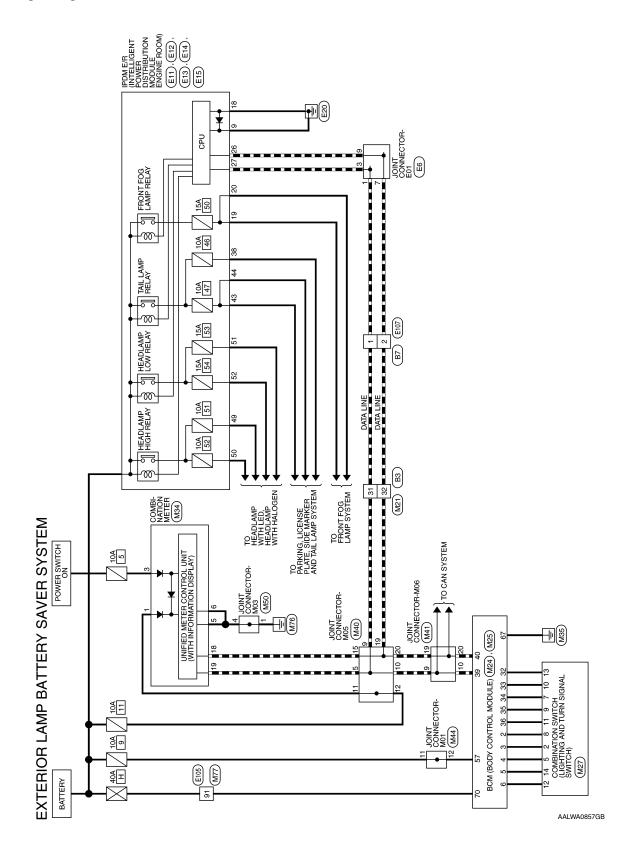
D562	Connector Name BACK DOOR LOCK ASSEMBLY	WHITE	
Connector No.	Connector Name	Connector Color WHITE	



Signal Name	1	ı
Color of Wire	SB	В
Terminal No.	8	4

# **EXTERIOR LAMP BATTERY SAVER SYSTEM**

Wiring Diagram



# EXTERIOR LAMP BATTERY SAVER SYSTEM CONNECTORS

M24	Connector Name   BCM (BODY CONTROL	MODULE)	BLACK
Connector No.	Connector Name		Connector Color BLACK
M21	onnector Name   WIRE TO WIRE	WHITE	
Connector No.	Connector Name	Connector Color   WHITE	

Signal Name	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	ŋ	>	GR	>	*	BG	Ь	٦	Ъ
Terminal No. Wire	5	9	32	33	34	35	98	68	40
				19 20	39 40				

9	8	Ι.				
9						
17	37			_	_	_
16	36		e	ON 5	Q 4	ု ရ
15	35		am	<u>55</u>	E5	트티
41	34		Z	Ž₫	≱₫	COMBINATION SW INPUT 3
13	33		Ina	₽\ 	₽-	₽Ė
12	32		Sig	SVO	SN	080
1	31			O ·	0	0 "
	30					
6	29		<b>—</b>			
8	28		r o		~	ا س ا
7	27		응		G	BB
	26		oʻ			
2	52		<u>o</u>			
4	24		=			
-	23		i.	2	3	4
2	22		Ē			
-	21		Te			
	5 6 7 8	3 4 5 6 7 8 9 23 24 25 26 27 28 29	2 3 4 5 6 7 8 9 9 22 23 24 25 26 27 28 29		2 3 4 5 6 7 8 9 22 23 24 25 28 27 28 23 22 23 24 15 26 27 28 23 22 23 24 25 26 27 28 23	

[	8 7 6 5 4 3 2 1	32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17	Signal Name	I	ı	
\	11 10 9	27 26 25 2	Color of Wire	٦	Д	
	16 15 14 13 12 11 10 9 8	32 31 30 29 28	Terminal No. Color of Wire	31	32	

Signal Name	_	1	1	-	1	1	-
Color of Wire	7	BG	>	Ь	>	GR	5
Terminal No. Wire	8	6	10	11	12	13	14

Connector No.	M27
Connector Name	Connector Name   COMBINATION SWITCH
Connector Color WHITE	WHITE
H.S.	2 8 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
100	Color of

Connector Name		COMBINATION SY
Connector Color	lor WHITE	ITE
H.S.	1 2 7 8	3 4 5 6 9 10 11 12 13 14
Terminal No.	Color of Wire	Signal N
2	GR	-
5	BB	_
7	≯	ı

Connector No.	o. M25	2	
Connector Name		BCM (BODY CONTROL MODULE)	
Connector Color WHITE	olor WH	ПЕ	
4			
臣	56 57 58 65 66	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70	
Š.			
Terminal No.	Color of Wire	Signal Name	
22	۵	BATTERY (FUSE)	
29	В	GND	
20	>	BATTERY (E/I )	

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### **EXTERIOR LAMP BATTERY SAVER SYSTEM**

< WIRING DIAGRAM >

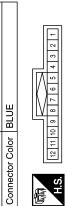
[LED HEADLAMP]

Connector No.M34Connector No.M40Connector No.M41Connector NameConnector NameJOINT CONNECTOR-M05Connector NameJOINT CONNECTOR-M06Connector ColorWHITEConnector ColorBLUEConnector ColorBLUE	H.S. (10 9 18 77 16 15 14 13 12 11) H.S. (10 9 18 77 16 15 14 13 12 11) H.S. (10 9 18 77 16 15 14 13 12 11) H.S.	Tile   15   14   13   22   14   10   9   8   7   6   5   4   32   22   23   33   32   33   33	I No. Color of Signal Name 9 L – 10 L –	BAT - 10 L		GND 15	n a	-	-	or No.   M44   Connector No.   M50   Connector No.   M77	DOINT CONNECTOR-M01 Connector Name JOINT CONNECTOR-M03 Connector Name	or Color GRAY Connector Color PINK Connector Color WHITE	10 9 8 7 6 5 4 3 2 1 1	Color of Signal Name Terminal No. Color of Signal Name	88 73 65 53 44 33 23 13	P - 4 B - 4 34 44 34 54 44 34 54 44 34 54 54 54 54 54 54 54 54 54 54 54 54 54	76 66 56 46 36 26 16 9	89 79 69 59 49 39 29 19	08 09 02 08 00	Terminal No.   Color of   Signal Name	
Connector No. M34 Connector Name COM	用.S.	16 15 14 13 36 35 34 33	Terminal No. Color of Wire	- LG						Connector No. M44	Connector Name JOIN	Connector Color GRA	9 8 7	Terminal No. Color of Wire	1	12 P					

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Connector No.	. E12	
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color		BROWN
H.S.	17 22 21	16 15
Terminal No. Wire	Color of Wire	Signal Name
18	B/W	SGND
19	8	FR FOG RH
20	>	FR FOG LH

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK	BLACK



Connector Name | JOINT CONNECTOR-E01

9<u></u>

Connector No.

7 6 5 4 3 2 1	Signal Name	-	ı	ı	1
121 10 9 8	Color of Wire	٦	٦	Ь	Ь
H.S.	Terminal No.   Color of Wire	1	3	7	6

POWER GROUND

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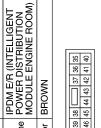
Signal Name

Terminal No. Color of Wire

Connector No.	E15	
Connector Name	Connector Name POWER DISTRIBUTION	

E14

Connector No.



Connector Color WHITE

Connector Name	Connector Color	H.S.
	_	

Connector No.	E13
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
崎 H.S.	28 27 28 25 24 23 34 33 28 31 30 28

Connector Nam	Connector Colc	而 H.S.

Signal Name	H/LAMP HI RH	H/LAMP HI LH	H/LAMP LO LH	H/LAMP LO RH
Color of Wire	<b>&gt;</b>	В	٦	۵
Terminal No. Wire	49	20	51	52

Signal Name	TAIL 1 (WITHOUT SOLAR CELL)	TAIL 1 (WITH SOLAR CELL)	CLEARANCE/L LH	TAIL 2
Color of Wire	ГG	В	0	В
erminal No. Color of Wire	38	38	43	44

Signal Name	CAN-L	CAN-H	
Color of Wire	Ь	٦	
Terminal No.	56	27	

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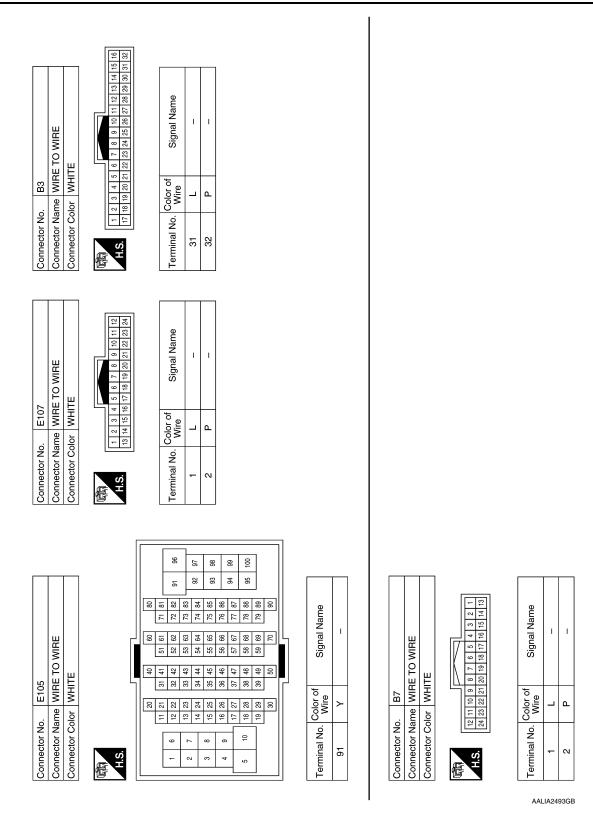
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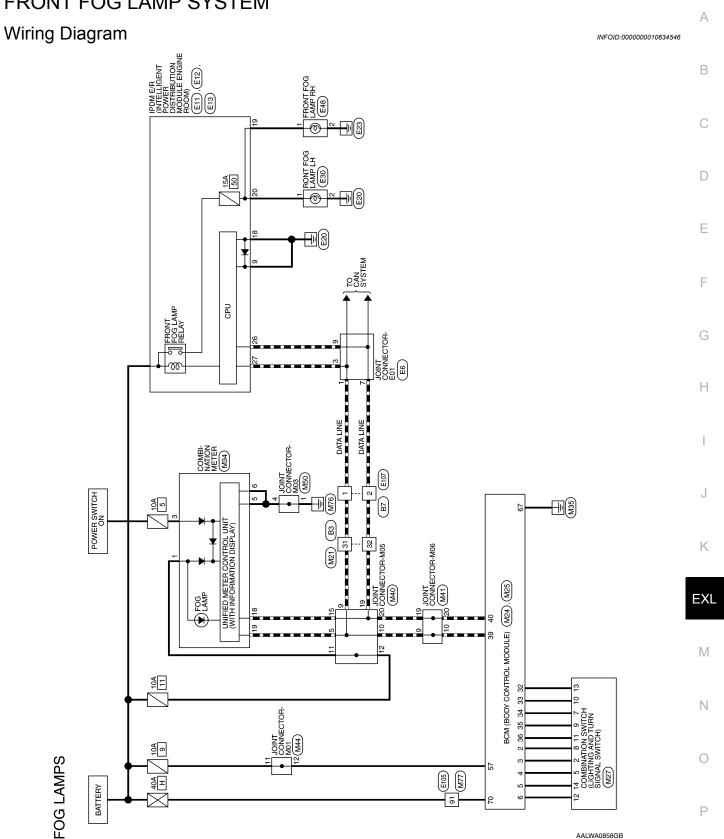
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# FRONT FOG LAMP SYSTEM

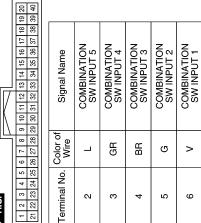


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Signal Name	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	GR	٨	M	BG	Ь	7	Ь
Terminal No.	35	88	34	38	98	68	40

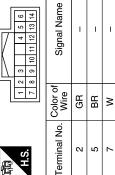
			-
CAN-L	Ь	40	
CAN-H	7	39	
COMBINATIC SW OUTPUT	Ь	98	
COMBINATIC SW OUTPUT	BG	35	
SW OUTPUT	8	34	·

Signal Name	-	-	ı	_	_	1
Color of Wire	BG	<b>\</b>	Ъ	^	GR	g
Terminal No. Wire	6	10	11	12	13	14

Connector No.	M24
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK



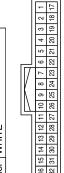
Connector No.	Connector No. M27 Connector Name COMBINATION SWITCH
Connector Color   WHITE	WHITE



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Signal Name	1	1	
Color of Wire	٦	Д	
Terminal No.	31	32	

Γ	Ę.	$\overline{}$	1
	33 64	70	
	62	69	
	0 61	89	
	29 6	67	
	2	99	
	56 57	99	

Signal Name	BATTERY (FUSE)	GND	BATTERY (F/L)
Color of Wire	Ь	В	Y
erminal No.	57	29	20



Connector Name BCM (BODY CONTROL MODULE)

M25

Connector No.

	S.
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Connector No.	<u>0</u>		M21	Ξ.											
Connector Name WIRE TO WIRE	lam	Ф	₹	뿞	E	Ó	₹	분							
Connector Color WHITE	lolo;	_	՛≶	I ₩	Щ										
							\		I IV	17				1	
2	16	16 15 14 13 12 11 10 9 8 7	4	5	12	Ξ	10	6	8	7	9	5	4	б	
ė	8	31	30	66	28	26	96	25	24	23	66	21	32 31 30 29 28 27 26 25 24 23 22 21 20 19 1	19	٠.

						NOT BLUE	
H.S.  20 19 18 17 16 15 14 13 12 11 10 40 38 37 38 38 34 38 32 31 30	10 9 8 7 6 5 4 3 2 1 30 29 28 27 26 25 24 23 22 21	H.S.	10 9 8 18	7 6 5 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	歷 H.S.	20 19 18 17	7 6 5 4 3 2 1 1 17 16 15 14 13 12 11
Terminal No. Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
1 LG	BAT	5	_	ı	0	_	ı
3 GR	NĐI	6	_	ı	10	_	1
9 B	GND	10	_	1	19	۵	ı
9 9	GND	11	ГG	1	20	Ь	ı
18 P	CAN-L	12	ГG	1			
19 L	CAN-H	15	۵	ı			
		19	Ь	1			
		20	А	ı			

	Connector Name JOINT CONNECTOR-M03	>	7 6 5 4 3 2 1	Signal Name	ı	1
M50	ne JOII	or PIN	10 9 8	Solor of Wire	В	В
Connector No.	Connector Nan	Connector Color PINK	是 H.S.	Terminal No. Wire	-	4
	Connector Name JOINT CONNECTOR-M01		5 4 3 2 1 15 14 13 12 11	Signal Name	ı	ı
	CO		9 9			
Connector No. M44	le JOINT CON	Connector Color GRAY	7 6 7 16	Terminal No. Color of Wire	<u>_</u>	Ь

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**EXL-57** 2015 Leaf NAM Revision: June 2014

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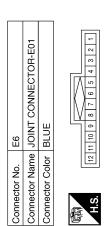
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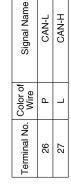
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Signal Name	-	ı	_	_
Color of Wire	Г	٦	Ь	Ь
Terminal No. Wire	1	ဗ	7	6

Signal Name	-	ı	1	-	
Color of Wire	Г	٦	Д	Ь	
Terminal No.	1	3	7	6	

Connector No.	E13
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
原 H.S.	28 27 26 25 24 23 34 33 32 31 30 29



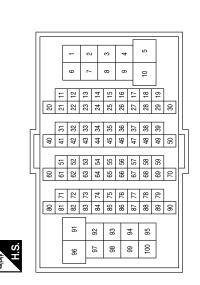
Signal Name	ı	
Color of Wire	<b>\</b>	
Terminal No.	91	

Connector Name WIRE TO WIRE

M77

Connector No.

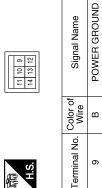
Connector Color WHITE



Connector No.	E12
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOI
Connector Color BROWN	BROWN

or of Signal Nan Signal Nan S GND V FR FOG R	No. Color of Wire B/W W	Terminal No.
--	-------------------------	--------------

Connector No. E11
Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)





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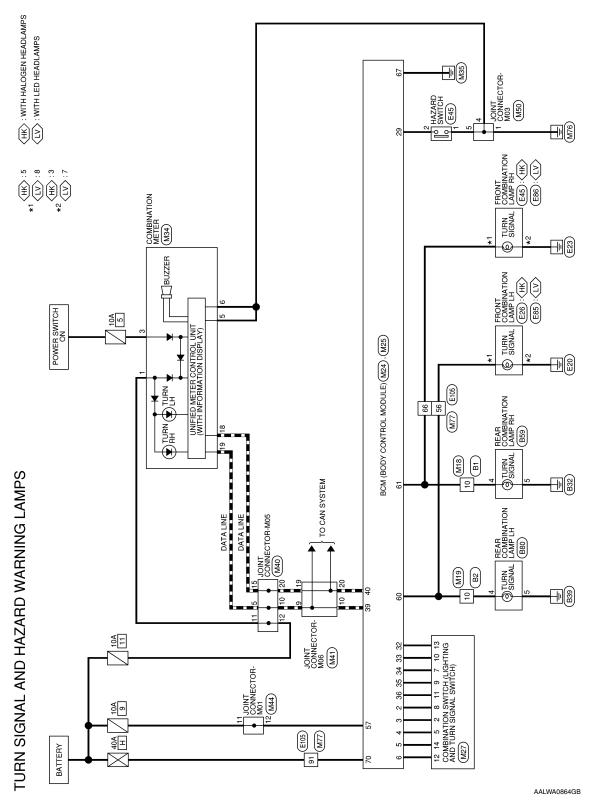
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Connector No. E105  Connector Name WIRE TO WIRE  Connector Color WHITE  The state of the state o	Wire  WIRE TO V  WHTE  Color of  Wire  L  P	A B C D
Connector No. E48 Connector Name FRONT FOG LAMP RH Connector Color BLACK  H.S.  Terminal No. Wire Signal Name  1 W - 2 B/Y -	Connector No.   B3	F G H
Connector No. E30 Connector Color BLACK  Mise  Terminal No. Wire  BW -  Signal Name  BW -  BMW -  Color of Signal Name  BWW -	Connector No.   E107   Connector Name   WIRE TO WIRE   Connector Color   WHITE   Connector Color   WHITE	K EXL M N

**EXL-59** Revision: June 2014 2015 Leaf NAM

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram



FLASHER OUTPUT (LEFT) FLASHER OUTPUT (RIGHT)

BATTERY (F/L)

GND

В >

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BATTERY (FUSE)

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Signal Name

Color of Wire

Terminal No.

# TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

6	Sonnector Name   WIRE TO WIRE	IITE	7 6 5 4 3 2 1 16 15 14 13 12 11 10 9 8	Signal Na	1
. M19	me WI	lor WH	7 6 5 14 14	Color o	^
Connector No.	Connector Na	Connector Color WHITE	所S.H	Terminal No. Wire	10
	E TO WIRE	TE	7 6 5 4	Signal Name	1
M18	ne WIR	or WHI	7 6 5 4	Color of Wire	В
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	10

ignal Name

M25	Connector Name   BCM (BODY CONTROL MODULE)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

Terminal No.         Color of Wire         Signal Name           29         G         HAZARD SW           32         GR         COMBINATION           33         Y         COMBINATION           34         W         COMBINATION           35         BG         COMBINATION           36         P         COMBINATION           36         P         COMBINATION           39         L         CAN-H           40         P         CAN-H           40         P         CAN-H									
Terminal No. Color of Wire 29 G G G G G G G G G G G G G G G G G G	Signal Name	WS GRAZAH	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
32 33 34 35 35 36 36 39 40	Color of Wire	g	GR	٨	W	BG	Ь	٦	Ь
	Terminal No.	29	32	33	34	35	36	39	40

				19 20 39 40						
	BCM (BODY CONTROL MODULE)	CK		9 10 11 12 13 14 15 16 17 18 19 20 29 30 31 32 33 34 35 38 37 38 39 40	Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1
. M24		lor BLACK		5 6 7 8 25 26 27 28 3	Color of Wire	_	GR	BB	σ	>
Connector No.	Connector Name	Connector Color	H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	2	8	4	5	9

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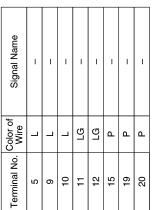
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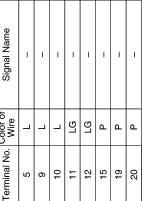
## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

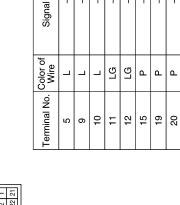
[LED HEADLAMP] < WIRING DIAGRAM >



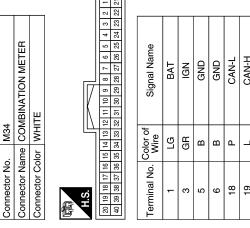








	HAZARD SWITCH	1	4 2 1	Signal Name	ı	ı
. M45	me HAZ	lor WHITE		Color of Wire	В	G
Connector No.	Connector Name	Connector Color	i南 H.S.	Terminal No. Wire	-	2

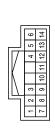


Signal Name	BAT	IGN	GND	GND	CAN-L	CAN-H
Color of Wire	ГG	GR	В	В	۵	_
Terminal No. Wire	1	3	5	9	18	19

Connector No.	Σ	M44						
Connector Name JOINT CONNECTOR-M01	7	€	Ė	ဗ	ž	삙	5	OR-M01
Connector Color GRAY	Q	Æ	>					
01 0	8	7	9	5	4	က	2	-
H.S.	92	17	16	15	4	13	12	骨

Connector Name JOINT CONNECTOR-M0	λt	10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12 11	Signal Name	_	-
me JOII	lor GRAY	20 19 18 17	Color of Wire	Ь	Ъ
Connector Na	Connector Color	H.S.	Terminal No.	11	12

M27	nector Name COMBINATION SWITCH	WHITE	
nnector No.	nector Name	nector Color   WHITE	





Signal Name	1	1	1	1	I	1	1	I	1	1
Color of Wire	GR	BR	M	٦	BG	Υ	Ь	>	GR	G
Terminal No.	2	5	7	8	6	10	11	12	13	14

Connector No.	Š		M41	4						
Connector Name JOINT CONNECTOR-M06	Nai	me	Эſ		É	8	Ž	삙	5	OR-M0
Connector Color BLUE	Sol	or	BI	3	ш					
	[									
唇	₽	6	8	7	6 5		4	က	2	-
Ų.		20 19 18 17 16 15 14 13 12 11	18	17	16	15	14	13	12	[=] '그
Ċ	Ц									h

Signal Name	ı	ı	ı	ı
Color of Wire	Г	Т	Ь	Ь
Terminal No. Wire	6	10	19	20

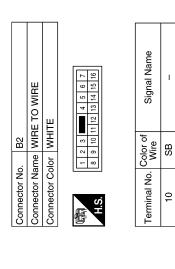
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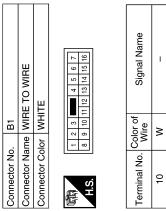
## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

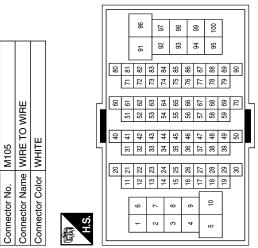
< WIRING DIAGRAM > [LED HEADLAMP]

o. E26  FRONT COMBINATION Ame LAMP LH (WITH HALOGEN HEADLAMPS) Alor GRAY  Color of Signal Name  B/W  T  Y  -  Y	o. E86  FRONT COMBINATION LAMP RH (WITH LED HEADLAMPS)  olor BLACK    Signal Name   Si	
Connector No.  Connector Color  Terminal No.  3  B  5	Connector Name Connector Color H.S.  Terminal No. W 7 8	
20 11 1 6 1 1 2 2 12 12 14 14 14 14 10 5 13 13 13 13 13 13 13 13 13 13 13 13 13	Aame Aame	
MA77   M77   M77	FRONT COMBINATION Imperimentation HEADLAMPS) Isolar BLACK  Signal Name  Wire  Wire  Y	
Connector No.   Connector Name   Connector Name   Connector Color   Str.   St	Connector No. Connector Color H.S. Terminal No. Color 7 B 8	
M50 JOINT CONNECTOR-M03 PINK	FRONT COMBINATION HEADLAMPS) GRAY  or of Signal Name  Tre  Tre  Salan	E
M50 JOINT CO PINK  or of fire  B  B  B  B  B  B  B  B  B  B  B  B  B		
Connector No. Connector Name Connector Name Connector No. H.S.  Terminal No. Col 4 5 5	Connector No.  Connector Name Connector Color  H.S.  H.S.  5 6	

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Signal Name	-	ı	I	
Color of Wire	У	В	<b>\</b>	
Terminal No. Wire	99	99	91	

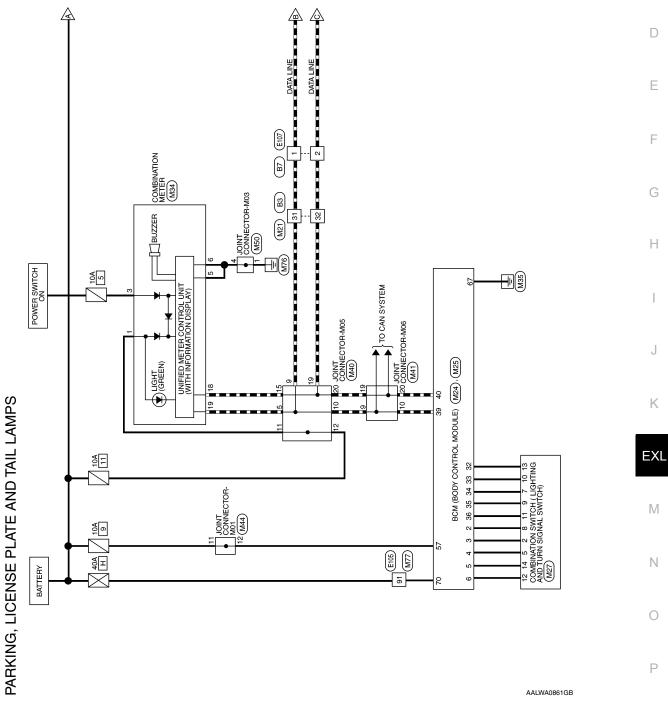
	Connector Name   REAR COMBINATION LAMP LH	11	0 - 0	Signal Name	ı	
. B80	me REA	lor WHITE	2 0	Color of Wire	SB	۵
Connector No.	Connector Na	Connector Color	原列 H.S.	Terminal No. Wire	4	Ľ

	Connector Name REAR COMBINATION LAMP RH	ITE	- 0 - 4 - 0	Signal Name	ı	I
. B59	me RE	lor WF	2 9	Color of Wire	>	В
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	4	5

[LED HEADLAMP] < WIRING DIAGRAM >

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Α Wiring Diagram INFOID:0000000010634548

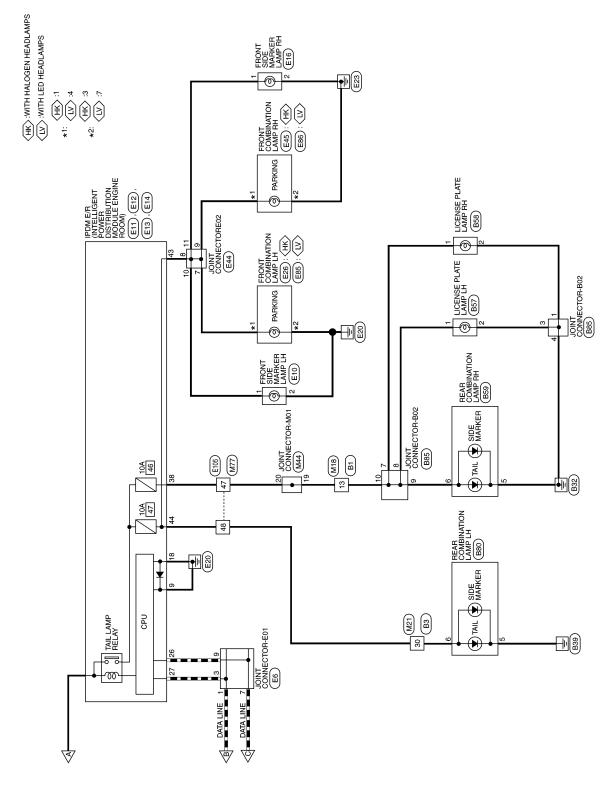


**EXL-65** Revision: June 2014 2015 Leaf NAM

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CONNECTORS	
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ND TAIL I	
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Connector No.	. M18	8	Connector No.	M21	
Connector Name   WIRE TO WIRE	me WIF	RE TO WIRE	Connector Name WIRE TO WIF	ne WIF	E TO WIF
Connector Color WHITE	lor WH	ITE	Connector Color WHITE	or WH	旦
朝 H.S.	7 6 15	6 5 4	(時) H.S. (8 18 28 82 82 82 82 82 82 82 82 82 82 82 82	16 15 14 13 12 11 32 31 30 29 28 27	16 15 14 13 12 11 10 9 32 31 30 29 28 27 26 25
Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Solor of Wire	Sig
13	W	1	30	٦	
			31	_	
			32	Д	

Connector No.	o. M25	
Connector Name		BCM (BODY CONTROL MODULE)
Connector Color WHITE	olor WH	ΠE
H.S.	<u>  56  57</u>	56   57   58   59   60   61   62   63   64   66   67   68   69   70   66   69   70   66   69   70   66   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   69   70   69   70   69   70   69   70   69   70   69   70   69   70   69   70   70   70   70   70   70   70   7
Terminal No. Wire	Color of Wire	Signal Name
22	Ь	BATTERY (FUSE)
29	В	GND
70	<b>\</b>	BATTERY (F/L)

Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	٦	GR	BB	9	۸	GR	٨	Μ	BG	Ь	T	Ь
Terminal No.	2	ε	4	5	9	32	88	34	32	98	39	40

						20	40
			1			<u> </u>	8
						8	88
						17	37
	О					16	36
	<u> </u>					15	35
	Ž					14	34
	$\aleph$					13	33
	≿				117	10 11 12 13 14 15 16 17 18 19	32
	QŒ.				W	Ξ	31
	eاڪا	×			IN.	9	30
4	≅ <u></u> 2	lΑ			$\parallel \parallel \setminus$	6	59
M24	B M	ᅵᆔ				00	28
	O)	_				7	27
ا ر	Ě	ᅙ				9	56
ĕ	ž	ပြ				2	25
b	Ö	ō				4	24
8	ect	당			77	3	23
ΙĒ	Ē	Ē			H.S.	2	22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39
Connector No.	Connector Name   BCM (BODY CONTROL MODULE)	Connector Color BLACK		[階]	4	-	21

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[LED HEADLAMP]

Connector No. M40 Connector Name JOINT CONNECTOR-M05 Connector Color BLUE	H.S.		Terminal No. Wire Signal Name	2	- П	10 L –	11 LG –	12 LG –	15 P		_ 0	-	Connector No. M50	Connector Name JOINT CONNECTOR-M03	Connector Color PINK	H.S.	Terminal No. Wire Signal Name	1 B -	4 B –		
M34 COMBINATION METER WHITE	11   00   00   7   00   00   00   00   0	31 30 29 28 27 28 25 24 23 22 21	Signal Name	BAT	IGN	GND	GND	CAN-L	CAN-H					CONNECTOR-M01		7 6 5 4 3 2 1 17 16 15 14 13 12 11	Signal Name	1	ı	ı	1
Connector No. M34 Connector Name COMBI Connector Color WHITE	H.S.	40 39 38 37 36 35 34 33 32 3	Terminal No. Wire	1 LG	3 GR	ъ В	9 9	18 P	19 L				Connector No. M44	Connector Name JOINT CONNECTOR-M01	Connector Color GRAY	H.S.	Terminal No. Color of Wire	11 P	12 P	19 W	20 W
M27 COMBINATION SWITCH WHITE	3 10 11 12 13 14	Signal Name	1	1	1	1	T	ı	1	-	ı	ı		CONNECTOR-M06		7 6 5 4 3 2 1 17 16 15 14 13 12 11	Signal Name	1	ı	ı	ı
o. M27 ame COMBII	2 8 8	Color of Wire	GR	BB	>	_	BG	>	۵	^	GR	9	). M41	ame JOINT	olor BLUE	10 9 8	Color of Wire	l l	_	۵	<u>а</u>
Connector No. Connector Name Connector Color	明.S.	Terminal No.		2	7	ω -	o	10	11	12	13	14	Connector No.	Connector Name JOINT CONNECT	Connector Color	所.S.H.S.	Terminal No.	6	10	19	20

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< WIRING DIAGRAM > [LED HEADLAMP]

	-	Connector Color   GRAY	H.S.	Terminal No. Color of Wire Signal Name	1 0 -	2 B/W -							Connector No. E13	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Color WHITE	1 28 27 26 25 24 23 44 23 (24 33 22 31 30 22)	Terminal No. Color of Wire Signal Name	26 P CAN-L	-
	JOINT CONNECTOR-E01 BLUE	9 8 7 6 5 4 3 2 1		Signal Name	1	ı								PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	21 20 19 18	Signal Name	S GND	
_	Connector Name JOINT Connector Color BLUE	麻 H.S. [12]11]10]		Terminal No. Wire	1 L	3 L							Connector No. E12	Connector Name POV	Connector Color BRC	H.S.	Terminal No. Wire	18 B/W	
_	Connector Name WIRE TO WIRE Connector Color WHITE	赋 H.S.	60 40 20 71 61 51 41 31 21 11	72 62 52 42 32 22 73 63 53 43 33 23	+	94 86 76 66 56 46 36 26 94 87 77 77 67 57 47 27 27	78 68 58 48 38 28 79 69 59 49 39 29	20 20 30	Terminal No. Color of Signal Name	47 W –	48 L –	91 Y	Connector No. E11	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Color BLACK	11 10 9 14 13 12	Terminal No. Color of Signal Name	9 B POWER GROUND	

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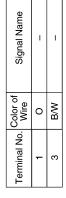
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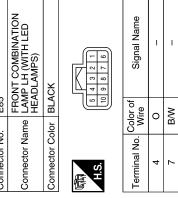
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[LED HEADLAMP]

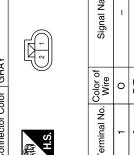
Connector No.	E26
Connector Name	FRONT COMBINATION LAMP LH (WITH HALOGEN HEADLAMPS)
Connector Color GRAY	GRAY
H.S.	(w)

8 3 5 2 1 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	ı	1
	Color of Wire	0	B/W
H.S.	erminal No. Wire	1	3





E16	Connector Name   FRONT SIDE MARKER   LAMP RH	звах	
Connector No.	Connector Name	Connector Color GRAY	

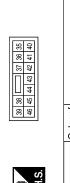


Signal Name	I	-	
Color of Wire	0	B/R	
minal No.	-	2	

Connector No.	E45
Connector Name	Connector Name LAMP RH (WITH HALOGEN HEADLAMPS)
Connector Color GRAY	GRAY

Sign			
Color of Wire	0	В/Υ	
Terminal No.	-	3	

Connector No.	E14
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BROWN	BROWN



Terminal No. Color of Wire 38 LG 38 R 43 O 44 B	Signal Name	TAIL 1 (WITHOUT SOLAR CELL)	TAIL 1 (WITH SOLAR CELL)	CLEARANCE/L LH	TAIL 2
38 38 43 44	Color of Wire	ГВ	В	0	В
Tern	Terminal No.	88	38	43	44

Connector No.	E44
Connector Name	Connector Name JOINT CONNECTOR-E02
Connector Color BLUE	BLUE
12 H.S.	12 11 10 9 8 7 6 5 4 3 2 1

Signal Name	ı	_	_	ı	-
Color of Wire	0	0	0	0	0
Terminal No. Wire	7	8	6	10	11

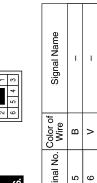
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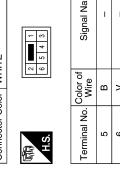
[LED HEADLAMP] < WIRING DIAGRAM >

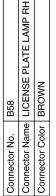
Connector Name WIRE TO WIRE  Connector Color WHITE  LS	8	Connector No.   B7
Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.  11 21 21 31 41 51 61 77 81		Connector Name WIRE TO WIRE  Connector Color WHITE  Connector Color WHITE  Terminal No. Wire  30 GR  31 L  32 P  32 P  33
Connector Name LAMP RH (WITH LED HEADLAMPS)  Connector Color BLACK  S 4 3 2 1  H.S.		Signal Name   Signal Name

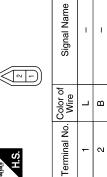
**EXL-71** Revision: June 2014 2015 Leaf NAM

Connector Name REAR COMBINATION LAMP RH Connector Color WHITE	Connector No.	B59
Connector Color WHITE	Connector Name	REAR COMBINATION LAMP RH
	Connector Color	WHITE









+	_	
	. Color	
	Connector Color	H.S.
	0	

	Connector Name LICENSE PLATE LAMP LI	BROWN		Signal Name	ı	1
B22/	me LICI			Color of Wire	8	В
Connector No.	Connector Na	Connector Color	南 H.S.	Terminal No.	-	2

B85	Connector Name JOINT CONNECTOR-B02	BLACK	
Connector No.	Connector Name	Connector Color BLACK	

JOINT CONNECTOR-B02	BLACK	8   7   6   5   4   3   2   1   1   1   1   1   1   1   1   1	Signal Name	1	-	I	_	_	I	-
Ime JOI	_	10 9	Color of Wire	В	В	В	_	Μ	>	۸
Connector Name	Connector Color	原码 H.S.	Terminal No.	1	3	4	7	8	6	10

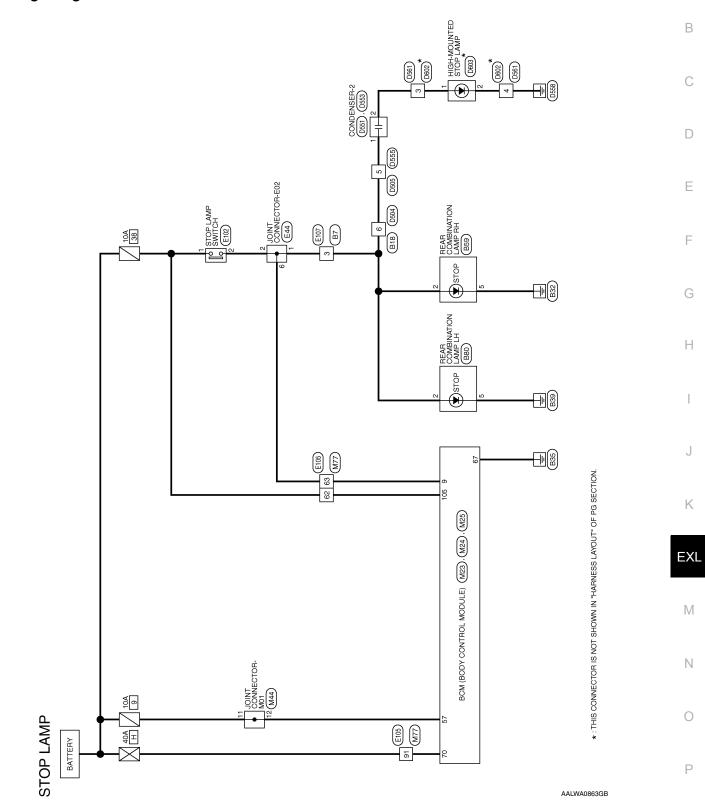
	REAR COMBINATION LAMP LH	ITE	6 5 4 3	Signal Name	ı	-
. B80		lor WHITE		Color of Wire	В	GR
Connector No.	Sonnector Name	Connector Color	所 H.S.	Color of Wire	5	9

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# STOP LAMP

Wiring Diagram



Connector Name BCM (BODY CONTROL MODULE)

M25

Connector No.

Connector Color WHITE

# STOP LAMP CONNECTORS

	M23	Connector No.	M24
lame	ame BCM (BODY CONTROL MODULE)	Connector Name	me BCM (BODY CONTROL MODULE)

Connector Color | BLACK



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			,		
	8	96 97 98 99 100101102103104105106107108109110			
	88	109			_
	88	8			
	87	107			
	88	106		_ <u>@</u>	5
	85 86	105		Signal Name	סואוט בואוט
		호		<u>Z</u>	ш
	8	20		l a	>
117	72 73 74 75 76 77 78 79 80 81 82 83 84	20		Sig.	מ
- IV	8	5		''	-
- IN	8	9			
	62	66			L
	82	88			L
	17	97		응통	}
	9/	8		0	
	75	92		<u>o</u>	
	74	92 93 94 95		=	
48	73	93		l a	10.
H.S.	72	35		Ē	٦
7	7	9		Terminal No. Wire	
					_

Signal Name	BATTERY (FUSE)	GND	BATTERY (F/L)
Color of Wire	۵	В	Υ
Terminal No.	57	29	20

	_			
22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40				
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38				
37				
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엃		<u>Z</u>	Щ	
ಜ		l a	¥	
33		Signal Name	BRAKE SW1	
3		"	_	
8				
29		-		
28		Color of Wire		
27		응통	BR	
26		o -		
22		0		
24		<u>Z</u>		
33		l la	6	
52		erminal No.		

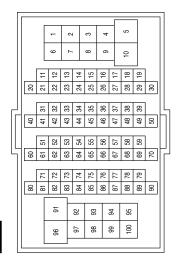
BRAKE SW	BR	6
Signal Name	Color of Wire	Terminal No.



Signal Name	ı	ı	I	
Color of Wire	>	BR	<b>\</b>	
Terminal No.	62	63	91	

Connector No.	M77
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE





2 2000		77	_						
COLINECTOR INC.		W144	_						
Connector Name JOINT CONNECTOR-M01	Vame			ŏ	۱ <u>۲</u>	z		12	R-M01
Connector Color GRAY	Solor	GR,	≿						
	10	0 9 8 7 6 5 4 3 2	7	9	5	4	3	2	-
V T	20     19     18     17     16     15     14     13     12     11	9 18	17	16	15	14	13	12	骨
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Signal Name	ı	I	
Color of Wire	Ь	Ь	
Terminal No.	11	12	

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		А
	WIRE   8 9 10 11 12   9 20 21   22 22 24	В
	Sign Sign Sign Sign Sign Sign Sign Sign	С
	Connector No. E107 Connector Name WIRE TO WIRE Connector Color WHITE  H.S. 1 2 3 4 5 6 7 8 9 9 13 14 15 16 17 18 19 20 21  Terminal No. Wire Signa 3 SB SB	D
	Connector No. Connector Connector Colo Connector Colo Terminal No.  3	Е
		F
IP SWITCH Signal Name	Signal Name	G
TE LAM		Н
Ook V V V	Color of Wire SB X	I
Connector No. Connector Name Connector Color H.S.  Terminal No.  2 S	Terminal No.	J
	98 98 98 99 100 100 100 100 100 100 100 100 100	K
TOR-E02	77 7 8 8 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9	EXL
CONNECTOR-E	95 HT E TO WIRE 11T E 11T E	M
No. E44 Name JOINT Color BLUE	Ame WIRE 200 WHITE 200 WHI	N
Connector No. E44  Connector Name JOINT CONNECTOR-E02  Connector Color BLUE  Terminal No. Color of Signal Name  1 SB -  2 SB -  6 SB -	Connector No. E105  Connector Name WIRE TO WIRE  Connector Color WHITE  LS. 1 12 22 22 42 22 22 22 22 22 22 22 22 22 22	0
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		Р

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Connector No. B59 Connector Name REAR COMBINATION LAMP RH Connector Color WHITE	Terminal No. Color of Signal Name  2	Connector No. D505  Connector Name WIRE TO WIRE  Connector Color WHITE    5 4     9 8 7 6     12 11 10 9 8 7 6	Terminal No. Color of Signal Name Signal Name 5 R –
Connector No. B18  Connector Name WIRE TO WIRE  Connector Color WHITE  1 2 3 4 5 6  1 2 3 7 8 9 10 11 12 13 19 20	Terminal No. Color of Wire 6 BR –	Connector No. D504  Connector Name WIRE TO WIRE  Connector Color WHITE  6 5 4 3 2 1  120 19 13 12 11 10 9 8 7	Terminal No. Color of Signal Name 6 R -
Connector No. B7  Connector Color WHITE  Connector Color WHITE  H.S. TE 11 10 9 8 7 6 5 4 3 2 1  TE 11 10 9 8 7 6 5 4 3 2 1  TE 11 10 9 8 7 6 5 4 3 2 1  TE 11 10 9 8 7 6 5 4 3 2 1  TE 11 10 9 8 7 6 5 4 3 2 1  TE 11 10 9 8 7 6 5 4 3 2 1	Terminal No. Color of Signal Name  3 Y –	Connector No. B80  Connector Name REAR COMBINATION  LAMP LH  Connector Color WHITE  L2	Terminal No. Color of Signal Name Wire S SB 5 B

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Connector No. D553 Connector No. D555	Connector Name CONDENSER-2 Connector Name WIRE TO WIRE	Connector Color BLACK Connector Color WHITE	H.S. (6 7 8 9 10 11 12	Terminal No. Color of Wire Signal Name Terminal No. Color of Wire Signal Name	2 R - 5	
D551	Connector Name CONDENSER-2	BLACK	-	olor of Signal Name	ı	
Connector No. D551	Connector Name	Connector Color BLACK	H.S.	Terminal No. Wire	1	

2	IE TO WIRE	<u> </u>	4	Signal Name	I	ı
. D602	me WIR	lor WHI		Color of Wire	Ж	Ω
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Color of Wire	3	4
			· <u> </u>			
				lame		

Connector Name WIRE TO WIRE

Connector No. D561

Connector Color WHITE

Signal Name	-	1
Color of Wire	В	В
Terminal No.	3	4

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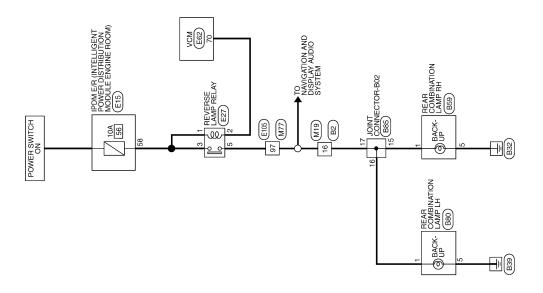
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# **BACK-UP LAMP**

Wiring Diagram

INFOID:0000000010634550

RC : WITH REAR VIEW MONITOR



**BACK-UP LAMP** 

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Connector No.	M19	Connector No. M77	M77	Terminal No Color of	or of Signal Name	ame
Connector Name WIRE TO WIRE	WIRE TO WIRE	Connector Name	Connector Name WIRE TO WIRE	×		
Connector Color WHITE	WHITE	Connector Color WHITE	WHITE	97	- 5	
(15   15   16   16	7 6 5 4 3 2 1 16 15 14 13 12 11 10 9 8	顾 H.S.				
				Г		
Terminal No. Color of Wire	or of Signal Name	08 88	71 61 51 41 31 21 11			
16 G	- 5	96 91 82	72 62 52 42 32 22 12 6 1			
		97 99 98 93 95 55 57 99 94 98 95 95 95 95 95 95 95 95 95 95 95 95 95	73 66 56 44 34 22 13 13 7 2 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7			

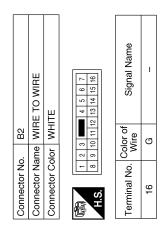
Connector No.	E15	Connector No.	r No.   E27		Connector No.	. E62	
	IPDM E/R (INTELLIGENT	T Connector Name	· Name REV	REVERSE LAMP RELAY	Connector Name VCM	me VCM	
onnector Name	POWER DISTRIBUTION MODULE ENGINE ROOM)	M) Connector Color	r Color BLUE	ш	Connector Color	lor BROWN	NN
Connector Color	WHITE			F			
高 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	52 51 50 60 59 58 57 56 55 54 64 64 67 64 68 67 68 67 68 67 67 67 67 67 67 67 67 67 67 67 67 67	H.S.			S. 66 79 892 892	67 68 69 70 1	86 (89 (70   71   72   73   74   75   77   78   78
					118	119 120 121 122	1106107108 108 110 11 11 11 11 11 11 11 11 11 11 11 11
Terminal No. Color of Wire	or of Signal Name	Terminal N	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
58 (	O REV LAMP POWER	H.	0	1	70	SB	REVERSE LAMP
		2	SB	ı			
		ო	0	1			
		Ω	g	1			

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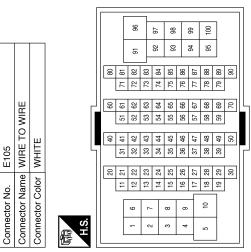
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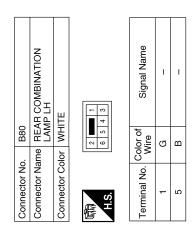
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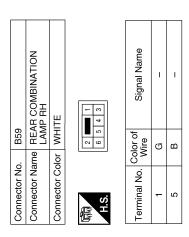


Signal Name	I	
Color of Wire	g	
Terminal No.	26	



Connector No.		B85
Connector Name		JOINT CONNECTOR-B02
Connector Color		BLACK
H.S.	9 8 8 8	7 6 5 4 3 2 1 17 16 15 14 13 12 11
Terminal No.	Color of Wire	of Signal Name
15	G	1
16	മ	I
17	g	ı





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# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

**OVERALL SEQUENCE** 

D Inspection start Е 1. Get information for symptom Get the detailed information about symptom from the customer 2. Check DTC Print out DTC and freeze frame data (or, write it down). Check related service bulletines. Symptom is described. Symptom is not described. Symptom is described. DTC is detected. DTC is detected. DTC is not detected. 3. Confirm the symptom 4. Confirm the symptom Try to confirm the symptom described Try to confirm the symptom described by the customer. by the customer. Also study the normal operation and failsafe related to the symptom. 5. Perform DTC CONFIRMATION PROCEDURE 6. Detect malfunctioning system by K SYMPTOM DIAGNOSIS 7. Detect malfunctioning part by Diagnosis Procedure Symptom is **EXL** Symptom is not described. 8. Repair or replace the malfunctioning part Check input/output signal or voltage DTC is 9. Final check Ν Symptom remains. detected. Check that the symptom is not detected. Perform DTC Confirmation Procedure again, and then check that the malfunction is repaired. DTC is not detected. Symptom does not remain. INSPECTION END Р

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## DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION > [LED HEADLAMP]

# 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 <u>BCS-47</u>, "<u>DTC Inspection Priority Chart</u>" (BCM) or <u>PCS-19</u>, "<u>DTC Index</u>" (IPDM E/R), 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 GI-53, "Intermittent Incident".

## $oldsymbol{6}$ .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.

# 7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

# **DIAGNOSIS AND REPAIR WORKFLOW** [LED HEADLAMP] < BASIC INSPECTION > Inspect according to Diagnostic Procedure of the system. Α Is malfunctioning part detected? YES >> GO TO 8. NO >> Check according to GI-53, "Intermittent Incident". В 8.repair or replace the malfunctioning part Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement. Check DTC. If DTC is detected, erase it. D >> GO TO 9. 9. FINAL CHECK When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the Е malfunction is repaired securely. When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected. F Is DTC detected and does symptom remain? YES-1 >> DTC is detected: GO TO 7. YES-2 >> Symptom remains: GO TO 4. >> Before returning the vehicle to the customer, always erase DTC. NO Н K **EXL**

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## LED HEADLAMP OPERATION INSPECTION

< BASIC INSPECTION > [LED HEADLAMP]

## LED HEADLAMP OPERATION INSPECTION

# Diagnosis Procedure

INFOID:0000000010634552

# 1. CHECK START

- 1. In the cool LED status (wait for more than 10 minutes after turning headlamp OFF), turn ON and turn OFF headlamp for the several times. Check that headlamp operates normally each time.
- In the cool LED status, turn headlamp ON, wait until headlamp enters to the stable status (approximately 5 minutes after turning headlamp ON), and then check that headlamp operates normally without blinking or flickering.
- 3. In the warm LED status (turn headlamp ON for more than 15 minutes and wait for 1 minute after turning OFF), turn ON and turn OFF headlamp for the several times. Check that headlamp operates normally each time.
- 4. Turn headlamp ON for approximately 30 minutes, and then check that headlamp operates normally without difference in brightness between LH and RH, blinking or flickering.

## Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to EXL-115, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Symptom Table".

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

# DTC/CIRCUIT DIAGNOSIS

# HEADLAMP (HI) CIRCUIT

WITHOUT DAYTIME RUNNING LIGHT SYSTEM

# WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Component Function Check

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# 1. CHECK HEADLAMP (HI) OPERATION

## **PCONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the test items, check that the headlamp (HI) is turned ON.

Hi : Headlamp (HI) ON
Off : Headlamp (HI) OFF

#### NOTE:

ON/OFF is repeated 1 second each.

## Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-85, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

## WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure INFOID:00000010634554

Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

# 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

## (E)CONSULT ACTIVE TEST

- 1. Turn power switch OFF.
- 2. Disconnect front combination lamp connector.
- 3. Turn power switch ON.
- 4. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 5. While operating the test items, check voltage between IPDM E/R harness connector and ground.

	(+) IPDM E/R		(-)	Test item		Voltage (Approx.)
Conr	nector	Terminal				(
RH		49			Hi	Battery voltage
КП	E15	49	Ground	Pround EXTERNAL	Off	0 V
LH	EIS	50	Giodila	LAMPS	Hi	Battery voltage
LH		30			Off	0 V

## Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

- Turn power switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

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< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

	IPDM E/R		Front comb	oination lamp	Continuity
Con	nector	Terminal	Connector	Terminal	Continuity
RH	E15	49	E86	5	Yes
LH	EIS	50	E85	5	165

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 3.CHECK HEADLAMP (HI) FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	51	10 A
Headlamp HI (LH)	IF DIVI E/K	52	10 A

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> GO TO 4.

# 4. CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT

- Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

	IPDM E/R			Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E15	49	Ground	No
LH	E15	50		INO

## Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is blown again.)

NO >> Replace the blown fuse after repairing the affected circuit.

# 5. CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT

- 1. Disconnect front combination lamp connector.
- 2. Check continuity between front combination lamp harness connector and ground.

	Front combination lamp			Continuity
Coni	nector	Terminal	Ground	Continuity
RH	E86	6	Giouria	Yes
LH	E85	O		165

#### Is the inspection result normal?

YES >> Replace headlamp (HI) bulb.

NO >> Repair or replace harness.

## WITH DAYTIME RUNNING LIGHT SYSTEM

## WITH DAYTIME RUNNING LIGHT SYSTEM: Component Function Check INFOID:000000010634555

# 1. CHECK HEADLAMP (HI) OPERATION

#### (P)CONSULT ACTIVE TEST

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the test items, check that the headlamp (HI) is turned ON.

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Hi : Headlamp (HI) ON
Off : Headlamp (HI) OFF

NOTE:

ON/OFF is repeated 1 second each.

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-87, "WITH DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure".

# WITH DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure

INFOID:0000000010634556

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Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

# 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

## PCONSULT ACTIVE TEST

- 1. Turn power switch OFF.
- Disconnect headlamp high connector.
- 3. Turn power switch ON.
- 4. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 5. While operating the test items, check voltage between IPDM E/R harness connector and ground.

(+) IPDM E/R		(−) Test i		item	Voltage (Approx.)							
Conr	nector	Terminal				(, , , , , , , , , , , , , , , , , , ,						
RH		49			Hi	Battery voltage						
КП	E15	49	Craund	Ground	Ground	EXTERNAL	Off	0 V				
	EIS	50	50	50	50			Giodila		LAMPS	Hi	Battery voltage
LΠ	LH 50	30				0 V						

#### Is the inspection result normal?

YES >> GO TO 2. NO >> GO TO 3.

# 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

	IPDM E/R	Front comb		Front combination lamp	
Coni	nector	Terminal	Connector	Terminal	Continuity
RH	E15	49	E86	F	Yes
LH	LIJ	50	E85	5	165

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 3.CHECK HEADLAMP (HI) FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuses are not blown:

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#### < DTC/CIRCUIT DIAGNOSIS >

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	51	10 A
Headlamp HI (LH)	II DIVI L/IX	52	10 A

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> GO TO 4.

# f 4.CHECK HEADLAMP (HI) SHORT CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R				Continuity	
Conr	Connector		Ground	Continuity	
RH	E15	49	Giouria	No	
LH	E13	50		INO	

#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is blown again.)

NO >> Replace the blown fuse after repairing the affected circuit.

## 5. CHECK ILLUMINATION STATUS OF HEADLAMPS

Check illumination status of headlamps.

## Which headlamp does not turn ON?

RH >> GO TO 6.

LH >> GO TO 9.

# 6. CHECK HEADLAMP HI (RH) GROUND OPEN CIRCUIT-1

- Remove daytime running light relay.
- Check continuity between daytime running light relay harness connector and front combination lamp RH harness connector.

Daytime running light relay		Front combin	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
E84	3	E86	6	Yes	

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

# .CHECK HEADLAMP HI (RH) GROUND OPEN CIRCUIT-2

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

Daytime r	unning light relay		Continuity	
Connector	Terminal	Ground	Continuity	
E84	4		Yes	

## Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

# 8.CHECK HEADLAMP HI (RH) DAYTIME RUNNING LIGHT RELAY CIRCUIT

Check continuity between terminal 3 - 4 of daytime running light relay.

Daytime running light relay	Continuity	
Terminal	Continuity	
3 - 4	Yes	

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

## Is the inspection result normal?

YES >> Replace headlamp (HI) bulb. (Bulb socket is abnormal.)

NO >> Replace daytime running light relay.

# $9.\mathsf{CHECK}$ HEADLAMP HI (LH) GROUND OPEN CIRCUIT

Check continuity between front combination lamp LH harness connector and ground.

Front com	bination lamp LH		Continuity
Connector	Terminal	Ground	Continuity
E85	6		Yes

## Is the inspection result normal?

YES >> Replace headlamp (HI) bulb. (Bulb socket is abnormal.)

NO >> Repair or replace harness.

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[LED HEADLAMP]

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INFOID:0000000010634558

# HEADLAMP (LO) CIRCUIT

# Component Function Check

# 1. CHECK HEADLAMP (LO) OPERATION

## **®CONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON
Off : Headlamp (LO) OFF

## Is the inspection result normal?

YES >> Headlamp (LO) circuit is normal.

NO >> Refer to EXL-90, "Diagnosis Procedure".

## Diagnosis Procedure

Regarding Wiring Diagram information. Refer to <a>EXL-31</a>, "Wiring Diagram"</a>.

# 1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

## (R)CONSULT ACTIVE TEST

- Turn power switch OFF.
- 2. Disconnect front combination lamp connector.
- 3. Turn power switch ON.
- 4. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 5. While operating the test items, check voltage between IPDM E/R harness connector and ground.

(+) IPDM E/R		(-) Test		item	Voltage (Approx.)							
Conr	nector	Terminal				(, (pp.ox.)						
RH		52			Lo	Battery voltage						
KII	E15	32	Ground	EXTERNAL	Off	0 V						
LH	EIS	E4	E1	E1	<b>5</b> 1	<b>5</b> 1	E1	51	Ground	LAMPS	Lo	Battery voltage
LII	51				Off	0 V						

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK HEADLAMP (LO) OPEN CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

	IPDM E/R		Front comb	Continuity	
Coni	nector	Terminal	Connector	Terminal	Continuity
RH	E15	52	E86	2	Yes
LH	E15	51	E85	2	165

#### Is the inspection result normal?

YES >> Perform the LED headlamp diagnosis. Refer to <u>EXL-95</u>, "<u>Diagnosis Procedure</u>".

NO >> Repair or replace harness.

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

# 3.CHECK HEADLAMP (LO) FUSE

- Turn power switch OFF.
- 2. Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	54	15 A
Headlamp LO (LH)	IF DIVI E/IX	53	13 A

## Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> GO TO 4.

# 4.CHECK HEADLAMP (LO) SHORT CIRCUIT-1

- Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E15	52	Ground	No
LH	L13	51		INU

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace the blown fuse after repairing the affected circuit.

## $oldsymbol{5}.$ CHECK HEADLAMP (LO) SHORT CIRCUIT-2

## (P)CONSULT ACTIVE TEST

- Replace fuse.
- Connect IPDM E/R connector.
- Turn power switch ON.
- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- Check that fuse is not blown when Lo button is operated.

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

# **6.**CHECK HEADLAMP (LO) SHORT CIRCUIT-3

- Turn power switch OFF.
- 2. Connect front combination lamp connector.
- Check that headlamp turns ON when lighting switch is in the 2ND position.

#### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

>> Replace LED headlamp control module. Refer to EXL-132, "Removal and Installation" NO

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**EXL-91** Revision: June 2014 2015 Leaf NAM

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

# Component Function Check

INFOID:0000000010634559

# 1.CHECK DAYTIME RUNNING LIGHT OPERATION

## **(P)CONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check that daytime running light operation.

: EXTERNAL LAMPS Hi On Off : EXTERNAL LAMPS Off

## Is the inspection result normal?

YES >> Daytime running light relay circuit is normal. >> Refer to EXL-92, "Diagnosis Procedure". NO

## Diagnosis Procedure

INFOID:0000000010634560

Regarding Wiring Diagram information. Refer to EXL-36, "Wiring Diagram".

# 1. CHECK DAYTIME RUNNING LIGHT RELAY FUSE

- Turn power switch OFF.
- Check that the following fuse is not blown:

Unit	Fuse No.	Capacity
Daytime running light relay	37	10 A

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

# 2.CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

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

(+) Daytime running light relay		(-)	Voltage (Approx.)	
Connector	Terminal		( +	
E84	1	Ground	Ratteny voltage	
E0 <del>4</del>	5	Ground	Battery 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 EXL-93, "Component Inspection".

## Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace daytime running light relay.

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

#### CONSULT ACTIVE TEST

- Install daytime running light relay.
- Turn power switch ON.

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

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- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test item, check voltage between IPDM E/R harness connector and ground.

	+) M E/R	(-)	Test item		Voltage (Approx.)
Connector	Terminal				, , ,
E13	28	Ground	External Lamps	On	0 V
EIS	20	Ground	External Lamps	Off	Battery voltage

## Is the inspection result normal?

>> Daytime running light relay circuit is OK.

NO-1 (Fixed at 0 V)>>GO TO 5.

NO-2 (Fixed at battery voltage) >>Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

# ${f 5.}$ CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OPEN CIRCUIT

- 1. Turn power switch OFF.
- 2. Remove daytime running light relay.
- 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 running light relay		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E13	28	E84	2	Yes

## Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

# $oldsymbol{6}$ .CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL SHORT CIRCUIT

Check continuity between IPDM E/R harness connector and ground.

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E13	28		No

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Repair or replace harness.

# Component Inspection

# 1.CHECK DAYTIME RUNNING LIGHT RELAY

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

Da	Daytime running light relay		Condition		Continuity
	Terminal				
	5			Apply	Yes
E84		2	Voltage	Not Apply	No
E0 <del>4</del>	4		voltage	Apply	No
				Not Apply	Yes

#### Is the inspection result normal?

YES >> Daytime running light relay is normal.

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## **DAYTIME RUNNING LIGHT RELAY CIRCUIT**

[LED HEADLAMP]

NO >> Replace daytime running light relay.

## LED HEADLAMP

## < DTC/CIRCUIT DIAGNOSIS >

## [LED HEADLAMP]

## LED HEADLAMP

# Diagnosis Procedure

INFOID:0000000010634562

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Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

# 1. CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect front combination lamp connector.
- 3. Check continuity between front combination lamp harness connector and ground.

Front combination lamp				Continuity
Coni	Connector Terminal		Ground	Continuity
RH	E86	0	Ground	Yes
LH	E85	9		168

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

# 2.CHECK LED HEADLAMP CONTROL MODULE

Install the normal LED headlamp control module to the applicable headlamp. Check that the lighting switch is turned ON. Refer to <u>EXL-84</u>, "<u>Diagnosis Procedure</u>".

#### Is the headlamp turned ON?

YES >> Replace LED headlamp control module. Refer to EXL-132, "Removal and Installation".

NO >> GO TO 3.

# 3.CHECK HEADLAMP

Install the normal headlamp to the applicable headlamp. Check that the headlamp is turned ON. Refer to <u>EXL-84</u>, "<u>Diagnosis Procedure</u>".

#### Is the headlamp turned ON?

YES >> Replace headlamp. Refer to EXL-132, "Removal and Installation".

NO >> LED headlamp is normal. Check headlamp control system.

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[LED HEADLAMP]

INFOID:0000000010634563

## HEADLAMP WARNING LAMP

# **Component Function Check**

# 1. CHECK HEADLAMP WARNING LAMP OPERATION

- Turn power switch OFF.
- Disconnect front combination lamp connector.
- 3. Check that headlamp warning lamp on combination meter turns ON when power switch is turned ON.

#### Is the inspection result normal?

YES >> Headlamp warning lamp is normal.

NO >> Refer to EXL-96, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000010634564

Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

# 1.LED HEADLAMP CONTROL MODULE FUSE

- Turn power switch OFF.
- Check that the following fuse is not blown:

Unit	Fuse No.	Capacity
LED headlamp control module	5	10 A

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Disconnect front combination lamp connector.
- 2. Turn power switch ON.
- 3. Check voltage between front combination lamp harness connector and ground.

(+) Front combination lamp		(-)	Voltage (Approx.)	
Cor	nnector	Terminal		
RH	E86	2	Ground	Battery voltage
LH	E85	2		

## Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK HEADLAMP WARNING LAMP SIGNAL CIRCUIT

Check voltage between front combination lamp harness connector and ground.

(+) Front combination lamp		(-)	Voltage (Approx.)		
Cor	nnector	Terminal			
RH	E86	1	Ground	Ground Less than 0.5 V	Less than 0.5 V
LH	E85	1			

## Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace LED headlamp control module. Refer to <a href="EXL-132">EXL-132</a>, "Removal and Installation".

## **HEADLAMP WARNING LAMP**

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

# 4. CHECK HEADLAMP WARNING LAMP SIGNAL SHORT CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect combination meter connector.
- 3. Check continuity between combination meter harness connector and ground.

	Combination meter			Continuity
	Connector	Terminal	Ground	Continuity
RH	M34	38	Ground	No
LH	- IVI34	39		INO

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 5. CHECK COMBINATION METER

Check combination meter. Refer to MWI-80, "Work flow".

## Is the inspection result normal?

YES >> Refer to EXL-123, "Diagnosis Procedure".

NO >> Repair or replace malfunctioning part.

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[LED HEADLAMP]

## PARKING LAMP CIRCUIT

# Component Function Check

INFOID:0000000010634565

# 1. CHECK PARKING LAMP OPERATION

## **(P)CONSULT ACTIVE TEST**

- 1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
Off : Parking lamp OFF

#### Is the inspection result normal?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-98, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000010634566

Regarding Wiring Diagram information. Refer to EXL-65, "Wiring Diagram".

# 1. CHECK PARKING LAMP FUSE

- 1. Turn power switch OFF.
- Check that the following fuse is not blown:

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

## Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 2.

# 2.CHECK PARKING LAMP SHORT CIRCUIT

- 1. Disconnect the following connectors:
- IPDM E/R
- Front combination lamps
- Front side marker lamps
- Rear combination lamp (LH)
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R			Continuity	
Connector	Terminal	Ground	Continuity	
E14	43	Ground	No	
	44		NO	

## Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if blown fuse is found again.)

NO >> Replace the blown fuse after repairing the affected circuit.

## 3.CHECK PARKING LAMP BULB

Check applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace bulb.

## **PARKING LAMP CIRCUIT**

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

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# 4. CHECK PARKING LAMP OUTPUT VOLTAGE

## **©CONSULT ACTIVE TEST**

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

(+) IPDM E/R		(-) Test		i item	Voltage (Approx.)
Connector	Terminal				( )
E14	E14 43 G	Ground	EXTERNAL	TAIL	Battery voltage
⊏14	43	Ground	LAMPS	Off	0 V

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

# 5. CHECK PARKING LAMP OPEN CIRCUIT

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

IPDM E/R		Front combination lamp		Continuity		
Coni	nector	Terminal	Connector Terminal		Continuity	
RH	E14	43	E86	4	Yes	
LH		43	E85	4		

## Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 6.CHECK PARKING LAMP GROUND OPEN CIRCUIT

Check continuity between front combination lamp harness connector and ground.

Front combination lamp				Continuity
Connector		Terminal	Ground	Continuity
RH	E86	7	Ground	Yes
LH	E85	I		165

#### Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

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## FRONT SIDE MARKER LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

# FRONT SIDE MARKER LAMP CIRCUIT

# Component Function Check

INFOID:0000000010634567

## 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 EXL-98, "Component Function Check".

# 2.CHECK FRONT SIDE MARKER LAMP OPERATION

## CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While 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

## Is the inspection result normal?

YES >> Front side marker lamp circuit is normal.
NO >> Refer to <u>EXL-100</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000010634568

Regarding Wiring Diagram information. Refer to EXL-65, "Wiring Diagram".

# 1. CHECK FRONT SIDE MARKER LAMP BULB

Check applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

# 2.CHECK FRONT SIDE MARKER LAMP OPEN CIRCUIT

- 1. Turn power switch OFF.
- 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	Connector Terminal Co		Connector	Terminal	Continuity
RH	E14	43	E16	1	Yes
LH E14	43	E10	1	165	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3.CHECK FRONT SIDE MARKER LAMP GROUND OPEN CIRCUIT

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

Front side marker lamp				Continuity
Connector Terminal		Ground	Continuity	
RH	E16	2	Ground	Yes
LH	E10			165

#### Is the inspection result normal?

## FRONT SIDE MARKER LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

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[LED HEADLAMP]

## TAIL LAMP CIRCUIT

# **Component Function Check**

INFOID:0000000010634569

# 1. CHECK TAIL LAMP OPERATION

## **©CONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check that the tail lamp is turned ON.

TAIL : Tail Lamp ON Off : Tail lamp OFF

## Is the inspection result normal?

YES >> Tail lamp circuit is normal.

NO >> Refer to EXL-102, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:000000010634570

Regarding Wiring Diagram information. Refer to <a>EXL-65</a>, "Wiring Diagram".

# 1. CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

## Is the inspection result normal?

YES-1 [When tail lamp (LH) does not turn ON.]>>GO TO 5.

YES-2 [When tail lamp (RH) does not turn ON.]>>GO TO 2.

NO >> Check parking lamp circuit. Refer to <a href="EXL-98">EXL-98</a>, "Component Function Check".

# 2.CHECK TAIL LAMP (LH) FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuse is not blown:

Unit	Location	Fuse No.	Capacity
Tail lamp (RH)	IPDM E/R	46	10 A

#### Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 4.

# $3.\mathsf{CHECK}$ TAIL LAMP (RH) OUTPUT VOLTAGE

## **®CONSULT ACTIVE TEST**

- 1. Disconnect rear combination lamp (RH) connector.
- Turn power switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 4. While operating the test items, check voltage between IPDM E/R harness connector and ground.

(+) IPDM E/R		(-)	Tesi	t item	Voltage (Approx.)
Connector	Terminal				
E14	E14 38	Ground	EXTERNAL	TAIL	Battery voltage
C14 .	36		LAMPS	Off	0 V

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

## TAIL LAMP CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

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# 4. CHECK TAIL LAMP (RH) SHORT CIRCUIT

- 1. Disconnect IPDM E/R connector and rear combination lamp (RH) connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R			Continuity	
Connector Terminal		Ground	Continuity	
E14	38		No	

## Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if blown is found again.)

NO >> Replace the blown fuse after repairing the affected circuit.

## 5. CHECK TAIL LAMP OPEN CIRCUIT

Turn power switch OFF.

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	
Coni	nector	Terminal	Connector Terminal		Continuity
RH	E14	38	B59	6	Yes
LH	E14	44	B80	6	res

## Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 6.CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

Rear combination lamp				Continuity
Connector		Terminal	Ground	Continuity
RH	B59	5	Ground	Yes
LH	B80	5		ies

## Is the inspection result normal?

YES >> Replace rear combination lamp. Refer to <u>EXL-132</u>, "Removal and Installation".

NO >> Repair or replace harness.

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[LED HEADLAMP]

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# LICENSE PLATE LAMP CIRCUIT

# **Component Function Check**

1. CHECK TAIL LAMP (RH) OPERATION

Check that the tail lamp (RH) is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to <a href="EXL-102">EXL-102</a>, "Component Function Check".

2.CHECK LICENSE PLATE LAMP OPERATION

## **PCONSULT ACTIVE TEST**

- 1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the lighting switch, check that the license plate lamp is turned ON.

TAIL : License plate lamp ON
Off : License plate lamp OFF

## Is the inspection result normal?

YES >> License plate lamp circuit is normal.

NO >> Refer to EXL-104, "Diagnosis Procedure".

## Diagnosis Procedure

Regarding Wiring Diagram information. Refer to EXL-65, "Wiring Diagram".

# 1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

# 2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

- Turn power switch OFF.
- Disconnect IPDM E/R connector and license plate lamp connector.
- 3. Check continuity between IPDM E/R harness connector and license plate lamp harness connector.

IPDM E/R		License plate lamp		Continuity	
Co	onnector	Terminal	Connector	Terminal	Continuity
RH	E14		B58	1	Yes
LH		30	B57	Ţ	163

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

Check continuity between license plate lamp harness connector and ground.

Connector         Terminal           RH         B58           LH         B57   2 Yes		License plate lan		Continuity	
RH B58 Yes	Connector Terminal			Ground	Continuity
	RH	B58	2	Ground	Voc
	LH	B57	2		ies

#### Is the inspection result normal?

## LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

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## FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

## FRONT FOG LAMP CIRCUIT

# Component Function Check

INFOID:0000000010634573

# 1. CHECK FRONT FOG LAMP OPERATION

## **(P)CONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check that the front fog lamp is turned ON.

Fog : Front fog lamp ON
Off : Front fog lamp OFF

#### Is the measurement normal?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-106, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000010634574

Regarding Wiring Diagram information. Refer to EXL-55, "Wiring Diagram".

# 1. CHECK FRONT FOG LAMP FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuse is not blown:

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

## Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 2.

# 2. CHECK FRONT FOG LAMP SHORT CIRCUIT

- 1. Disconnect front fog connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and ground.

	IPDM E/R		Continuity		
Conr	nector	Terminal	Ground	Continuity	
RH	RH E12		Giodila	No	
LH	E12	20		INO	

#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is blown again.)

NO >> Replace the blown fuse after repairing the affected circuit.

# 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace bulb.

# 4. CHECK FRONT FOG LAMP OUTPUT VOLTAGE

## **©CONSULT ACTIVE TEST**

- Disconnect front fog lamp connector.
- Turn power switch ON.
- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".

## FRONT FOG LAMP CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

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

(+) IPDM E/R			(-)	Test item		Voltage (Approx.)
Connector Terminal		Terminal	1			(, (55,0))
ВΠ	RH E12		Ground	EXTERNAL	Fog	Battery voltage
IXII					Off	0 V
LH	LIZ	20	Ground	LAMPS	Fog	Battery voltage
LII					Off	0 V

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

# 5. CHECK FRONT FOG LAMP OPEN CIRCUIT

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

	IPDM E/R		Front f	Continuity	
Connector		Terminal	Connector Terminal		Continuity
RH	E12	19	E48	1	Yes
LH	EIZ	20	E30	- 	162

## Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

# 6.CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

Check continuity between front fog lamp harness connector and ground.

	Front fog lamp		Continuity		
Con	nector	Terminal	Ground	Continuity	
RH	E48	2	Giouria	Yes	
LH	E30	2		res	

## Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace harness.

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## **TURN SIGNAL LAMP CIRCUIT**

[LED HEADLAMP]

## TURN SIGNAL LAMP CIRCUIT

# **Component Function Check**

## INFOID:000000010634575

# 1. CHECK TURN SIGNAL LAMP

## **©CONSULT ACTIVE TEST**

- Select "FLASHER" in "Active Test" of "BCM (FLASHER)".
- 2. While operating the test items, check that the turn signal lamps is turned ON.

LH : Turn signal lamps (LH) ONRH : Turn signal lamps (RH) ONOff : Turn signal lamps OFF

## Is the inspection result normal?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-108, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000010634576

Regarding Wiring Diagram information. Refer to EXL-60, "Wiring Diagram".

## 1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

# 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

- 1. Turn power switch OFF.
- 2. Disconnect front combination lamp connector and rear combination lamp connector.
- 3. Turn power switch ON.
- 4. While operating the turn signal switch, check voltage between BCM harness connector and ground.

(+) BCM			(–)	(–) Condition		Voltage (Approx.)	
	Connector	Terminal					
LH		60			LH	(V) 15 10 5 0 1 s	
	M25		Ground	Turn signal	OFF	0 V	
RH	WEG	61		switch	RH	(V) 15 10 5 0 1 s PKID0926E	
					OFF	0 V	

### TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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YES >> GO TO 3.

NO >> GO TO 4.

# 3.check turn signal lamp open circuit

- 1. Turn power switch OFF.
- 2. Disconnect BCM connector.
- 3. Check continuity between BCM harness connector and front combination lamp, side turn signal lamp or rear combination lamp harness connector.

Front turn signal lamp

BCM			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	Continuity
RH	M25	61	E86	Q	Yes
LH	WZ5	60	E85	8	res

Rear turn signal lamp

	BCM			Rear combination lamp		
Connector		Terminal	Connector	Terminal	Continuity	
RH	M25	61	B59	4	Yes	
LH	IVIZO	60	B80	4	res	

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### 4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between BCM harness connector and ground.

	BCM		Continuity		
Conr	Connector		Ground	Continuity	
RH	RH		Giodila	No	
LH	M25	60		INO	

### Is the inspection result normal?

YES >> Check each bulb socket for internal short circuit, and if check result is normal, replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

### CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check continuity between BCM harness connector and front combination lamp or rear combination lamp and ground.

Front turn signal lamp

	Front combinatio	n lamp			
	Connector	Terminal	Ground	Continuity	
RH	E86	7	Ground	Yes	
LH	E85	,		165	

Rear turn signal lamp

	Rear combination	lamp		Continuity	
 Connector Terminal			Ground	Continuity	
 RH	B59	7	Olouna	Yes	
LH	B80	ı		163	

#### Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

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### **OPTICAL SENSOR**

### **Component Function Check**

INFOID:0000000010634577

### 1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

### **©CONSULT DATA MONITOR**

- Turn power switch ON.
- Select "OPTISEN (DTCT)" in "Data Monitor" of "BCM (HEADLAMP)".
- 3. Turn lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

Monitor item		Condition	Voltage (Approx.)
OPTISEN (DTCT)	Optical sensor	When illuminating	3.1 V or more *
Of Holly (DTOT)	Optical serisor	When shutting off light	3.1 V or more * 0.6 V or less

<sup>\*:</sup> 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-110, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000010634578

Regarding Wiring Diagram information. Refer to EXL-42, "Wiring Diagram".

## 1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

	(+)		Valla
Optica	al sensor	(–)	Voltage (Approx.)
Connector	Terminal		, ,
M16	1	Ground	5 V

### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

# 2.CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

	(+)		Mallana
Optica	al sensor	(–)	Voltage (Approx.)
Connector	Terminal		, , ,
M16	3	Ground	0 V

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

### 3. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

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(+ Optical :	•	(–)		Condition	Voltage (Approx.)
Connector	Terminal				(
M16	2	Ground	Optical sensor	When illuminating	3.1 V or more *
WITO	2	Ground	Optical serisor	When shutting off light	0.6 V or less

<sup>\*:</sup> Illuminate the optical sensor. The value may be less than the standard if brightness is weak.

### Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the optical sensor. Refer to EXL-139, "Removal and Installation".

### 4. CHECK OPTICAL SENSOR OPEN CIRCUIT

Turn power switch OFF.

2. Disconnect optical sensor connector and BCM connector.

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

Optical sensor		В	Continuity	
Connector	Connector Terminal		Terminal	Continuity
M16	1	M24	17	Yes

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### ${f 5.}$ CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optica	l sensor		Continuity
Connector	Connector Terminal		Continuity
M16	1		No

### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

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

- Turn power switch OFF.
- Disconnect optical sensor connector and BCM connector. 2.
- Check continuity between optical sensor harness connector and BCM harness connector.

Optica	Optical sensor		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M16	3	M24	18	Yes

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

### .CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

- Turn power switch OFF.
- Disconnect optical sensor connector and BCM connector.
- Check continuity between optical sensor harness connector and BCM harness connector.

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### **OPTICAL SENSOR**

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Optica	sensor BCM		ВСМ	
Connector	Terminal	Connector	Terminal	Continuity
M16	2	M24	14	Yes

### Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

# 8.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optical sensor			Continuity
Connector	Terminal	Ground	Continuity
M16	2		No

### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-72</u>, "Removal and Installation".

NO >> Repair or replace harness.

### HAZARD SWITCH

### Component Function Check

### INFOID:0000000010634579

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# 1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

### **(P)CONSULT DATA MONITOR**

- Turn power switch ON.
- Select "HAZARD SW" in "Data Monitor" of "BCM (FLASHER)".
- 3. While operating the hazard switch, check the monitor status.

Monitor item	Condition		Monitor status	
HAZARD SW	Hazard switch	ON	ON On	
TIAZAIND OW	Hazard switch	OFF	Off	

### Is the inspection result normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-113, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000010634580

Regarding Wiring Diagram information. Refer to EXL-60, "Wiring Diagram".

### 1. CHECK HAZARD SWITCH SIGNAL INPUT

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

	+)	( )	Voltage (Approx.)	
Connector	d switch Terminal	(-)	Voltage (Approx.)	
M45	2	Ground	Battery voltage	

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

YES >> GO TO 4.

NO >> GO TO 2.

### 2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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

Hazaro	d switch	BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M45	2	M24	29	Yes	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3.check hazard switch signal short circuit

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch	Continuity	
Connector	Terminal	Ground	Continuity
M45	2		No

### **HAZARD SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

# 4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch			Continuity
Connector	Terminal	Ground	Continuity
M45	1		Yes

### Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-140, "Removal and Installation".

NO >> Repair or replace harness.

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

# SYMPTOM DIAGNOSIS

# EXTERIOR LIGHTING SYSTEM SYMPTOMS WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Symptom Table

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### **CAUTION:**

Perform the "Self Diagnostic Result" 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	Fuse     Halogen bulb (HI)     Harness between IPDM E/R and front combination lamp     Harness between front combination lamp and ground     IPDM E/R	Headlamp (HI) circuit Refer to EXL-85, "WITHOUT DAY- TIME RUNNING LIGHT SYSTEM: Component Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) A Refer to EXL-121. "WITHOUT DAY Diagnosis Procedure".	RE NOT TURNED ON" YTIME RUNNING LIGHT SYSTEM:
High beam indicator lamp [Headlamp (HI) is turned C		Combination meter	Combination meter     Data monitor "HI-BEAM IND"     BCM (HEAD LAMP)     Active test "HEADLAMP"
Headlamp (LO) is not turned ON. [Headlamp warning lamp is not turned ON.]	One side	Fuse     Harness between IPDM E/R and front combination lamp     IPDM E/R     LED headlamp control module	Headlamp (LO) circuit Refer to EXL-90, "Component Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-123, "Diagnosis Procedure".	
Headlamp (LO) is not turne LED is turned ON. [Headlamp warning lamp is		Front combination lamp     LED headlamp control module     Harness between front combination lamp and ground	LED headlamp Refer to EXL-95, "Diagnosis Proce- dure".
Each lamp is not turned Ol	N/OFF using lighting	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-71, "Symptom Table".
switch AUTO.		Optical sensor     Harness between optical sensor and BCM     BCM	Optical sensor Refer to EXL-110, "Component Function Check".
Parking lamp is not turned ON.		Fuse     Parking lamp bulb     Parking lamp bulb socket     Harness between IPDM E/R and front combination lamp     Harness between front combination lamp and ground     IPDM E/R	Parking lamp circuit Refer to EXL-98, "Component Function Check".

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[LED HEADLAMP]

Symp	otom	Possible cause	Inspection item
Front side marker lamp is not turned ON.		Fuse Front side marker lamp bulb Front side marker lamp bulb socket Harness between IPDM E/R and front side marker lamp Harness between front side marker lamp and ground	Front side marker lamp circuit Refer to EXL-100. "Component Function Check".
Tail lamp and rear side ma ON.	rker lamp are not turned	Fuse     Harness between IPDM E/R and rear combination lamp     Harness between rear combination lamp and ground     Rear combination lamp	Tail lamp circuit Refer to EXL-102, "Component Function Check".
License plate lamp is not to	urned ON.	License plate lamp bulb License plate lamp bulb socket Harness between IPDM E/R and license plate lamp Harness between license plate lamp and ground	License plate lamp circuit Refer to EXL-104, "Component Function Check".
Parking lamp, side marker lamp, tail lamp and license plate lamp are not turned OFF.		Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-124, "Diagnosis Procedure".	
Tail lamp indicator lamp is (Parking lamp, side marke cense plate lamp are turne	r lamp, tail lamp and li-	Combination meter	Combination meter     Data monitor "LIGHT IND"     BCM (HEAD LAMP)     Active test "TAIL LAMP"
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms high flasher acti- vation.)	Turn signal lamp bulb Turn signal lamp bulb socket Harness between BCM and each turn signal lamp	Turn signal lamp circuit Refer to EXL-108, "Component Function Check".
DIIIK.	Indicator lamp is included.	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-71, "Symptom Table".
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (Turn signal lamp is nor- mal.)	Both sides (Always)	Turn signal indicator lamp signal BCM Combination meter	Combination meter     Data monitor "TURN IND"     BCM (FLASHER)     Active test "FLASHER"
	Both sides (Only when activating hazard warning lamp with power switch OFF)	Combination meter power supply and ground circuit     Combination meter	Combination meter Power supply and ground circuit Refer to MWI-85, "COMBINATION METER: Diagnosis Procedure".
Hazard warning lamp does not activate.     Hazard warning lamp continues activating. (Turn signal is normal.)		Hazard switch     Harness between hazard switch and BCM     BCM	Hazard switch Refer to EXL-113, "Component Function Check".

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

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Symptom		Possible cause	Inspection item
One side Front fog lamp is not		<ul> <li>Front fog lamp bulb</li> <li>Harness between IPDM E/R and front fog lamp</li> <li>IPDM E/R</li> </ul> Front fog lamp circuit Refer to <u>EXL-106</u> , "Compon <u>Function Check"</u> .	
turned ON.	Both sides	Symptom diagnosis  "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-125, "Diagnosis Procedure".	
Front fog lamp indicator is not turned ON. (Front fog lamp is turned ON.)		Combination meter	Combination meter     Data monitor "FR FOG IND"     BCM (HEAD LAMP)     Active test "FR FOG LAMP"

### WITH DAYTIME RUNNING LIGHT SYSTEM

### WITH DAYTIME RUNNING LIGHT SYSTEM: Symptom Table

INFOID:0000000010634582

### **CAUTION:**

Perform the "Self Diagnostic Result" with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Syn	nptom	Possible cause	Inspection item
	One side	Fuse     Halogen bulb (HI)     Harness between IPDM E/R and headlamp (HI)     Harness between headlamp (HI) and ground     IPDM E/R	Headlamp (HI) circuit Refer to EXL-86, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".
Headlamp (HI) is not turned ON.		Harness between IPDM E/R and daytime running light relay     Daytime running light relay     IPDM E/R	Daytime running light relay circuit Refer to EXL-92, "Component Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-121, "WITH DAYTIME RUNNING LIGHT SYSTEM: I nosis Procedure".	
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 "HEADLAMP"
One side  Headlamp (LO) is not turned ON.  Both sides		Fuse     Harness between IPDM E/R and headlamp lamp (LO)     IPDM E/R     LED headlamp control module	Headlamp (LO) circuit Refer to EXL-90, "Component Function Check".
		Symptom diagnosis  "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-123, "Diagnosis Procedure".	
Each lamp is not turned ON/OFF with lighting switch AUTO.		Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-71, "Symptom Table".
		Optical sensor     Harness between optical sensor and BCM     BCM	Optical sensor Refer to EXL-110, "Component Function Check".

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[LED HEADLAMP]

Symp	otom	Possible cause	Inspection item
Daytime running light is not turned ON. [Headlamp (HI) is turned ON.]		Fuse Harness between IPDM E/R and daytime running light relay Daytime running light relay IPDM E/R BCM ECM Combination meter	Daytime running light relay circuing Refer to EXL-92, "Component Function Check".     BCM (HEADLAMP)     Data monitor "ENGINE STATE"     Combination meter     Data monitor "PKB SW"     BCM (HEADLAMP)     Active test "DAYTIME RUNNING LIGHT"
Parking lamp is not turned	ON.	Fuse     Parking lamp bulb     Harness between IPDM E/R     and front combination lamp     IPDM E/R	Parking lamp circuit Refer to EXL-98, "Component Function Check".
Front side marker lamp is not turned ON.		Front side marker lamp bulb     Harness between IPDM E/R     and front side marker lamp     Harness between front side marker lamp and ground     IPDM E/R	Front side marker lamp circuit Refer to EXL-100, "Component Function Check".
Tail lamp (Rear side marker lamp) is not turned ON.		Tail lamp bulb Harness between IPDM E/R and rear combination lamp Harness between and rear combination lamp and ground	Tail lamp circuit Refer to EXL-102, "Component Function Check".
License plate lamp is not turned ON.		License plate lamp bulb     Harness between IPDM E/R     and license plate lamp     Harness between license plate lamp and ground	License plate lamp circuit Refer to EXL-104, "Component Function Check".
Parking lamp, side marker lamp, tail lamp and license plate lamp are not turned ON.		Symptom diagnosis  "PARKING, SIDE MARKER, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-124, "Diagnosis Procedure".	
Tail lamp indicator is not turned ON. (Exterior lamps are turned ON.)		Combination meter	Combination meter     Data monitor "LIGHT IND"     BCM (HEADLAMP)     Active test "TAIL LAMP"
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms high flasher acti- vation.)	Turn signal lamp bulb Door mirror Harness between BCM and each turn signal lamp Harness between each turn signal lamp and ground	Turn signal lamp circuit Refer to EXL-108, "Component Function Check".
	Indicator lamp is included.	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-71, "Symptom Table"
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (Turn signal lamp is nor-	Both sides (Always)	Turn signal indicator lamp signal BCM Combination meter	Combination meter     Data monitor "TURN IND"     BCM (FLASHER)     Active test "FLASHER"
mal.)	Both sides (Only when activating hazard warning lamp with power switch OFF)	Combination meter power supply and ground circuit     Combination meter	Combination meter Power supply and ground circuit Refer to MWI-85, "COMBINATION METER: Diagnosis Procedure".

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

Symptom		Possible cause	Inspection item
<ul> <li>Hazard warning lamp does not activate.</li> <li>Hazard warning lamp continues activating.</li> <li>(Turn signal is normal.)</li> </ul>		Hazard switch Harness between hazard switch and BCM Harness between hazard switch and ground BCM BCM	Hazard switch circuit Refer to EXL-113, "Component Function Check".
Front fog lamp is not turned ON.	One side	Front fog lamp bulb     Harness between IPDM E/R     and front fog lamp     Harness between front fog lamp     and ground     IPDM E/R	Front fog lamp circuit Refer to EXL-106, "Component Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-125, "Diagnosis Procedure".	

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### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

### NORMAL OPERATING CONDITION

Description INFOID:000000010634583

### LED HEADLAMP

- LED brightness and color may slightly change until the temperature becomes stable. This is not malfunction.
- Illumination time lag may occur between right and left. This is not malfunction.
- Brightness may be reduced due to aged deterioration of LED.
- Because of the dummy portion of connecting part of front combination lamp, water may be seemed as if it enters in headlamp after the vehicle is washed or after the rain. But, actually water is not entered in headlamp, and this is not malfunction.

### **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 the control difference. This is normal.

**BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON** [LED HEADLAMP] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON Α WITHOUT DAYTIME RUNNING LIGHT SYSTEM WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Description INFOID:0000000010634584 В Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS. WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure INFOID:0000000010634585 1.COMBINATION SWITCH INSPECTION Check combination switch. Refer to BCS-71, "Symptom Table". D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. Е 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT **PCONSULT DATA MONITOR** Select "HL HI REQ" in "Data Monitor" of "IPDM E/R". While operating the lighting switch, check the monitor status. Monitor item Condition Monitor status HI or PASS On Lighting switch HL HI REQ (2ND) LO Off Н Is the inspection result normal? YES >> GO TO 3. NO >> Replace BCM. Refer to BCS-72, "Removal and Installation". 3. HEADLAMP (HI) CIRCUIT INSPECTION Check headlamp (HI) circuit. Refer to EXL-85. "WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Component Function Check". Is the inspection result normal? >> Refer to GI-53, "Intermittent Incident". YES >> Repair or replace the malfunctioning part. K NO WITH DAYTIME RUNNING LIGHT SYSTEM WITH DAYTIME RUNNING LIGHT SYSTEM: Description INFOID:0000000010634586 EXL Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS. WITH DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure M INFOID:0000000010634587 1. COMBINATION SWITCH INSPECTION N Check combination switch. Refer to BCS-71, "Symptom Table". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

### **©CONSULT DATA MONITOR**

- Select "HL HI REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

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

### **BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON**

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

3. HEADLAMP (HI) CIRCUIT INSPECTION

Check headlamp (HI) circuit. Refer to <u>EXL-86</u>, "WITH DAYTIME RUNNING LIGHT SYSTEM: Component <u>Function Check"</u>.

### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

### **BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON**

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

## BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:000000010634588

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

### Diagnosis Procedure

INFOID:0000000010634589

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### 1. CHECK COMBINATION SWITCH

Check combination switch. Refer to BCS-71, "Symptom Table".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

# 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

### **©CONSULT DATA MONITOR**

- 1. Select "HL LO REQ" in "Data Monitor" of "IPDM E/R".
- 2. With operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	On
TIL LOTTLY	HE LO REQ LIGHTING SWITCH	OFF	Off

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

### 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check headlamp (LO) circuit. Refer to EXL-90, "Component Function Check".

### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

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

### < SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

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

Description INFOID:000000010634590

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

### Diagnosis Procedure

INFOID:0000000010634591

# 1. COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-71, "Symptom Table".

### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

### 2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

### (P)CONSULT DATA MONITOR

- 1. Select "TAIL & CLR REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

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

### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

### BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

### BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:000000010634592

The front fog lamps are not turned ON in any condition.

Diagnosis Procedure

INFOID:0000000010634593

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Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

# 1. CHECK FUSE

Check that the following fuse is not blown:

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

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

### 2.combination switch inspection

Check combination switch. Refer to BCS-71, "Symptom Table".

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

# 3. CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

### **PCONSULT DATA MONITOR**

- Select "FR FOG REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch	ON	On
TITTOGINEQ	(With lighting switch 2ND)	OFF	Off

### Is the item status normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

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Revision: June 2014 EXL-125 2015 Leaf NAM

### PERIODIC MAINTENANCE

### HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000010634594

#### 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.

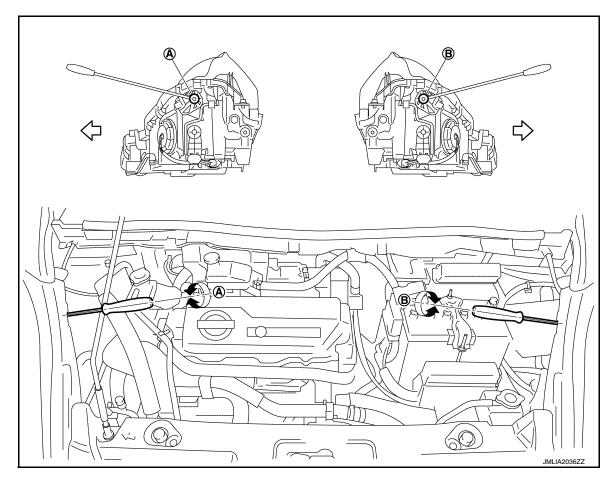
- Coolant and engine oil filled to correct level, fuel tank full.
- · Confirm spare tire, jack and tools are stowed properly.
- · Maintain unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)
- · Carefully wipe any dirt from headlamp lens.

### **CAUTION:**

### Do not use organic solvent (thinner, gasoline etc.)

• Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.

### AIMING ADJUSTMENT SCREW



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

<sup>∠</sup> Vehicle center

### **HEADLAMP AIMING ADJUSTMENT**

### < PERIODIC MAINTENANCE >

[LED HEADLAMP]

	Adjustment screw	Rotation	Facing direction
^	Headlamp RH (UP/DOWN)	Clockwise	DOWN
A Headlamp RH (UP/DOWN)	Counterclockwise	UP	
B Headlamp LH (UP/DOWN)		Clockwise	DOWN
В	Headiamp LH (OP/DOWN)	Counterclockwise	UP

### Aiming Adjustment Procedure

INFOID:0000000010634595

1. Place the screen.

#### NOTE:

- · Stop the vehicle facing the wall.
- Place the aiming screen on the same level and flat surface as the vehicle.
- 2. Face the aiming screen with the vehicle. Maintain 10 m (33 ft) between the headlamp center and the aiming screen.
- 3. Start the engine. Turn the headlamp (LO) ON.

#### NOTE:

Block the opposite headlamp from projecting a beam pattern onto the aiming screen, using a suitable object. Aim each headlamp individually.

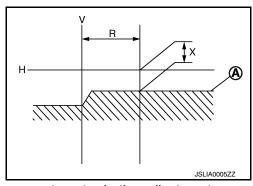
#### **CAUTION:**

Do not cover the lens surface with a tape etc. The lens is made of resin.

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) : 350 $\pm$ 175 mm (13.78 $\pm$ 6.89 in)

Low beam distribution on the screen

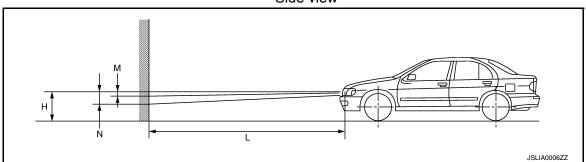


5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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)

### Side view



**EXL-127** Revision: June 2014 2015 Leaf NAM Α

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### **HEADLAMP AIMING ADJUSTMENT**

[LED HEADLAMP]

Distance between the headlamp center and the screen (L) : 10 m (33 ft)

### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

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### 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 fog lamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with 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 fog lamp.

### **CAUTION:**

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

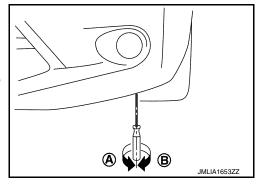
· Turn the aiming adjusting screw for adjustment.

A: DOWN B: UP

 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:0000000010634597

### Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

- Stop the vehicle facing the wall.
- Place the aiming screen on the same level and flat surface as the vehicle.
- Face the aiming screen with the vehicle. Maintain 10 m (33 ft) between the front fog lamp center and the screen.
- 3. Start the motor. Turn the front fog lamp ON.

#### NOTE:

Block the headlamps from projecting a beam pattern onto the aiming screen, using a suitable object. Aim each headlamp individually.

### **CAUTION:**

Do not cover the lens surface with a tape etc. The lens is made of resin.

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 (5.906 in).

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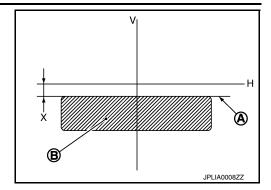
Revision: June 2014 EXL-129 2015 Leaf NAM

### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

Front fog lamp light distribution on the screen



A : Cutoff line

B : High illuminance area

H : Horizontal center line of front fog lampV : Vertical center line of front fog lamp

X : Cutoff line height

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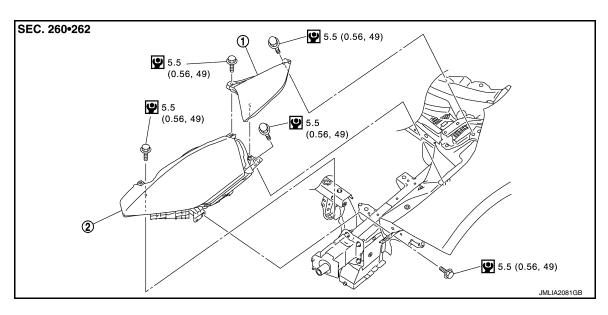
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# REMOVAL AND INSTALLATION

### FRONT COMBINATION LAMP

Exploded View

**REMOVAL** 

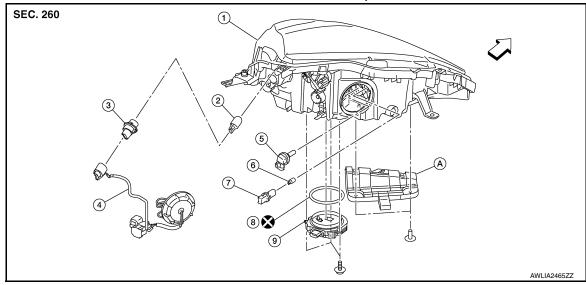


Front side marker lamp

Front combination lamp

### DISASSEMBLY

### Front combination lamp



- 1. Housing assembly
- 4. Harness
- 7. Parking lamp bulb socket
- A. Bumper bracket
- 2. Front turn signal lamp
- 5. Halogen bulb (HI)
- 8. Seal packing
- Vehicle front

- Front turn signal lamp socket
- 6. Parking lamp bulb
- 9. LED headlamp control module

### **CAUTION:**

- Disconnect the 12V battery negative terminal or remove the fuse to electric leakage. Refer to <u>EXL-8</u>, <u>"Precaution for Removing 12V Battery"</u>.
- Never disassemble LED headlamp (LO) unit assembly.

### FRONT COMBINATION LAMP

### < REMOVAL AND INSTALLATION >

[LED HEADLAMP]

Replace front combination lamp, when malfunction LED headlamp unit.

### Removal and Installation

INFOID:0000000010634599

#### **REMOVAL**

- 1. Remove front bumper fascia. Refer to EXT-13, "Removal and Installation".
- Remove front side marker lamp mounting bolts.
- 3. Pull up front side marker lamp, disconnect front side marker lamp harness connector and remove front side marker lamp.
- 4. Remove front combination lamp mounting bolts.
- 5. Pull out front combination lamp forward the vehicle, and then disconnect the connector before removing front combination lamp.

### INSTALLATION

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

#### NOTF:

After installation, perform aiming adjustment. Refer to EXL-126, "Description".

### **Bulb Replacement**

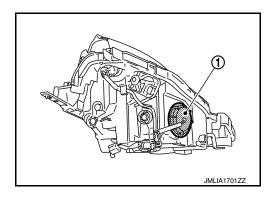
INFOID:000000010634600

#### **CAUTION:**

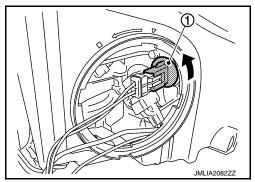
- Disconnect the 12V battery negative terminal or remove the fuse to electric leakage. Refer to <u>EXL-8</u>, "<u>Precaution for Removing 12V Battery</u>".
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it to prevent damage to the bulb.
- Never touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- 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

Rotate resin cap (1) counterclockwise and unlock it.



Rotate parking lamp bulb socket (1) counterclockwise and unlock it.



3. Remove parking lamp bulb from bulb socket.

#### HEADLAMP BULB (LO)

LED is used for headlamp bulb (LO). Always replace front combination lamp assembly as a unit, when bulb is to be replaced because of malfunction. Refer to <u>EXL-132</u>, "Removal and Installation".

### FRONT COMBINATION LAMP

### < REMOVAL AND INSTALLATION >

[LED HEADLAMP]

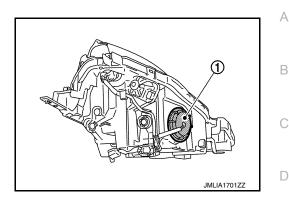
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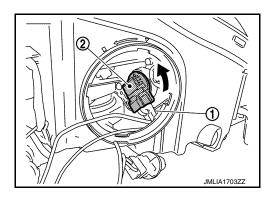
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### **HEADLAMP BULB (HI)**

1. Rotate resin cap (1) counterclockwise and unlock it.



- Remove parking lamp bulb and socket.
- 3. Rotate headlamp bulb (HI) (2) counterclockwise and unlock it.
- 4. Disconnect headlamp bulb (HI) harness connector (1).



5. Remove headlamp bulb (HI) from the headlamp housing assembly.

### FRONT TURN SIGNAL LAMP BULB

- 1. Rotate bulb socket counterclockwise and unlock it.
- 2. Remove bulb from the bulb socket.

### Disassembly and Assembly

INFOID:0000000010634601

DISASSEMBLY

- 1. Rotate resin cap counterclockwise and unlock it.
- 2. Rotate parking lamp bulb socket counterclockwise and unlock it.
- 3. Disconnect parking lamp harness connector.
- 4. Rotate headlamp bulb (HI) counterclockwise and unlock it.
- 5. Disconnect headlamp bulb (HI) harness connector.
- Rotate turn signal lamp bulb socket counterclockwise and unlock it.
- 7. Remove turn signal lamp bulb from bulb socket.
- 8. Remove LED headlamp control module mounting screws.
- 9. Disconnect LED headlamp control module harness connector, and then remove LED headlamp control module.
- 10. Remove combination lamp harness connector.

#### ASSEMBLY

Note the following items, and then assemble in the reverse order of disassembly. **CAUTION:** 

- Install LED headlamp control module securely.
- Always replace seal packing, when remove/replace LED headlamp control module.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.

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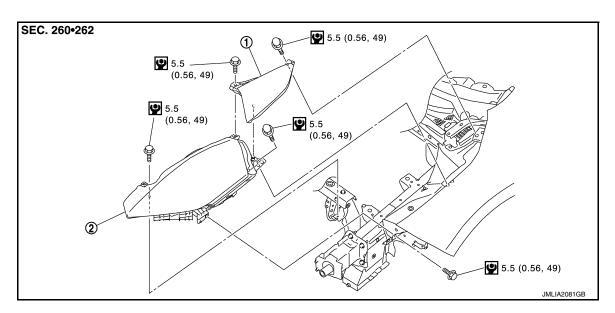
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### FRONT SIDE MARKER LAMP

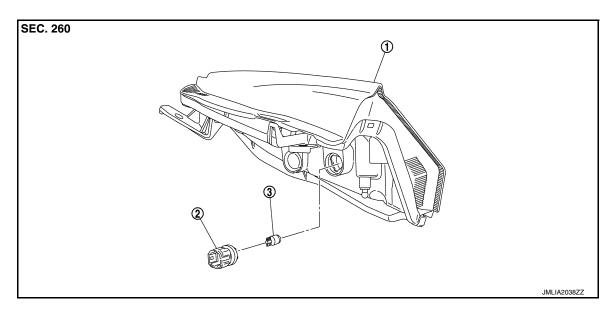
**Exploded View** INFOID:0000000010634603

### **REMOVAL**



- Front side marker lamp
- Front combination lamp

#### DISASSEMBLY



- Front side marker lamp housing
- 2. Front side marker lamp bulb socket 3. Front side marker lamp bulb

### **REMOVAL**

- 1. Remove front side marker lamp mounting bolts.
- Pull up front side marker lamp and disconnect the harness connector.
- Remove front side marker lamp.

### Removal and Installation

INFOID:0000000010634604

# **Bulb Replacement**

INFOID:0000000010634605

#### **CAUTION:**

### FRONT SIDE MARKER LAMP

### < REMOVAL AND INSTALLATION >

[LED HEADLAMP]

- After installing the bulb, install the resin cap 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 to prevent damage to the bulb.
- Never touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- 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 SIDE MARKER LAMP BULB

- 1. Rotate bulb socket counterclockwise and unlock it.
- 2. Remove bulb from the bulb socket.

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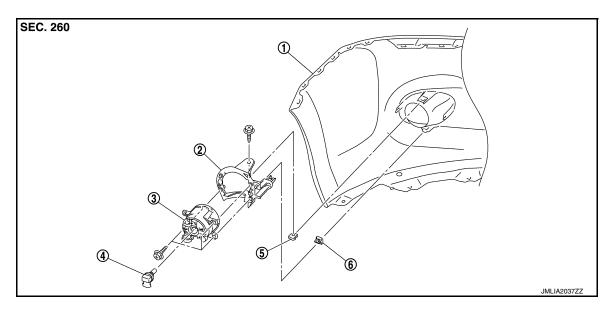
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### FRONT FOG LAMP

Exploded View



- 1. Front bumper fascia
- 4. Front fog lamp bulb
- 2. Front fog lamp bracket
- J nut

- 3. Front fog lamp
- 6. Metal clip

#### Removal and Installation

INFOID:0000000010634607

### **REMOVAL**

- Remove the front under cover. Refer to EXT-23, "FRONT UNDER COVER: Removal and Installation".
- 2. Remove the fender protector (LH/RH). Refer to <u>EXT-21, "FENDER PROTECTOR: Removal and Installation"</u>.
- 3. Disconnect the front fog lamp harness connector.
- 4. Remove the front fog lamp fixing screws and remove front fog lamp.

#### **INSTALLATION**

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

#### NOTE:

After installation, perform aiming adjustment. Refer to EXL-129, "Description"

Replacement

#### **CAUTION:**

- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it to prevent damage to the bulb.
- Never touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- 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

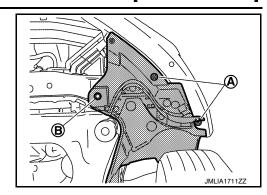
Remove front under cover. Refer to <u>EXT-23</u>, "<u>FRONT UNDER COVER</u>: <u>Removal and Installation</u>".

### **FRONT FOG LAMP**

### < REMOVAL AND INSTALLATION >

[LED HEADLAMP]

2. Remove front fender protector mounting bolts (A) and clip (B).



- 3. Remove front fog lamp bulb connector.
- 4. Rotate bulb counterclockwise and unlock it.

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### **LIGHTING & TURN SIGNAL SWITCH**

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

### **LIGHTING & TURN SIGNAL SWITCH**

Exploded View

The lighting & turn signal switch is integrated in the combination switch. Refer to <u>BCS-73</u>, "Removal and <u>Installation"</u>.

[LED HEADLAMP]

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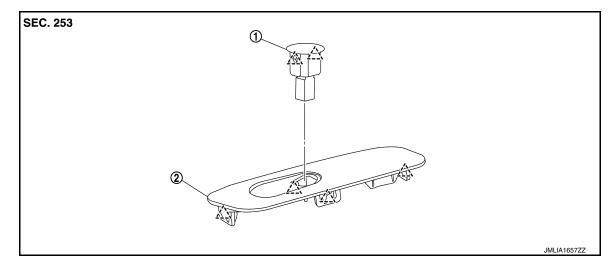
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### **OPTICAL SENSOR**

# Exploded View



Optical sensor
 Pawl

2. Switch panel

### Removal and Installation

**REMOVAL** 

- 1. Insert suitable tool between the switch panel and the instrument upper panel and release switch panel pawls.
- 2. Disconnect the optical sensor connector.
- 3. Using a suitable tool release pawls and remove optical sensor from switch panel.

### **INSTALLATION**

Installation is in the reverse order of removal.

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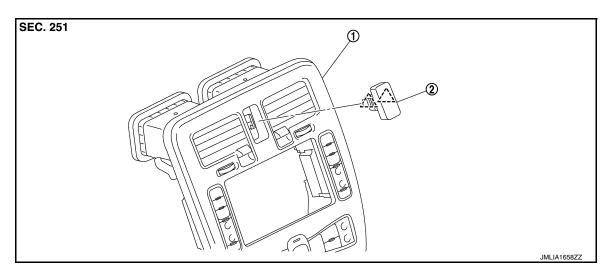
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Revision: June 2014 EXL-139 2015 Leaf NAM

# HAZARD SWITCH

Exploded View



Cluster lid C

2. Hazard switch

ےٰ : Pawl

### Removal and Installation

INFOID:0000000010634613

### **REMOVAL**

- 1. Remove cluster lid C. Refer to IP-17, "Removal and Installation".
- 2. Disengage hazard switch fixing pawls, and then remove hazard switch.

### **INSTALLATION**

Install in the reverse order of removal.

[LED HEADLAMP]

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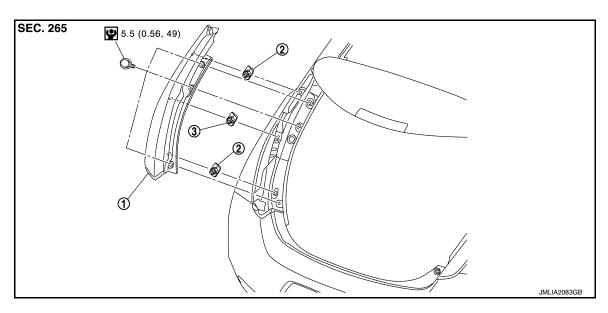
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### **REAR COMBINATION LAMP**

# **Exploded View**

INFOID:0000000010634614

REMOVAL



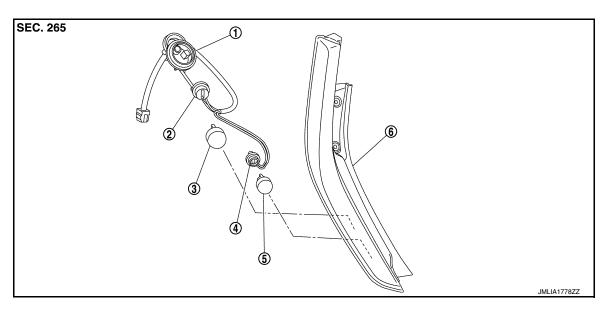
Rear combination lamp

Grommet A

3. Grommet B

: N·m (kg-m, in-lb)

### DISASSEMBLY



- Rear combination lamp harness
- Buck-up lamp bulb socket
- 2. Rear turn signal bulb socket
- Buck-up lamp bulb
- Rear turn signal bulb
- Rear combination lamp housing assembly

### Removal and Installation

# INFOID:0000000010634615

#### **CAUTION:**

• Disconnect the 12V battery negative terminal or remove the fuse. Refer to EXL-8, "Precaution for Removing 12V Battery".

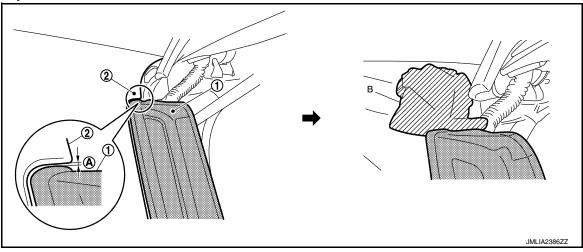
• Fogging of rear combination lamp inside is not a malfunction. Never replace parts. Fogging is a symptom in which inner surface of lens becomes whitely clouded, without there being visible water drops or water spots, as if lens is made of frosted-glass.

#### REMOVAL

- 1. Remove luggage side lower finisher. Refer to <a href="INT-42">INT-42</a>, "LUGGAGE SIDE LOWER FINISHER: Removal and Installation".
- 2. Disconnect rear combination lamp connector.
- 3. Remove rear combination lamp mounting bolts.
- 4. Insert a shop cloth (B) into clearance (A) between rear combination lamp (1) and rear fender panel (2), or apply protective tape.

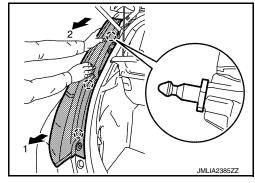
#### **CAUTION:**

- To prevent rear fender panel paint surface from being damaged, always apply protection using a shop cloth or protective tape.
- When using protective tape, apply protective tape to both rear fender panel and rear combination lamp.



5. Pull rear combination lamp toward vehicle rear side, as shown by the arrow in the figure.





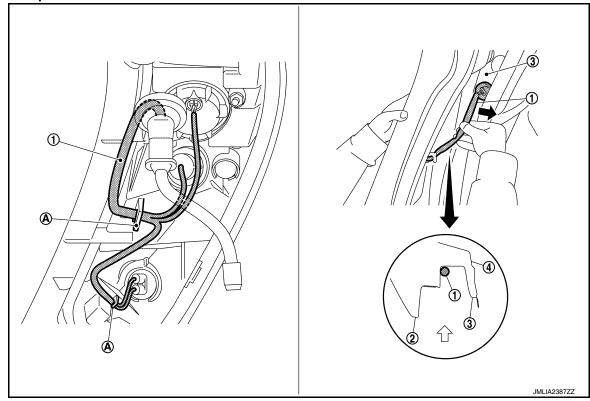
6. Remove rear combination lamp.

#### INSTALLATION

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

[LED HEADLAMP]

When installing rear combination lamp, fix harness using harness fixing hook (A) on backside of rear combination lamp housing and place harness toward vehicle inside so that harness is not pinched by rear fender panel.



Harness

Rear fender panel

3. Rear fender extension

Rear inner panel

: Vehicle front

Replacement

#### **CAUTION:**

 Disconnect the 12V battery negative terminal or remove the fuse. Refer to EXL-8, "Precaution for Removing 12V Battery".

 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.

#### STOP/TAIL LAMP BULB

LED is used for stop/tail lamp bulb. Always replace rear combination lamp assembly as a unit, when bulb is to be replaced because of malfunction.

### REAR TURN SIGNAL LAMP BULB

- 1. Remove rear combination lamp mounting bolts.
- Insert a shop cloth (B) into clearance (A) between rear combination lamp (1) and rear fender panel (2), or apply protective tape.

#### **CAUTION:**

 To prevent rear fender panel paint surface from being damaged, always apply protection using a shop cloth or protective tape.

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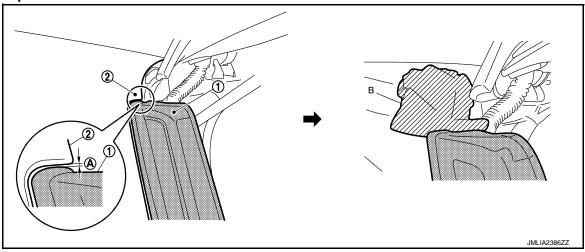
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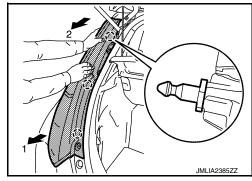
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• When using protective tape, apply protective tape to both rear fender panel and rear combination lamp.



3. Pull rear combination lamp toward vehicle rear side, as shown by the arrow in the figure.





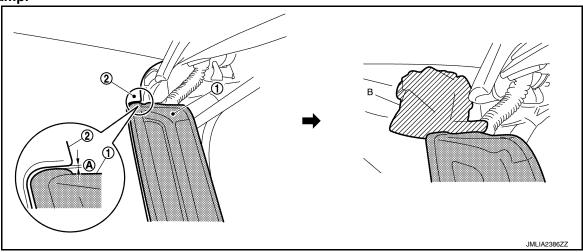
- Rotate bulb socket counterclockwise and unlock it.
- 5. Remove bulb from the socket.

### **BACK-UP LAMP BULB**

- 1. Remove rear combination lamp mounting bolts.
- 2. Insert a shop cloth (B) into clearance (A) between rear combination lamp (1) and rear fender panel (2), or apply protective tape.

### **CAUTION:**

- To prevent rear fender panel paint surface from being damaged, always apply protection using a shop cloth or protective tape.
- When using protective tape, apply protective tape to both rear fender panel and rear combination lamp.



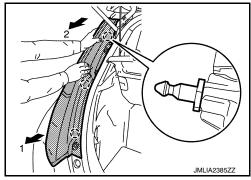
# **REAR COMBINATION LAMP**

# < REMOVAL AND INSTALLATION >

[LED HEADLAMP]

3. Pull rear combination lamp toward vehicle rear side, as shown by the arrow in the figure.

(\_) : Clip



- 4. Rotate bulb socket counterclockwise and unlock it.
- 5. Remove bulb from the socket.

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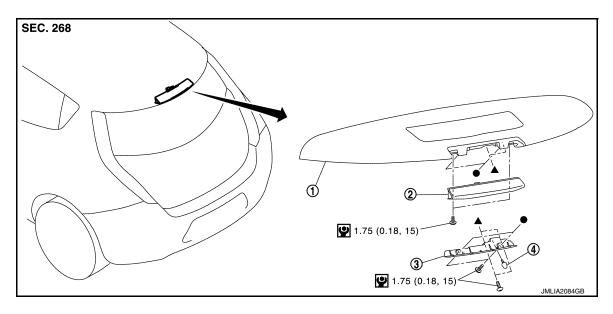
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# HIGH-MOUNTED STOP LAMP

Exploded View



1. Rear spoiler

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

- 4. Rear washer nozzle
- : N·m (kg-m, in-lb)
- ●,▲: Indicates that the part is connected at points with same symbol in actual vehicle.

### Removal and Installation

INFOID:0000000010634618

### **REMOVAL**

- Remove rear spoiler. Refer to <u>EXT-36, "Removal and Installation"</u>.
- Remove high-mounted stop lamp cover mounting screws, and then remove high-mounted stop lamp cover.
- 3. Remove high-mounted stop lamp mounting screws.
- 4. Disconnect high-mounted stop lamp harness connector.
- 5. Remove high-mounted stop lamp.

### INSTALLATION

Install in the reverse order of removal.

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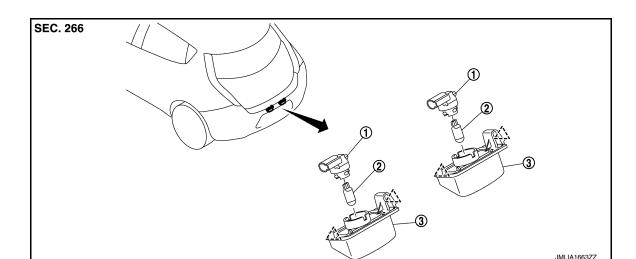
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# LICENSE PLATE LAMP

# **Exploded View**



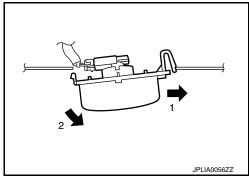
- License plate lamp bulb socket
- License plate lamp bulb
- License plate lamp housing

八:Pawl

### Removal and Installation

### REMOVAL

1. Remove license plate lamp in numerical order shown in the fig-



2. Disconnect license plate lamp connector, and then remove license plate lamp.

### INSTALLATION

Installation in the reverse order of removal.

Replacement INFOID:0000000010634621

### **CAUTION:**

- Do not touch the glass of bulb directly by hand. Keep grease and other oily matters away from it to prevent damage to the bulb.
- Do not touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- Do not 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.
- Turn the bulb socket counterclockwise and unlock it.
- Remove the bulb from the socket.

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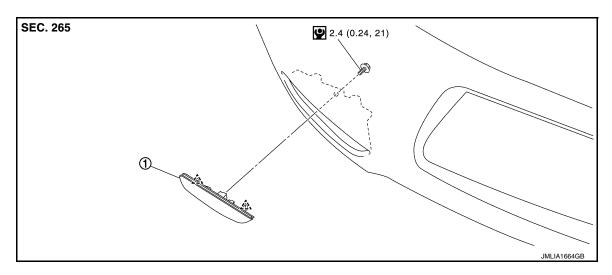
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**EXL-147** Revision: June 2014 2015 Leaf NAM

[LED HEADLAMP]

# REAR REFLEX REFLECTOR

Exploded View



1. Reflex refractor

^` : Pawl

: N·m (kg-m, in-lb)

# Removal and Installation

INFOID:0000000010634623

### **REMOVAL**

- 1. Remove rear bumper fascia. Refer to EXT-17, "Removal and Installation".
- Remove rear reflex reflector fixing screws and disengage fixing pawls, and then remove rear reflex reflector.

### **INSTALLATION**

Install in the reverse order of removal.

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

< SERVICE DATA AND SPECIFICATIONS (SDS)

[LED HEADLAMP]

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# SERVICE DATA AND SPECIFICATIONS (SDS)

# SERVICE DATA AND SPECIFICATIONS (SDS)

**Bulb Specifications** 

Item		Wattage (W)*		
	Headlamp (HI)	65		
	Headlamp (LO)	_		
Front combination lamp	Front turn signal lamp	27		
	Parking lamp	5		
Front side maker lamp		5		
Front fog lamp (if equipped)		55		
Rear combination lamp	Stop lamp/Tail lamp	_		
	Rear turn signal lamp	21		
	Back-up lamp	16		
	Rear side maker lamp	_		
License plate lamp		5		
High-mounted stop lamp		_		

<sup>\*:</sup> Always check with the Parts Department for the latest parts info.

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# **PRECAUTION**

# **PRECAUTIONS**

Precaution for Technicians Using Medical Electric

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INFOID:0000000010634626

### OPERATION PROHIBITION

### **WARNING:**

- Parts with strong magnet is used in this vehicle.
- Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts.

### NORMAL CHARGE PRECAUTION

### **WARNING:**

- If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation.
- As radiated electromagnetic wave generated by PDM (Power Delivery Module) at normal charge operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.

### PRECAUTION AT TELEMATICS SYSTEM OPERATION

### WARNING:

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use.

### PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION

### **WARNING:**

- If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna.
- The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting.
- If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before Intelligent Key use.

Point to Be Checked Before Starting Maintenance Work

The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.

NOTE:

If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.

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

### **PRECAUTIONS**

### < PRECAUTION >

[HALOGEN HEADLAMP]

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 SR and SB section of this Service Man-

### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, 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 the SR section.
- Do not 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:**

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT 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
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

# Precaution for Removing 12V Battery

Check that EVSE is not connected.

### NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C func-

- Turn the power switch OFF  $\rightarrow$  ON  $\rightarrow$  OFF. Get out of the vehicle. Close all doors (including back door).
- Check that the charge status indicator lamp does not blink and wait for 5 minutes or more.

### NOTE:

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

Remove 12V battery within 1 hour after turning the power switch OFF → ON → OFF.

- The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
- Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

### CAUTION:

- After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.
- . After turning the power switch OFF, if "Remote A/C" is activated by user operation, stop the air conditioner and start over from Step 1.

### Precaution for Work

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- · When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.

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# **PRECAUTIONS**

[HALOGEN HEADLAMP]

< PRECAUTION >

- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

# **PREPARATION**

< PREPARATION >

[HALOGEN HEADLAMP]

# **PREPARATION**

# **PREPARATION**

Special Service Tool

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The actual shape	e of the tools may di	iffer from those ill	ustrated here.

Tool number (TechMate No.) Tool name		Description
 (J-46534) Trim Tool Set	AWIIA048377	Removing trim components

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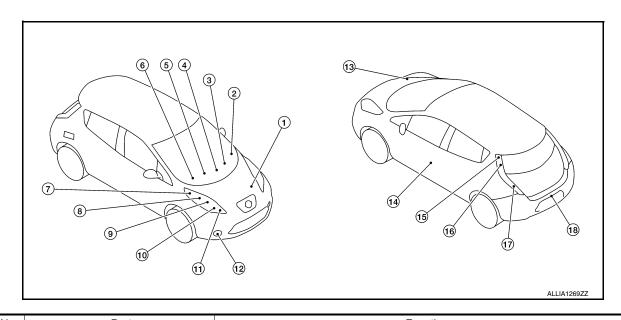
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# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

# **Component Parts Location**

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No.	Part	Function			
1.	IPDM E/R	<ul> <li>Controls the integrated relay, and supplies voltage to the load according to the request from BCM (via CAN communication).</li> <li>Refer to <a href="PCS-7">PCS-7</a>. "Component Parts Location" for detailed installation location.</li> </ul>			
2.	Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "COMBINATION SWITCH READING SYSTEM: System Description".			
3.	Combination meter	<ul> <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>Turns the tail lamp indicator lamp, high beam indicator lamp, front fog lamp indicator lamp and rear fog lamp indicator lamp ON according to the request from BCM (via CAN communication).</li> </ul>			
4.	Hazard switch	Refer to EXL-155, "Hazard Switch".			
5.	ВСМ	<ul> <li>Detects each switch condition by the combination switch reading function</li> <li>Judges that the exterior lamps are turned ON according to the vehicle condition</li> <li>Requests the headlamp relay (HI/LO), tail lamp relay and front fog lamp relay ON to IPDM E/R (via CAN communication)</li> <li>Requests the high beam indicator lamp, tail lamp indicator lamp and front fog 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 timing according to the vehicle condition.</li> <li>Judges the ON/OFF status of the exterior lamp according to the outside brightness and the vehicle condition.</li> <li>Refer to BCS-5. "BODY CONTROL SYSTEM: Component Parts Location" for detailed installation location.</li> </ul>			
6.	Optical sensor	Refer to EXL-155, "Optical Sensor".			
7.	Front side marker lamp	Refer to EXL-283. "Bulb Specifications".			
8.	Front turn signal lamp	Refer to EXL-283, "Bulb Specifications".			
9.	Headlamp LO	Refer to EXL-283, "Bulb Specifications"			
10.	Headlamp HI	Refer to EXL-283, "Bulb Specifications".			
11.	Parking Lamp	Refer to EXL-283, "Bulb Specifications".			
12.	Front fog lamp (if equipped)	Refer to EXL-283. "Bulb Specifications".			

# **COMPONENT PARTS**

### < SYSTEM DESCRIPTION >

# [HALOGEN HEADLAMP]

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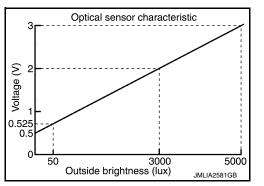
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No.	Part	Function
13.	Daytime running light relay*	Headlamp HI ground circuit is switched according to request from IPDM E/R.
14.	Front door switch (LH)	Refer to DLK-21, "Door Switch".
15.	Rear side marker lamp	Refer to EXL-283, "Bulb Specifications".
16.	Tail lamp	Refer to EXL-283, "Bulb Specifications".
17.	Rear turn signal lamp	Refer to EXL-283, "Bulb Specifications".
18.	License plate lamp	Refer to EXL-283, "Bulb Specifications".

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

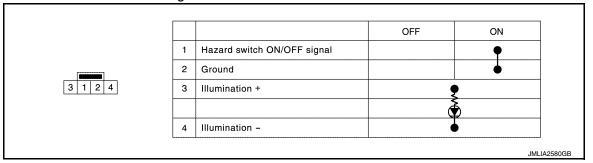
Optical Sensor

Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.



Hazard Switch

Inputs the hazard switch ON/OFF signal to BCM.



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# SYSTEM

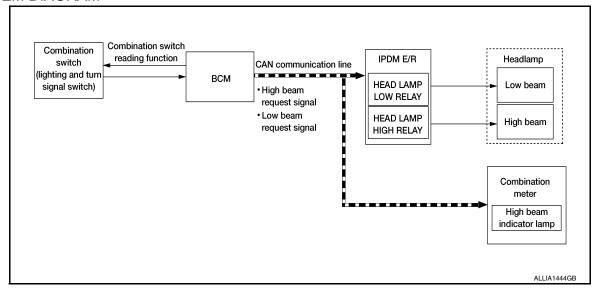
# **HEADLAMP SYSTEM**

# **HEADLAMP SYSTEM: System Description**

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### SYSTEM DIAGRAM



### **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 with CAN communication according to the headlamp (LO) ON condition.

### Headlamp (LO) ON condition:

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)
- Lighting switch AUTO, with the front fog lamp switch ON and the power switch ON
- Lighting switch PASS

### HEADLAMP (HI) OPERATION

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

### Headlamp (HI) ON condition:

- Lighting switch HI with the lighting switch 2ND or AUTO (auto light function ON judgment)
- Lighting switch PASS
- Lighting switch AUTO, with the front fog lamp switch ON, the power switch ON and lighting switch HI
- 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 ON according to the high beam request signal.

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

### 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 power switch is turned ON</li> <li>Turns OFF the headlamp low relay when the power switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>

# AUTO LIGHT SYSTEM (EXCEPT FOR CANADA)

# AUTO LIGHT SYSTEM (EXCEPT FOR CANADA): System Description

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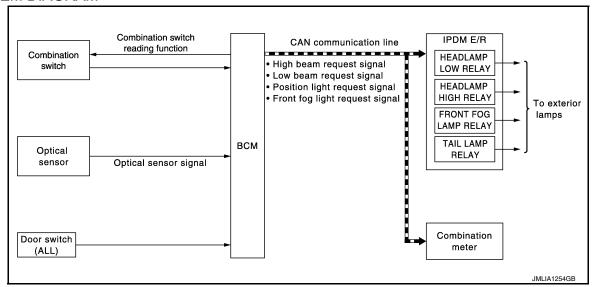
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### SYSTEM DIAGRAM



### 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
- Auto light function
- Delay timer function
- Wiper linked auto lighting function
- Auto light adjustment system

### Control by IPDM E/R:

- Relay control function
- Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps\* and each illumination automatically, depending on the outside brightness.
- 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.
- When auto light system turns the exterior lamps ON with the power 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.
- \*: Headlamp (LO/HI), parking lamp, tail lamp, front fog lamp and side marker lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

### NOTE:

The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT. Refer to BCS-17, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP)".

### AUTO LIGHT FUNCTION (WITH TWILIGHT LIGHTING FUNCTION)

# Description

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to the optical sensor when the power switch is turned ON or ACC.

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Revision: June 2014 EXL-157 2015 Leaf NAM

### < SYSTEM DESCRIPTION >

- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM filters outside brightness based on the optical sensor signal and judges outside brightness.
- 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.
- 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.

### NOTE:

As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed with CONSULT. Refer to BCS-17, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP)".

### 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.

### NOTE:

BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned from ON⇒OFF.

### **AUTO LIGHT ADJUSTMENT SYSTEM**

The auto light adjustment system automatically, dims/brightens the display and combination meter, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to <a href="INL-13">INL-13</a>, "AUTO LIGHT ADJUSTMENT SYSTEM: System Description".

### **DELAY TIMER FUNCTION**

BCM turns the exterior lamps OFF depending on the vehicle condition with the auto light function when the power switch is turned OFF.

- Turns the exterior lamps OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamps OFF a certain period of time\* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamps OFF with the power switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-17</u>, "HEAD-LAMP : CONSULT Function (BCM HEAD LAMP)".

### NOTE:

When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

### FOG OVERRIDE FUNCTION

When front fog lamp switch is ON while power switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps\* regardless of outside brightness.

\*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp.

### NOTE

- Headlamp (HI) depending on the combination switch condition.
- Front fog light reminder warning is cancelled when fog override function is Off.

### How to Set

### (P)With CONSULT

- 1. Turn power switch ON.
- Select "INT LAMP" of "BCM" using CONSULT.
- 3. Select "FOG LAMP OVERRIDE" in "Work Support" mode.

Service item	ce item Setting item Setting	
FOG LAMP OVERRIDE	On	With fog override function
FOG LAWIF OVERRIDE	Off	Without fog override function

# AUTO LIGHT SYSTEM (FOR CANADA)

# AUTO LIGHT SYSTEM (FOR CANADA): System Description

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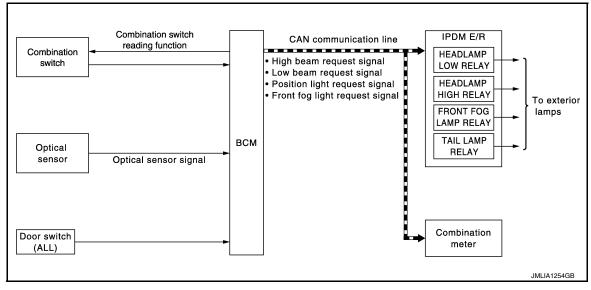
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### SYSTEM DIAGRAM



### 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
- Auto light function
- Delay timer function
- Auto light adjustment system

### Control by IPDM E/R:

- Relay control function
- Auto light system has the auto light function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps\* and each illumination automatically, depending on the outside brightness.
- When auto light system turns the exterior lamps ON with the power 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.
- \*: Headlamp (LO/HI), parking lamp, side marker lamp, tail lamp and front fog lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

### **AUTO LIGHT FUNCTION**

- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to optical sensor when the power switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination according to the outside brightness.
- 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.

### NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to BCS-17, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP)".

### AUTO LIGHT ADJUSTMENT SYSTEM

The auto light adjustment system automatically, dims/brightens the display, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to INL-13, "AUTO LIGHT ADJUSTMENT SYSTEM: System Description".

### DELAY TIMER FUNCTION

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### < SYSTEM DESCRIPTION >

BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the power switch is turned OFF.

- Turns the exterior lamp OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamp OFF a certain period of time\* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamp OFF with the power switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-17</u>, "HEAD-LAMP: CONSULT Function (BCM HEAD LAMP)".

### NOTE:

When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

### FOG OVERRIDE FUNCTION

When front fog lamp switch is ON while power switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps\* regardless of outside brightness.

\*: Headlamp (LO/HI), front fog lamp, parking lamp, license plate lamp, side marker lamp and tail lamp.

### NOTE

- Headlamp (HI) depending on the combination switch condition.
- · Front fog light reminder warning is cancelled when fog override function is Off.

### How to Set

### (P)With CONSULT

- 1. Turn power switch ON.
- 2. Select "INT LAMP" of "BCM" using CONSULT.
- Select "FOG LAMP OVERRIDE" in "Work Support" mode.

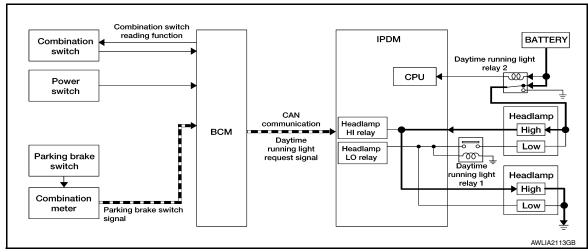
Service item	item Setting item Setting	
FOG LAMP OVERRIDE	On	With fog override function
FOG LAWIF OVERRIDE	Off	Without fog override function

### DAYTIME RUNNING LIGHT SYSTEM

# DAYTIME RUNNING LIGHT SYSTEM: System Description

INFOID:0000000010634637

### SYSTEM DIAGRAM



### **OUTLINE**

- Turns the headlamp high ON (high beam 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.

### DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects the vehicle condition according to power switch
- BCM detects the parking brake condition by the parking brake switch signal received from combination meter using CAN communication.

### [HALOGEN HEADLAMP]

 BCM transmits the daytime running light request signal to IPDM E/R using CAN communication according to the daytime running light ON condition.

Daytime running light ON condition:

- Vehicle condition READY
- Lighting switch OFF or 1ST
- Lighting switch AUTO, and the auto light function OFF judgment
- Parking brake switch OFF
- IPDM E/R controls the daytime running light relay 2 (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 headlamp high LH. And high beam headlamps are illuminated (approximately half illumination) as the daytime running light.

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM: System Description

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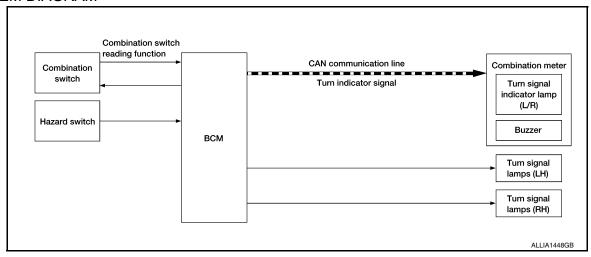
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### SYSTEM DIAGRAM



### OUTLINE

Turn signal lamp and the 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 power 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 circuit when the hazard switch is ON. BCM blinks the hazard warning lamp.

### TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

- BCM transmits the turn signal indicator lamp signal to the combination meter using CAN communication while the turn signal lamp and the hazard warning lamp are operating.
- Combination meter outputs the turn signal sound with the integrated buzzer while blinking the turn signal indicator lamp according to the turn signal indicator lamp 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.

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• BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

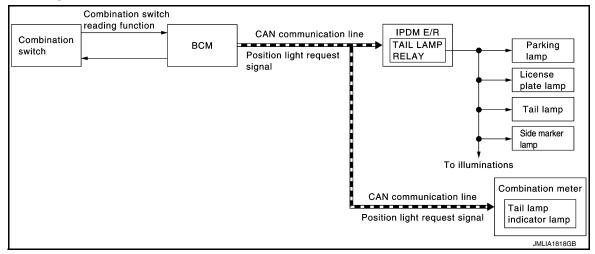
### NOTE:

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 Description

### SYSTEM DIAGRAM



### **OUTLINE**

Parking, license plate, side marker and tail lamps are controlled by combination switch reading function and headlamp 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 ON/OFF condition of the parking, license plate, side marker and tail lamps.

Parking, license plate, side marker and tail lamps ON condition:

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- Lighting switch AUTO, with the front fog lamp switch ON and the power switch ON
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate, side marker 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

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### 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
<ul><li>Parking lamp</li><li>License plate lamp</li><li>Illumination</li><li>Tail lamp</li><li>Side marker lamp</li></ul>	<ul> <li>Turns ON the tail lamp relay when the power switch is turned ON</li> <li>Turns OFF the tail lamp relay when the power switch is turned OFF</li> </ul>

### FRONT FOG LAMP SYSTEM

# FRONT FOG LAMP SYSTEM: System Description

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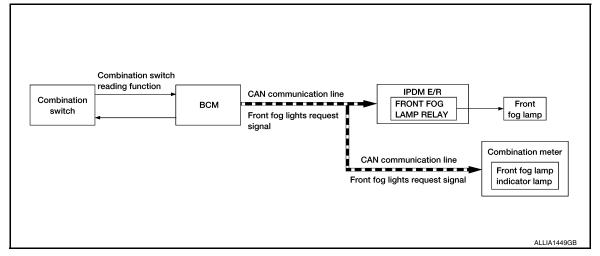
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### SYSTEM DIAGRAM



### **OUTLINE**

Front fog lamp is controlled by combination switch reading function, 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 lights request signal to IPDM E/R and the combination meter 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 condition is satisfied (except for the high beam ON):
- Lighting switch 2ND
- Lighting switch AUTO and the power switch ON

IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog lights request signal.

Combination meter turns the front fog lamp indicator lamp ON according to the front fog lights request signal.

### FRONT FOG LAMP SYSTEM: Fail-Safe

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### 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		
Front fog lamp	Front fog lamp relay OFF		

# EXTERIOR LAMP BATTERY SAVER SYSTEM

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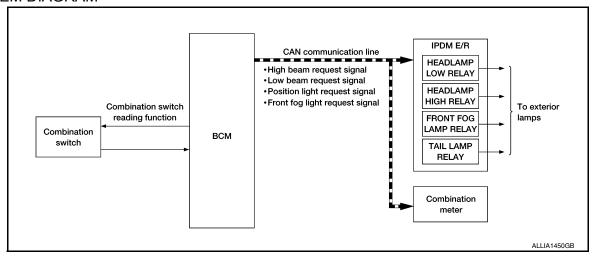
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# EXTERIOR LAMP BATTERY SAVER SYSTEM: System Description

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### SYSTEM DIAGRAM



### **OUTLINE**

• Exterior lamp battery saver system is controlled by each function of BCM and IPDM E/R.

### Control by BCM:

- Combination switch reading function
- Headlamp control function
- Exterior lamp battery saver function

### Control by IPDM E/R:

- Relay control function
- BCM turns the exterior lamps\* OFF after a period of time to prevent the battery from over-discharge when the power switch is turned OFF with the exterior lamps ON.
- \*: Headlamp (LO/HI), parking lamp, tail lamp, side marker lamp, license plate lamp and front fog lamp

### EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM activates the timer and turns the exterior lamp OFF 5 minutes after the power switch is turned from ON  $\rightarrow$  OFF with the exterior lamps ON.

### NOTE:

- Headlamp control function turns the exterior lamps ON normally when the power switch is turned ACC or set the vehicle to READY (both before and after the exterior lamp battery saver is turned OFF).
- The timer starts at the time that the lighting switch is turned from OFF → 1ST or 2ND with the exterior lamps OFF.

# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

# 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.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	<ul> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul>
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

### SYSTEM APPLICATION

BCM can perform the following functions.

		Direct Diagnostic Mode						
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×	×		
Air conditioner	AIR CONDITIONER			×	×			
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×	×		
Interior room lamp battery saver	BATTERY SAVER			×	×	×		
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

**HEADLAMP** 

# **DIAGNOSIS SYSTEM (BCM)**

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

# HEADLAMP: CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000010634645

### **DATA MONITOR**

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of power switch.
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates engine status received from ECM on CAN communication line.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
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]	Indicates condition of combination switch.
HEAD LAMP SW 2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW [On/Off]	
FR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.
OPTI SEN (DTCT) [V]	Indicates outside brightness voltage signal from optical sensor.
OPTI SEN (FILT) [V]	Indicates outside brightness voltage signal from optical sensor filtered by BCM.

### **ACTIVE TEST**

Test Item	Description
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].
HEAD LAMP	This test is able to check headlamp operation [Off/Low/Hi].
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].
TAIL LAMP	This test is able to check taillamp operation [Off/On].

# **WORK SUPPORT**

Support Item	Setting	Description	
	MODE6		
	MODE5	Autolamp function OFF.	
	MODE4		
AUTO LIGHT LOGIC SET	MODE3	Autolamp function ON at twilight.	
	MODE2	Autolamp function ON at twilight or with wiper LO and HI operation.	
	MODE1*	Autolamp function ON at twilight or with wiper INT, LO and HI operation.	
BATTERY SAVER SET	Off	Exterior lamp battery saver function OFF.	
	On*	Exterior lamp battery saver function ON.	

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

# [HALOGEN HEADLAMP]

Support Item	Setting		Description	Λ
	MODE4		Less sensitive than normal setting (turns ON later).	Α
CUSTOM A/LIGHT SETTING	MODE3		More sensitive than MODE2.	
COSTONI A/LIGITI SETTING	MODE2		More sensitive than normal setting (turns ON earlier).	В
	MODE1*		Normal setting.	
	MODE 8	180 sec.		
	MODE 7	150 sec.		С
	MODE 6	120 sec.		
ILL DELAY SET	MODE 4	90 sec.	Autolamp delay timer operation time.	D
ILL DELAT SET	MODE 5	60 sec.	Autorating delay times operation time.	
	MODE 3	30 sec.		
	MODE 2	OFF		Е
	MODE 1*	45 sec.		

<sup>\*:</sup> Initial setting

# **FLASHER**

# FLASHER: CONSULT Function (BCM - FLASHER)

INFOID:0000000010634646

# **DATA MONITOR**

Monitor Item [Unit]	Description	
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.	
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.	
PUSH SW [On/Off]	Indicates condition of power switch.	
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.	
TURN SIGNAL L [On/Off]		
HAZARD SW [On/Off]	Indicates condition of hazard switch.	
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.	
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.	
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.	

# **ACTIVE TEST**

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

# WORK SUPPORT

Support Item	Setting	Description
	Lock/Unlock	Hazard warning lamp answer back for LOCK and UNLOCK with request switch or Intelligent Key.
HAZARD ANSWER BACK	Unlock Only	Hazard warning lamp answer back for UNLOCK only with request switch or Intelligent Key.
	Lock Only	Hazard warning lamp answer back for LOCK only with request switch or Intelligent Key.
	Off	Hazard warning lamp answer back OFF.

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# **DIAGNOSIS SYSTEM (IPDM E/R)**

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

# DIAGNOSIS SYSTEM (IPDM E/R)

# **Diagnosis Description**

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### **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
- Front fog lamp
- Side marker lamp
- Headlamp (LO, HI)

### Operation Procedure

### NOTE:

Never perform auto active test in the following conditions.

- · CONSULT is connected.
- · Passenger door is open.
- 1. Turn the power switch OFF.
- 2. Turn the power switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the power switch OFF.
- 3. Turn the power switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.

### NOTE:

Never depress brake pedal while operating power switch so that auto active test is not activated.

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 power switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to <u>DLK-103</u>.
   "Component Function Check".

### 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
2	Front wiper motor	LO for 5 seconds → HI for 5 seconds
3	Parking lamp     License plate lamp     Tail lamp     Front fog lamp     Side marker lamp	10 seconds
4	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times

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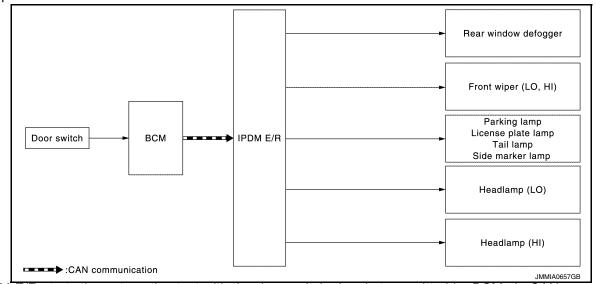
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Concept of auto active test



- 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 defogger operate?	NO	Rear window defogger  Rear window defogger ground circuit  Harness or connector between IPDM E/R and rear window defogger  IPDM E/R
Any of the following components do not		YES	BCM signal input circuit
operate Parking lamp License plate lamp Tail lamp Front fog lamp Headlamp (HI, LO) Side marker lamp Front wiper motor	Perform auto active test. Does the applicable system operate?	NO	Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R

# CONSULT Function (IPDM E/R)

INFOID:0000000010634648

### **APPLICATION ITEM**

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

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

# SELF DIAGNOSTIC RESULT

Refer to PCS-19, "DTC Index".

### **DATA MONITOR**

# **DIAGNOSIS SYSTEM (IPDM E/R)**

# < SYSTEM DESCRIPTION >

# [HALOGEN HEADLAMP]

Monitor Item [Unit]	Main Signals	Description
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communication line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates power switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay-1
PUSH SW [On/Off]		Indicates condition of power switch
DETENT SW [On/Off]		Indicates condition of shift position (park position switch)
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communication line
HOOD SW [On/Off]		Indicates condition of hood switch
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

# **ACTIVE TEST**

Test item	Description
HORN	This test is able to check horn operation [On].
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].

# CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

# BCM, IPDM E/R

< ECU DIAGNOSIS INFORMATION >

# [HALOGEN HEADLAMP]

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# **ECU DIAGNOSIS INFORMATION**

# BCM, IPDM E/R

List of ECU Reference

ECU	Reference	
	BCS-28, "Reference Value"	
DOM	BCS-46. "Fail-safe"	
BCM	BCS-47, "DTC Inspection Priority Chart"	
	BCS-48, "DTC Index"	
	PCS-15, "Reference Value"	
IPDM E/R	PCS-18, "Fail-Safe"	
	PCS-19. "DTC_Index"	

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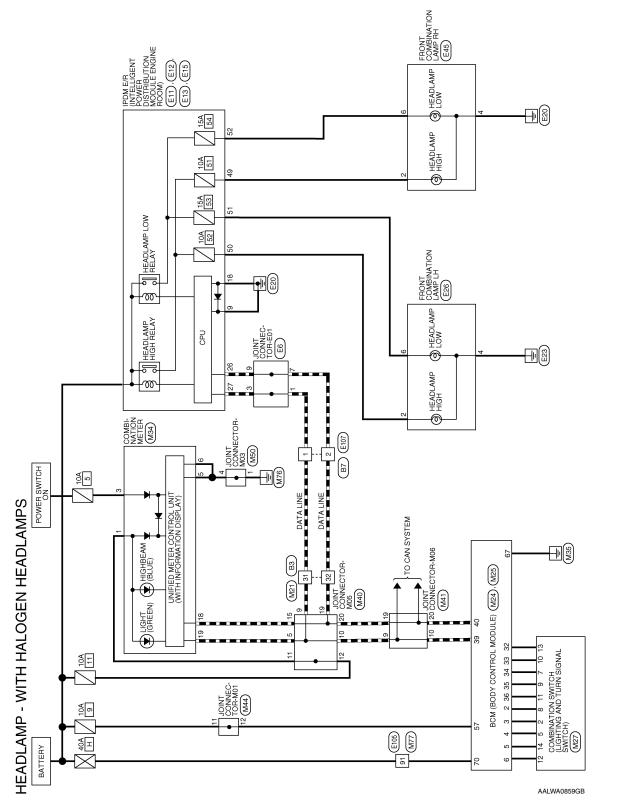
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# **WIRING DIAGRAM**

**HEADLAMP** 

Wiring Diagram



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Terminal No. Color of Wire Signal Name	5 G COMBINATION SW INPUT 2	6 V COMBINATION SW INPUT 1	32 GR COMBINATION SW	; ;		^	35 BG COMBINATION SW OUTPUT 2	36 P COMBINATION SW OUTPUT 1	7	40 P CAN-L	Connector No. M34	Connector Name COMBINATION METER	Connector Color WHITE	Ş	20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 1 40 19 9 8 9 3 5 9 9 8 7 6 5 4 2 2 2 1	Terminal No. Color of Signal Name	1 LG BAT		5 B GND	GND 8 9	18 P CAN-L	19 L CAN-H		
Connector No. M24 Connector Name BCM (BODY CONTROL	Connector Color RI ACK		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	H.S. 2 3 4 5 16 7 8 9 10 11 12 13 14 15 16 7 18 19 20 20 20 20 20 20 20 20 20 20 20 20 20	Terminal No. Color of Signal Name		2 L COMBINATION ON	3 GR COMBINATION SW INPUT 4	4 BR COMBINATION SW INPUT 3		Connector No.   M27	Connector Name COMBINATION SWITCH	Connector Color WHITE	H.S. 1 2 3 4 5 6 7 8 9 10 11 12 13 14	Terminal No. Color of Signal Name		5 BR –	7 W -					. GR	14 G –
Connector No. M21 Connector Name WIRF TO WIRF	Connector Color WHITE		H.S. 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	31   30   23   25   25   25   25   27   21   20   13	Terminal No. Color of Signal Name						Connector No. M25	Connector Name BCM (BODY CONTROL	Connector Color WHITE	(成本) (1661年)		Terminal No. Color of Signal Name	57 P BATTERY (FUSE)	B GND					AALLI	<b>A</b> 24988

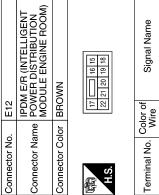
Revision: June 2014 EXL-173 2015 Leaf NAM

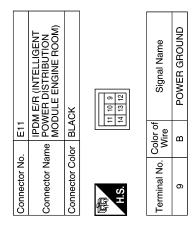
Connector No. Connector Name Connector Color		M40 JOINT CONNECTOR-M05 BLUE	Connector No. No. Connector Name J. Connector Color B.	Connector No. M41  Connector Name JOINT CONNECTOR-M06  Connector Color BLUE		Connector No. Connector Name		M44 JOINT CONNECTOR-M01 GRAY
原 H.S.	10 9 8 7	7 6 5 4 3 2 1 17 16 15 14 13 12 11	(10) H.S.	10 9 8 7 6 5 4 3 2 1 (20 19 18 17 16 15 14 13 12 11		H.S.	10 9 8 7	7 6 5 4 3 2 1
Terminal No.	Color of Wire	Signal Name	Terminal No. Wire	of Signal Name		Terminal No.	Color of Wire	Signal Name
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11	LG	I	20 P	ı				
12	ГG	ı						
15	۵	ı						
19	۵	ı						
20	۵	1						
Connector No.	o. M50		Connector No.	M77		Connector No.	E6	
Connector Name	ame JOIN	JOINT CONNECTOR-M03	Connector Name M	WIRE TO WIRE	10	Connector Name	_	JOINT CONNECTOR-E01
Connector Color	olor PINK		Connector Color W	WHITE	U	Connector Color	lor BLUE	
同 H.S.	10 9 8 20 19 18	7 6 5 4 3 2 1	H.S.	80 60 40 20 81 71 61 51 41 31 21 11 82 72 62 52 42 32 22 12	-	明.S.H.S.	12 11 10 9	8 7 6 5 4 3 2 1
Terminal No.	Color of Wire	Signal Name	+	88 73 63 53 44 34 24 14 14 14 14 14 14 14 14 14 14 14 14 14	7 2 2 8 3	Terminal No.	Color of Wire	Signal Name
-	В	ı	+	86 76 66 56 46 36 26 16	+	-	_	1
4	В	ı		87 77 67 57 47 37 27 17	-	8	_	I
			100 95	88 78 68 58 48 38 28 18	2 0	7	۵	1
				70 50 30		6	<u> </u>	I
AALIA24			Terminal No. Color of Wire	of Signal Name				
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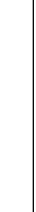
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	Connector No. E13	E13
VTELLIGENT STRIBUTION VGINE ROOM)	Sonnector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
	Connector Color WHITE	WHITE

	5	
Connector Color WHITE	lor WHI	TE
麻 H.S.	8 8	28 27 26 25 24 23 34 33 32 31 30 29
Terminal No.	Color of Wire	Signal Name
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27	٦	CAN-H





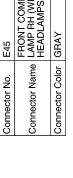


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E45	Connector Name LAMP RH (WITH HALOGEN HEADLAMPS)	GRAY
Connector No.	Connector Name	Connector Color GRAY



tor No. E26	onnector Name LAMP LH (WITH HALOGEN HEADLAMPS)	onnector Color GRAY	
onnector No.	onnector N	onnector C	



Connector No.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE

52 51 50
51 50 60 59
5 9
61

0 0 0	Color of Wire
H.S.	Terminal No.

Signal Name	-	– (WITH DAYTIME RUNNING SYSTEM)	- (WITHOUT DAYTIME RUNNING SYSTEM)	– (WITH DAYTIME RUNNING SYSTEM)	- (WITHOUT DAYTIME RUNNING SYSTEM)
Color of Wire	<b>\</b>	В/У	B/W	7	Ь
Ferminal No. Wire	2	4	4	9	9

Signal Name	_	ı	1	
Color of Wire	В	В/Υ	Γ	
Terminal No.	2	4	9	

Signal Name	H/LAMP HI RH	H/LAMP HI LH	H/LAMP LO LH	H/LAMP LO RH	
Color of Wire	Υ	5	٦	Ь	
minal No.	49	50	51	52	

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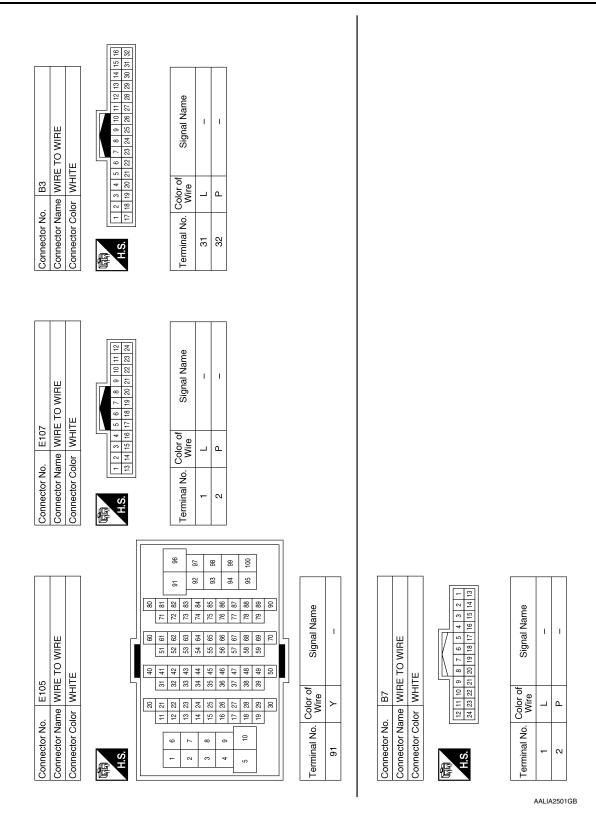
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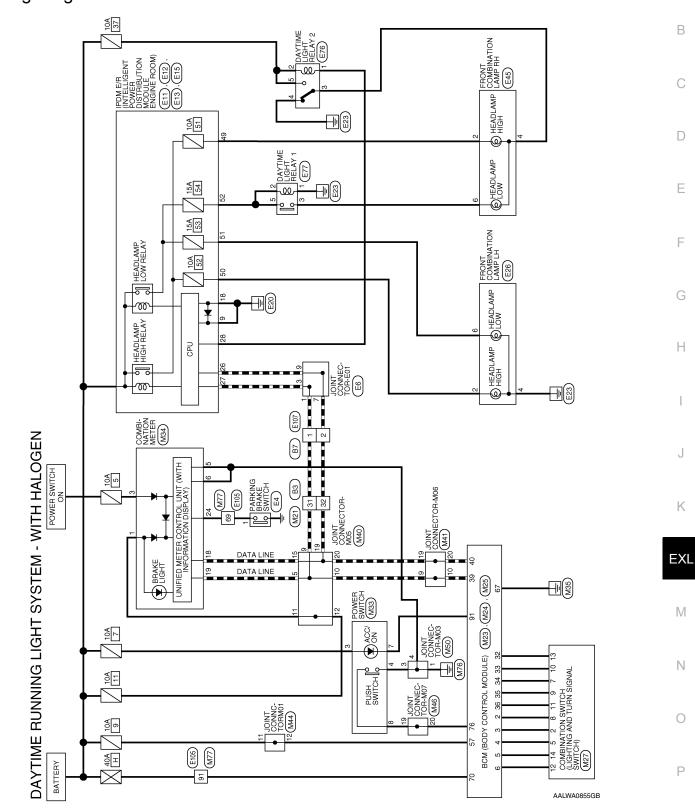
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# **DAYTIME LIGHT SYSTEM**





BATTERY (FUSE)

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Signal Name

Terminal No.

BATTERY (F/L)

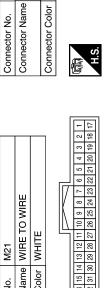
# DAYTIME RUNNING LIGHT SYSTEM WITH HALOGEN CONNECTORS

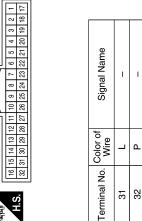
M21	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	ą

BCM (BODY CONTROL MODULE)

M23

WHITE





POWER POSITION LED

**ENG START SW** 

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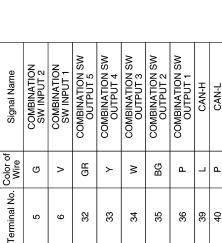
Signal Name

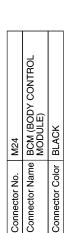
Color of Wire

Terminal No.

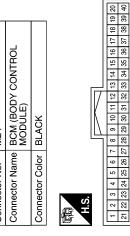


56|57|58|59|60|61|62|63|64 65| 66| 67| 68| 69| 70





2 9 32 33 8 35 36



Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3
Color of Wire	Т	GR	BR
Terminal No. Wire	2	က	4

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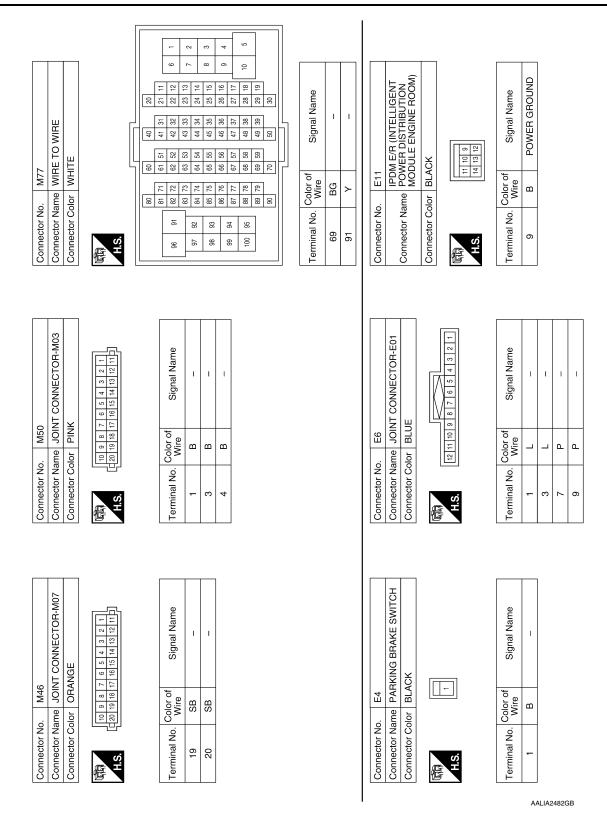
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Connector No.	). M27	TOTAL OF MOLT AND	Connector No.	o. M33	THE CHANGE OF TH	Connector No.		
Connector Name COMBI	ame CO	Connector Name   COMBINATION SWITCH Connector Color   WHITE	Connector Name	ame POWER	Connector Color WHITE	Connector Name		COMBINATION METER WHITE
H.S.	7 1 8	9 3 10 11 12 12 13 14 0 14 0 14 0 0 0 14 0 0 0 14 0 0 0 14 0 0 0 14 0 0 0 14 0 0 0 14 0 0 0 0	E.S.	4 %	© ® 7			
Ferminal No.	Color of	Signal Name				20 19 18 17 16 15 14 13 12 40 39 38 37 36 35 34 33 32	35 34 33 C	12 11 10 9 8 7 6 5 4 3 2 1 32 31 30 29 28 27 26 25 24 23 22 21
2	GR		Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
2	BB	ı	ო	g	1	-	P	BAT
7	>	1	4	В	1	က	GR	IGN
8	_	ı		>	ı	5	В	GND
6	BG	1	80	SB	ı	9	В	GND
10	>	1				18	۵	CAN-L
=	<b>a</b>	1				19	٦	CAN-H
12	>	ı				24	BG	E-PKB
13	GR	I						
14	g	1						
Connector No.	o. M40		Connector No.	o. M41		Connector No.	M44	4
Connector Name		JOINT CONNECTOR-M05	Connector Name		JOINT CONNECTOR-M06	Connector Name		JOINT CONNECTOR-M01
Connector Color	olor BLUE	Æ	Connector Color	olor BLUE		Connector Color	olor GRAY	AY
H.S.	10 9 8	10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 19 12 11	是 H.S.	10 9 8 7 20 19 18 17	7 6 5 4 3 2 1	所 H.S.	10 9 8 20 19 18	10 9 8 7 6 5 4 3 2 1 C20 19 18 17 16 15 14 13 12 11
Ferminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
22	_	1	o	_	1	F	۵	1
6	_	I	10	_	ı	12	۵	ı
10	Γ	1	19	Ъ	ı			
11	ГG	1	20	Ь	ı			
12	re	I						
15	۵	I						
19	۵	1						
20	Ъ	ı						

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POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE    E   5   50	or of Signal Name fire H/LAMP HI RH G H/LAMP HI LH L H/LAMP LO LH P H/LAMP LO RH	DAYTIME LIGHT RELAY 2 BLACK	Color of Wire         Signal Name           G         -           LG         -           B/Y         -           LG         -           LG         -           LG         -           LG         -           LG         -
Connector No.	Terminal No. Color of Wire 49 Y 50 G 51 L 52 P	Connector No. Connector Color	Terminal No. Color Wire 2 LG 2 LG 3 B/Y 4 B/Y 5 LG 5 LG
Connector No. E13 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE  The standard of	Terminal No. Color of Signal Name 26 P CAN-L 27 L CAN-H 28 G DTRL RLY	Connector No. E45 Connector Name LAMP RH (WITH HALOGEN HEADLAMPS) Connector Color GRAY	Terminal No.         Color of Wire         Signal Name           2         Y         −           4         B/Y         −           6         L         −
Connector No. E12  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color BROWN  TI   16   16   16    TI   16   16   18    TI   16   16   18    H.S.	Terminal No. Color of Signal Name Wire SGND	Connector No. E26  Connector Name LAMP LH (WITH HALOGEN HEADLAMPS)  Connector Color GRAY  (1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Color of Signal Name   Signal Name   2   G   -

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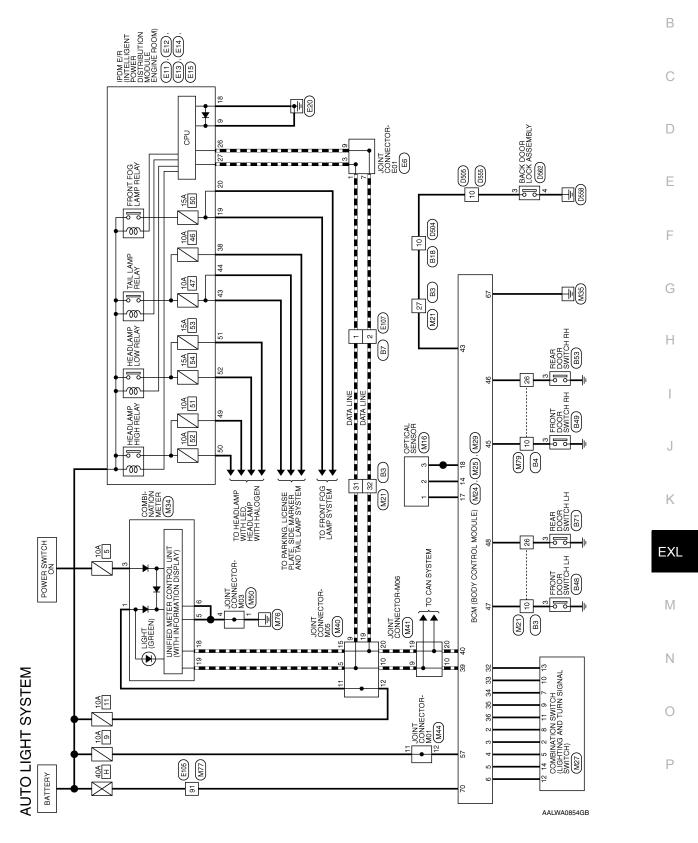
Terminal No. Wire Signal Name	В В	91 Y –											
Connector No. E105	Connector Color WHITE		山 H.S.	(c)	51 61 71	23 33 43 53 63 77 83	14 24 34 44 54 64 74	+	27 37 47 57 67 77	5 10 18 28 38 48 58 68 78 88 95 100	39 49 59 69 79	30 70 90	
Connector No. E77	Connector Color BLUF		H.S.		Terminal No. Color of Wire Signal Name	1 B/R –	2 P	3 L –		5 P			

Connector No.	). E107		<u>S</u>	Connector No. B3	B3			Connector No. B7	). B7	
Connector Name WIRE TO WIRE	ime WIRE	: TO WIRE	Ö	nector Na	me WIRE	Connector Name WIRE TO WIRE		Connector Name WIRE TO WIRE	ame WIR	E TO WIRE
Connector Color WHITE	lor WHIT	щ	Ö	Connector Color WHITE	lor WHI			Connector Color WHITE	olor WHI	TE
H.S.	11 2 3 4 4 15 16	5 6 7 8 9 10 11 12 17 18 19 20 21 22 23 24	E T	H.S.	2 3 4 18 19 20	5 6 7 8 9 10 11 12 13 14 15 21 22 23 24 25 26 27 38 29 39 31	31 32 33 32	H.S.	12 11 10 s 24 23 22 2	21 20 19 18 17 16 15 14 13
Terminal No. Color of Wire	Color of Wire	Signal Name	Ter	Terminal No. Color of Wire	Color of Wire	Signal Name		Terminal No. Wire	Color of Wire	Signal Name
-	_	1		31	_	1		_	_	ı
٥	۵	ı		32	۵	1		0	۵	

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## **AUTO LIGHT SYSTEM**

Wiring Diagram



## AUTO LIGHT SYSTEM CONNECTORS

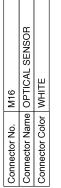
Connector No.	M16
Connector Name	Connector Name OPTICAL SENSOR
Connector Color WHITE	WHITE

Connector Name | WIRE TO WIRE

M21

Connector No.

Connector Color WHITE





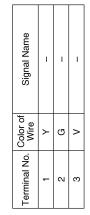
Signal Name

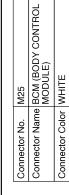
Color of Wire SB ≥ > \_ ۵

Terminal No. 10 1 1

26 27 31

32







Signal Name	BATTERY (FUSE)	GND	BATTERY (F/L)
Color of Wire	Д	В	>
Terminal No. Wire	57	29	70

Signal Name	COMBINATION SW INPUT 1	AUTO LIGHT SENSOR INPUT	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT	KEYLESS TUNER, AUTO LIGHT SENSOR GND	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	>	Ö	>	Г	GR	<b>\</b>	W	BG	Ь	Т	Ь
Terminal No.	9	14	17	18	32	33	34	35	36	39	40

Connector No.	M24
Connector Name	Connector Name   BCM (BODY CONTROL   MODULE)
Connector Color BLACK	BLACK
6	



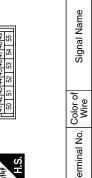
	N.	N.	N.	N.
Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2
Color of Wire		GR	BR	ŋ
Terminal No. Wire	2	е	4	5

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M34  COMBINATION METER  WHITE  State of the
CAN-L
CAN-L
CAN-L
GND
GND
IGN
BAT
Signal Name
9 8 7 6 5 4 3 2
7
ATION METER

Connector No	M	
tor Na	me JOII	Connector Name JOINT CONNECTOR-M06
tor Co	Connector Color BLUE	E
	10 9 8	7 6 5 4 3 2 1 17 16 15 14 13 12 11
Terminal No.	Color of Wire	Signal Name
	٦	1
9	٦	1
19	Ь	ı
6	٥	

M29	Connector Name BCM (BODY CONTROL MODULE)	BLACK	41   42   43   44   45   46   47   48   49         50   51   52   53   54   55
Connector No.	Connector Name	Connector Color BLACK	原 H.S.



Signal Name	DOOR SW (BACK)	DOOR SW (AS)	DOOR SW (RR)	DOOR SW (DR)	DOOR SW (RL)
Color of Wire	<b>&gt;</b>	BR	В	SB	8
Terminal No.	43	45	46	47	48

Connector No.	). M27	
Connector Na	ume COI	Connector Name COMBINATION SWITCH
Connector Color WHITE	lor WHI	TE
同 H.S.	7 1 8 8 9 9	2 3 8 9 10 11 12 13 14 5 6 8 9 10 11 12 13 14
Terminal No. Color of Wire	Color of Wire	Signal Name

Signal Name	ı	ı	ı	ı	ı	1	1	I	1	1
Color of Wire	GR	BB	Μ	_	BG	Υ	Ь	>	GR	В
Terminal No. Wire	2	5	7	æ	6	10	11	12	13	14

Signal Name	I	-	ı	I	I	ı	
Color of Wire	T	ГG	LG	۵	Ь	۵	
Terminal No. Wire	10	11	12	15	19	20	

Connector Name JOINT CONNECTOR-Mos Connector Color BLUE    10   9   8   7   6   5   4   3   2   1     10   9   8   7   6   15   15   15   15   15   15     Terminal No. Wire	TOB-M05		12 1	Name		
Connector No. M40 Connector Name JOIN Connector Color BLUI  10 9 8 H.S. Terminal No. Color of 5 L 9 L	O NT CONNEC	ਤਾ ਤਾ ਤਾ	7 6 5 4 3		'	
Connector No Connector Na Connector Na Connector Co Connector Co Connector Co Connector Co Connector Na Conne	MA C	lor BLU	20 19 18	Color of Wire	_	_
	Connector No	Connector Co	(南) H.S.		2	6

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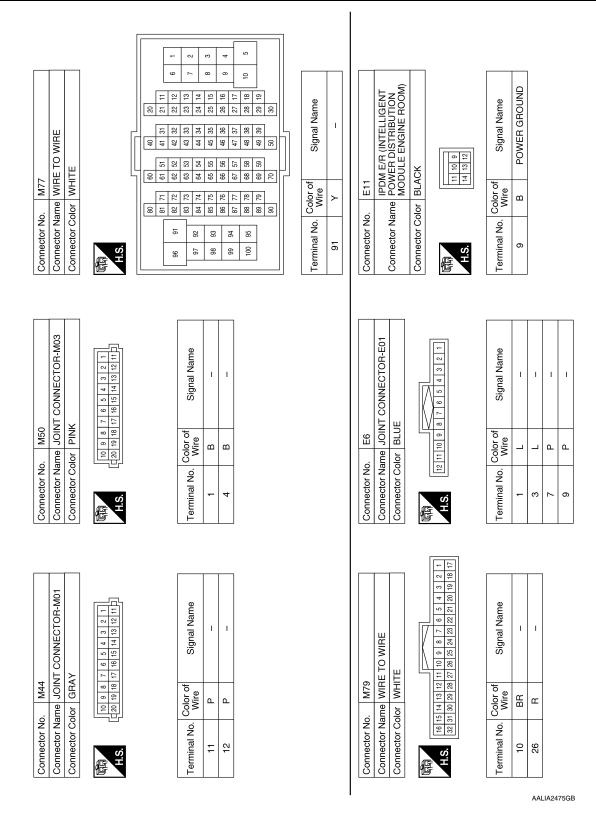
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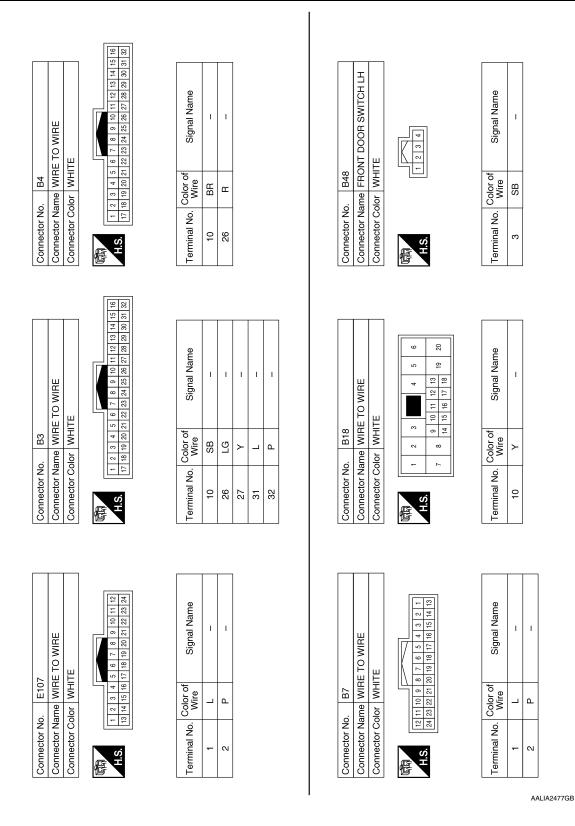
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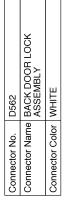
Connector No. E14  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color BROWN	原列 (46 45 44 43 42 41 40	Terminal No.         Color of Wire         Signal Name           38         LG         TAIL 1 (WITHOUT SOLAR CELL)           38         R         TAIL 1 (WITH SOLAR CELL)           43         O         CLEARANCE/L LH           44         B         TAIL 2	Terminal No. Color of Signal Name 91 Y —
Connector No. E13 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE	(京) (1 2 2 2 2 2 3 3 2 2 3 3 2 2 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 2 3 3 3 3 2 3 3 3 3 2 3 3 3 3 2 3	Terminal No. Color of Signal Name  26 P CAN-L  27 L CAN-H	Connector No. E105  Connector Name WIRE TO WIRE  Connector Color WHITE  Connector Follor WHITE  Connector Follor WHITE  Light Street Follor Follow Fo
Connector No. E12  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color BROWN	(17 <u> </u>	Terminal No. Color of Signal Name  18 B/W S GND  19 W FR FOG RH  20 V FR FOG LH	Connector No.   E15   PDM E/R (INTELLIGENT   POWER DISTRIBUTION   POWER DISTRIBUTION   MODULE ENGINE ROCM)   Connector Color   WHITE

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				А
Н	Аате		Vame	В
Connector No. B71 Connector Name REAR DOOR SWITCH LH Connector Color WHITE	Signal Name	D555   WHRE TO WIRE   WHITE     2   3     4   5   6   7   8   9   10   11   12   3   12   3   3   3   3   3   3   3   3   3	Signal Name	С
Connector No. B71 Connector Name REAR C Connector Color WHITE  H.S.	Color of LG	Connector No. D555 Connector Name WIRE T Connector Color WHITE	Color of Wire SB	D
Connector Nar. Connector Col.	Terminal No.	Connector No. D555 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No.	Е
				F
ИТСН ВН	Signal Name -		Signal Name	G
Connector No. B53 Connector Name REAR DOOR SWITCH RH Connector Color WHITE	Signal	Connector No. D505 Connector Name WIRE TO WIRE Connector Color WHITE  5 4	Signal	Н
Vo. B63 Vame REA	Color of Wire	Vo. D505  Vame WIRE  Color WHITT	Color of Wire SB	I
Connector No. B53 Connector Name REAR IC Connector Color WHITE H.S.	Terminal No.	Connector No. D505 Connector Name WIRE T Connector Color WHITE	Terminal No.	J
				K
Connector No. B49 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE	Signal Name	1RE 2 1 2 1 1 2 1 1 2 1 1 1 1 1 1 1 1 1 1	Signal Name	EXL
FRONT DOOWHITE		WHITE  WHITE  WHITE  1 1 10 10 18 17 18 15 11 10 10 18 17 18 11 10 10 10 10 10 10 10 10 10 10 10 10		M
Connector No. B49 Connector Name FRONT Connector Color WHITE H.S.	Color of Wire BR BR	Connector No. D504  Connector Name WIRE TO WIRE  Connector Color WHITE	No. Color of Wire SB	Ν
Connec Connec Connec H.S.	Terminal No.	Connec	Terminal No.	0
		·	AALIA2478GB	P

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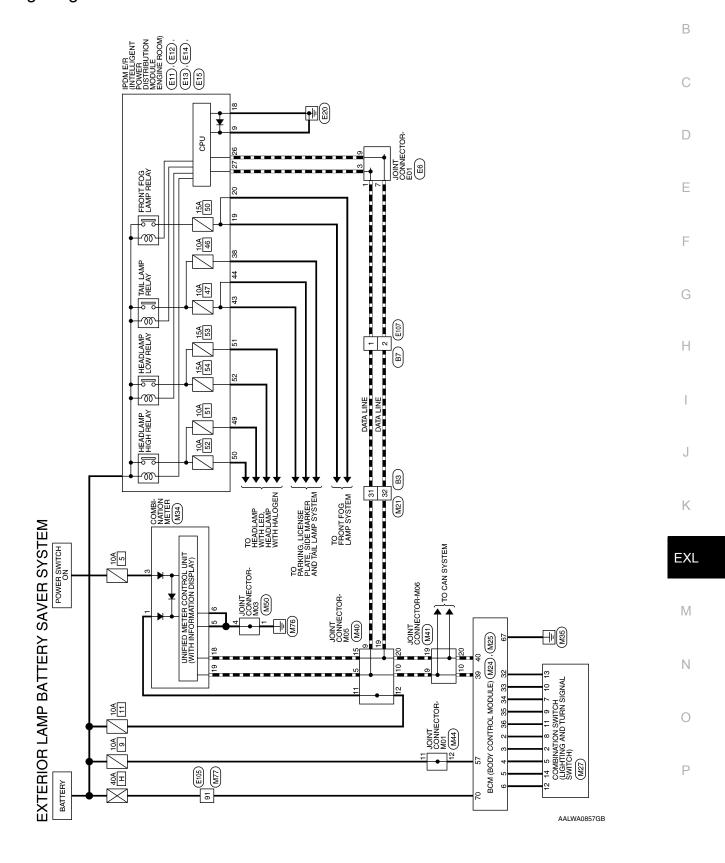


Signal Name	-	ı
Color of Wire	SB	В
Terminal No.	3	4

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## **EXTERIOR LAMP BATTERY SAVER SYSTEM**

Wiring Diagram

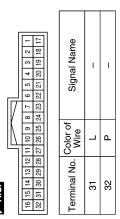


# EXTERIOR LAMP BATTERY SAVER SYSTEM CONNECTORS

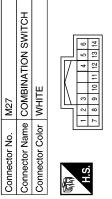
M24	Connector Name BCM (BODY CONTROL	MODULE)	BLACK
Connector No. M24	Connector Name		Connector Color BLACK
M21	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color   WHITE	

Signal Name	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	ŋ	>	GR	>	*	BG	Ь	٦	۵
Terminal No. Wire	5	9	32	33	34	35	98	68	40
46.00									

	64	7				
	6	39 7				
	8	38				
	17	37		_	-	-
	16	36	၂ မွ	0	Q 4	ဝ် က
	15	35	au	<u>55</u>	<u>F</u> 5	ᄩ
	14	34	<u>Z</u>	ŽĒ	ŽΨ	≥Ē
	13	33	l a	B	₽=	[∄
17	10 11 12 13 14 15 16 17 18 19 2	32 33 34 35 36 37 38	Signal Name	COMBINATION SW INPUT 5	SW INPUT 4	COMBINATION SW INPUT 3
	=	31		O ·	0	0 "
	10	30				
$  \rangle$	6	29 30 31				
ī	8	28	ြည		œ	~
	7	27	吕동등		GR	BB
	9	26	<u>ٽ</u> _ٽ			
	2	25	0			
	4	24	=			
<b>a</b>	က	22 23 24 25 26 27 28	Terminal No. Wire	2	ဗ	4
2	2	22	ΙĒ			
1	-	21	<u>ē</u>			



Signal Name	_	I	ı	_	I	ı	-
Color of Wire	٦	BG	٨	Ь	^	GR	В
Terminal No. Wire	8	6	10	11	12	13	14



Connector Name COMBINATION SWITCH	ПЕ	9 3 10 11 1 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Signal Name	_	I	ı	
me C	lor WH	1 2 8 7	Color of Wire	GR	BR	8	
Connector Na	Connector Color WHITE	山 H.S.	Terminal No.	2	5	7	

Connector Name BCM (BODY CONTROL MODULE)	<b>■</b>	56 57 58 59 60 61 52 63 64  66  66  67  68  69  70	Signal Name	BATTERY (FUSE)	GND	BATTERY (F/L)
me BC MC	lor WHITE	56   57   58   57   58   58   59   59   59   59   59   59	Color of Wire	_	В	>
Connector Na	Connector Color	际面 H.S.	Terminal No.	22	29	70

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Connector No. | M25

## **EXTERIOR LAMP BATTERY SAVER SYSTEM**

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

Connector No.   M34   Connector No.   M44   Connector No.   M50   Connector No.   M50	Connector No. M41 Connector Name JOINT CONNECTOR-M06 Connector Color BLUE	H.S.	Terminal No. Color of Signal Name		J 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					Connector No M77	e e	Connector Color WHITE	H.S.	65 (94)	71 61 51 41 31 72 62 52 42 32	83 73 63 53 43 33 23	92 84 74 64 54 44 34 24 14	<del>                                     </del>	A B C D
Connector No.   M34	Connector No. M40 Connector Name JOINT CONNECTOR-M05 Connector Color BLUE	10 9 8 7 6 5 4 3 C C 20 19 18 17 16 15 14 13	Color of Wire		<u></u>	5 9 9	} a	<u>а</u> с	т —		Connector Name JOINT CONNECTOR-M03	Connector Color PINK	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Color of Wire	В	В		Н
	Connector No. M34 Connector Name COMBINATION METER Connector Color WHITE	H.S.	18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 8 8 7 8 8 7 8 5 4 3 2 8 8 7 8 8 7 8 8 7 8 8 8 8 8 8 8 8 8 8	Color of Wire	Pl	GR	m m	n a	   		Connector Name JOINT CONNECTOR-M01	Connector Color GRAY	.S.		Color of Wire	А	А		EXL M
																		AALIA2491GB	P

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CLEARANCE/L LH

TAIL 2

0 0

8 4

CAN-H CAN-L

Connector No.	). E12	
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor BRC	BROWN
H.S.	22 2	22 Z1 Z0 19 18
Terminal No. Wire	Color of Wire	Signal Name
18	B/W	S GND
19	۸	FR FOG RH
50	>	ER FOG I H

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name Connector Color

Connector Name | JOINT CONNECTOR-E01

9<u></u>

Connector No.

Connector Color BLUE

E1

Connector No.

BLACK

F

Signal Name	S GND	FR FOG RH	FR FOG LH	
Color of Wire	B/W	8	>	
Terminal No. Wire	18	19	20	

Signal Name	-	ı	-	_
Color of Wire	7	7	۵	Ь
Terminal No. Wire	ŀ	3	2	6

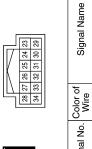
5	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	HTE	
Connector No. E15	Connector Name PO	Connector Color WHITE	

PDM E/R (IN LELLIGEN I POWER DISTRIBUTION MODULE ENGINE ROOM	ITE	50	Signal Name	HA IH AMAJ/H	H/LAMP HI LH	H/LAMP LO LH	H/LAMP LO RH
	lor WHITE	53 52 51 50 62 61 60 59	Color of Wire	У	5	_	Ь
Connector Name	Connector Color	刷 H.S.	Terminal No.	49	20	51	52
					•		

E14	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	3ROWN	
Connector No.	Connector Name	Connector Color BROWN	

39 38 7 36 35 36 46 45 44 43 42 41 40	Signal Name	TAIL 1 (WITHOUT SOLAR CELL)	TAIL 1 (WITH SOLAR CELL)
39 38 46 45 44	Color of Wire	ГG	œ
H.S.	Terminal No. Wire	38	38

PDM E/R (INTELLIGE POWER DISTRIBUTIC MODULE ENGINE RO WHITE	Connector No. E13  Connector Name POWEF MODUI Connector Color WHITE
	J.S.
	SH
	唇
WHITE	Connector Color
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Name
E13	Connector No.



8 8	Color	۵	7
H.S.	Terminal No.	56	27

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## **EXTERIOR LAMP BATTERY SAVER SYSTEM**

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

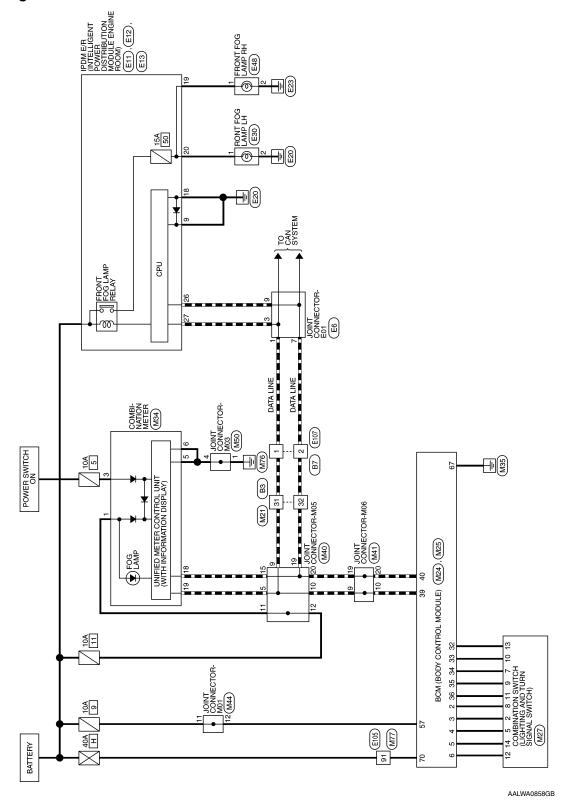
		[3] [3]	]						А
		11 12 13 14 15 16 27 28 29 30 31 32	lame						В
	TO WIRE	18 9	Signal Name						С
B3	time WIRE T	1 2 3 4 5 6 7 8 9 17 18 19 20 21 22 23 24 25	Color of Wire	1 0					D
Connector No.	Connector Name WIRE TO WIRE	H.S.	Terminal No.	32 3					Е
Г		24 12	1						F
	O WIRE	7 8 9 10 11 19 20 21 22 23	Signal Name	1					G
F107	e WIRE T	2 3 4 5 6 14 15 16 17 18	Color of Wire	1 <u>C</u>					Н
Connector No.	Connector Color WHITE	- <u>- =</u>	Terminal No. C	- a					I
S	Conr	原 H.S.	Term						J
			96 70	<del></del> 11					К
			72 73	74 84 84 87 87 88 8 8 8 8 8 8 8 8 8 8 8	Signal Name		16 15 14 13	Signal Name	EXL
	TO WIRE		40 41 51 60 42 52 62 43 53 63	54 45 55 55 57 57 50 50 50 50 50 50 50 50 50 50 50 50 50	Signa	TO WIRE	7 6 5 7 19 18 17	Signa	M
F105	me WIRE	L	8 2 2 8	14 24 34 15 25 35 16 26 36 17 27 37 18 28 38 19 29 39 30 30 30 30 30 30 30 30 30 30 30 30 30	Color of Wire	. B7 me WIRE TO	12 11 10 9 8 24 23 22 21 20	Color of Wire L	N
Connector No.	Connector Name WIRE TO WIRE	原 H.S.	1 2 7	ω 4 m ω ω <u></u>	Terminal No.	Connector No. B7 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No.	
						l		AALIA2493G	ВВ

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FOG LAMPS

## FRONT FOG LAMP SYSTEM

Wiring Diagram



Signal Name	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	GR	<b>\</b>	Μ	BG	Ь	T	Ь
Terminal No.	32	33	34	35	36	39	40

			.	[유] 위						
	BCM (BODY CONTROL MODULE)	BLACK		9 10 11 12 13 14 15 16 17 18 18 29 30 31 32 33 34 35 36 37 38	Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1
. M24				6 7 8 26 27 28	Color of Wire	_	GR	BB	G	>
Connector No.	Connector Name	Connector Color	呵动 H.S.	1 2 3 4 5 21 22 23 24 25	Terminal No.	2	3	4	5	9

8 4

		_			
	뜨	17			
	2	92			
	3	19		$\overline{}$	
	4	26 25 24 23 22 21 20 19 18			
	2	2			
	9	22	] a		
II	7	23	a l		
V	80	24	=	1	1
١	6	25	""		
	10	26	Signal Name		
Ξ	15 14 13 12 11	27			
	12	32 31 30 29 28 27			
	13	29	<del>-</del>	+-	
	14	98	5 5	١.	_
	15	31	∀≅	-	۳.
	16	88	0		
_			Terminal No. Wire	31	32
	İ	?	Term		

FOG LAMPS CONNECTORS

Connector Name WIRE TO WIRE

M21

Connector No.

Connector Color WHITE

Signal Name	1	ı	1	ı	ı	ı
Color of Wire	BG	<b>\</b>	Ъ	^	GR	g
Terminal No. Wire	6	10	F	12	13	14

	COMBINATION SWITCH	正	8 8 9 10 11 12 13 14 8 5 6 6 8	Signal Name	ı	ı	I	1
. M27		lor WH		Color of Wire	GR	BR	×	T
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	2	5	7	8

Connector No.	M25	
Connector Na	ame BCN MOI	Connector Name   BCM (BODY CONTROL   MODULE)
Connector Color WHITE	olor WHI	TE
H.S.	56 57    65   61	S6 57 58 59 60 61 62 63 64 8 6 70
Terminal No.	Color of Wire	Signal Name
22	Ь	BATTERY (FUSE)
29	В	GND
20	Å	BATTERY (F/L)

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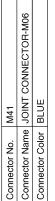
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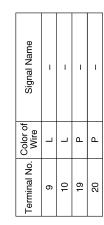
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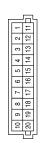
Connector No.

Connector Name | COMBINATION METER

M34

Connector No.

Connector Color | WHITE





Signal Name	-	ı	I	_	I	I	I	ı
Color of Wire	Г	٦	Г	ГG	ГG	۵	Ь	۵
Terminal No.	9	6	10	11	12	15	19	20



Connector Name | JOINT CONNECTOR-M03

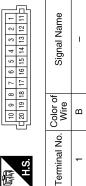
Connector Name | JOINT CONNECTOR-M01

M44

Connector No.

Connector No. M50

Connector Color | PINK



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	2	22 21	
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	4	24	
	2	25 24	
	9	35 34 33 32 31 30 29 28 27 26	
	7	27	
	8	28	
l 17	6	29	
	9	30	
IN	Ξ	31	
\	12	32	
	16 15 14 13 12 11	33	
	14	34	
	15	35	
	16	38	
	18 17	37	
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÷	24 2							
,	25	<u>_</u>						
>	26	aπ			_	_		I
_	27	Z	BAT	IGN	GND	GND	ż	ż
>	28	na	B	$\subseteq$	Q	G	CAN-L	CAN-H
,	29	Signal Name						-
2	36 35 34 33 32 31 30 29	٠,						
Ξ	31							
4	32	<b>—</b>						
2	33	Color of Wire	/K	~				
1	34	응통	LG	GR	m	В	Д	
2	35	Ö						
2	36	0.						
-	37	Z						
2	38	na	-	က	2	9	18	9
2	39	Œ						
0 5 0 5 0 0 7	40 39	Terminal No.						
÷	_	 	_	L			L	_

Connector Color	olor	GRAY	₩	>							
是 H.S.	28	20 19 18 1	∞ ∞	7 11	6 5 4 3 2 16 15 14 13 12	2 5	4 4	€ €	2 2	-=	



120 13 14 13 15 17 18 13 15	Signal Nar	_
81 61 02 1	Color of Wire	Ь
H.S.	Terminal No.	11

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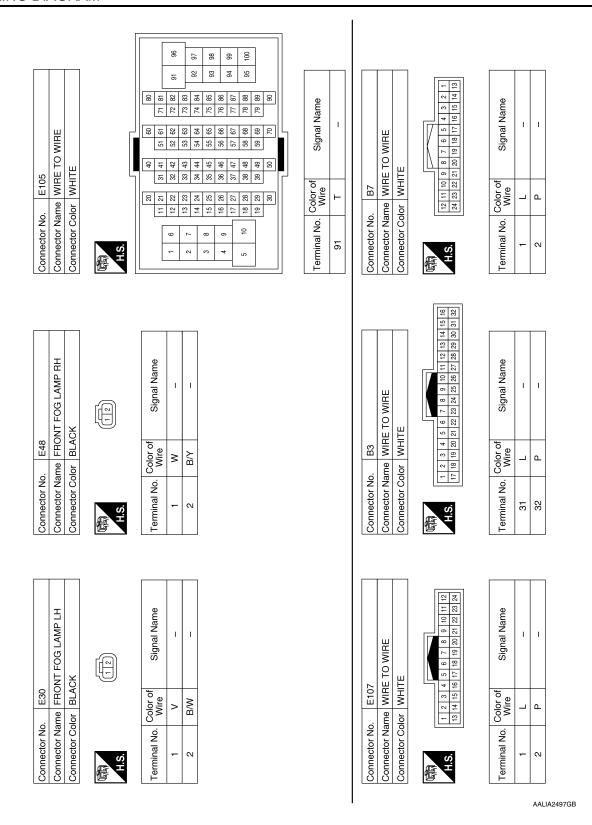
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Connector No. 66 Connector Name JOINT CONNECTOR-E01 Connector Color BLUE	9 8 7 6 5 4 4 3 2 2 1		Signal Name	1	1 1	ı	
ne JOIN or BLUE	12 11 10 8		Color of Wire	_		. 4	
Connector No. E6 Connector Name JOINT Connector Color BLUE	H.S.		Terminal No. Color of Wire	-	8 7	- თ	
Terminal No. Color of Wire Signal Name							
					_	_	
WIRE		40 20 41 31 21 11	42 32 22 12 6 1 43 33 23 13 7 2 44 34 24 14	35 25	46     36     26     16     9     4       47     37     27     17	48 38 28 18 10 5 49 39 29 19	
77 IRE TO WIRE HITE		31 20	32 22 12 6 33 23 13 7 34 24 14 7	55 45 35 25 15 8	36 26 16 9	39 28 18 10 39 29 19	
inector No. M77 inector Name WIRE TO WIRE		40 20	52 42 32 22 12 6 53 43 33 23 13 7 54 44 34 24 14	75 65 55 46 35 25 15 8	57 47 37 27 17	59 49 39 29 19 10 10 10 10 10 10 10 10 10 10 10 10 10	70 50 30

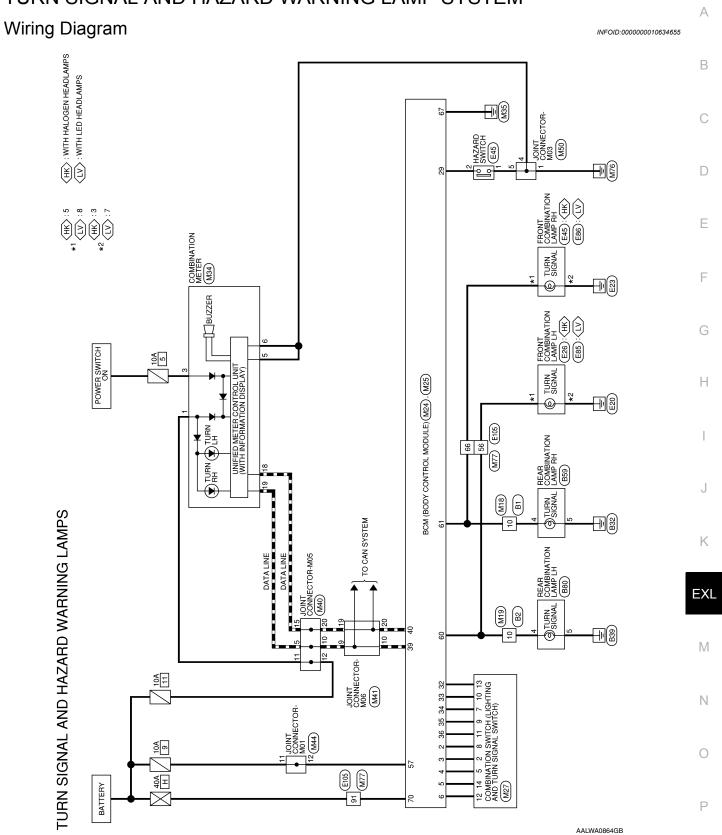
Connector No.	E11	Connector No.	. E12		Connector No.	E13	
connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Na	me POWI	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Na	IPDN MOD	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK	BLACK	Connector Color BROWN	lor BROV	N	Connector Color	lor WHITE	ш
赋 H.S.	11 10 9 12 12	是 H.S.	17   22   21	21 20 19 18	是 H.S.	38 27 / 72	25 24 23 30 29 30 29 30 30 30 30 30 30 30 30 30 30 30 30 30
Terminal No. Wire	olor of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No. Color of Wire	Color of Wire	Signal Name
6	B POWER GROUND	18	B/W	SGND	26	۵	CAN-L
		19	>	FR FOG RH	27	_	CAN-H
		20	>	FR FOG LH			

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Revision: June 2014 EXL-199 2015 Leaf NAM



## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM



56|57|58|59|60|61|62|63|64 65|66|67|68|69|70

FLASHER OUTPUT (LEFT) FLASHER OUTPUT (RIGHT)

BATTERY (F/L)

GND

В >

67

61 9

BATTERY (FUSE)

Signal Name

Color of Wire ۵

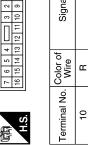
Terminal No.

22

# TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

Vo. M18	Sonnector Name   WIRE TO WIRE	Solor WHITE	
Connector No.	Connector Name	Connector Color WHITE	

nector No. M18 nector Color WHITE	lame color	WIRE WIRE	~ [ [ ] [ ]	_  <u> </u>       <u> </u>					
•	9 /	5	4	Ш	П	3	2	1	
ú	16 15 14 13 12 11 10 9	14	13	12	=	9	9	8	
ó									





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•	RE TO WIRE	ITE	7 6 5 4 3 2 1 16 15 14 13 12 11 10 9 8	Signal Name	
M M	ne WIF	or WH	7 6 5 4 [6 15 14 13 1	Solor of Wire	
Connector No.   M19	Connector Name WIRE TO WIRE	Connector Color WHITE	南 H.S.	Terminal No. Wire	
				ame	

M25	Connector Name   BCM (BODY CONTROL	MODULE)	WHITE	
Connector No. M25	Connector Name		Connector Color WHITE	
Signal Name	)	HAZARD SW	COMBINATION	SW OUTPUT 5

M24

Connector No.

HAZARD SW	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
g	GR	<b>&gt;</b>	<b>×</b>	BG	Д	_	Д
29	32	33	34	35	36	39	40
	g	G GR	ω	© 8 > ≥	© 8 > × ⊗ 8	D B > ≥ B G G	D B S × × B G C

Terminal No. Color of Wire 29 G G G G G G G G G G G G G G G G G G	Signal Name	HAZARD SW	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
32 32 33 34 34 35 36 36 39 39 40	Color of Wire	5	GR	<b>\</b>	Μ	BG	Ь	Г	Ь
	Terminal No.	29	32	33	34	35	36	39	40

		19 20 39 40						
BCM (BODY CONTROL MODULE)	CK	9 10 11 12 13 14 15 16 17 18 1	Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1
	lor BLACK	5 6 7 8 8 25 26 27 28 3	Color of Wire	_	GR	BR	ტ	>
Connector Name	Connector Color	H.S.	Terminal No.	2	е	4	9	9

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## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< WIRING DIAGRAM >

SYSTEM
[HALOGEN HEADLAMP]

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nector No.	M27		Connector No	M34		Connector No	M40		
nector Name		COMBINATION SWITCH	Connector Na	ame CON	Connector Name COMBINATION METER	Connector Name		JOINT CONNECTOR-M05	
nector Color	lor WHITE		Connector Color	olor WHITE	E E	Connector Color	color BLUE	ш	
	7 1 7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10	12 12 14 5 6 14 15	H.S. 20 19 18 17 16 15 14 13	15 14 13	0 0 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	H.S.	10 9 8 1 18 1	7 6 5 4 3 2 1 17 16 15 14 13 12 11	
ninal No.	Color of Wire	Signal Name	40 39 38 37 38	35 94 95	31 30 23 28 27 20 23 24 23				
2	GR	1	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	
5	BB	ı	-	9	BAT	5	_	1	
7	8	ı	က	GR	NSI	6	٦	1	
8	_	1	c.	В	GND	10	_	ı	
6	BG	1	9	В	GND	=	LG	1	
10	>	1	18	۵	CAN-L	12	LG	ı	
7	<u>а</u>	1	19	_	CAN-H	15	۵	1	
12	۸	1				19	۵	1	
13	GR	ı				20	۵	1	
14	ŋ	1							
nector No.	M41		Connector No.	). M44		Connector No.	lo. M45		
nector Name	me JOINT	JOINT CONNECTOR-M06	Connector Name	ame JOIN	JOINT CONNECTOR-M01	Connector	lame HAZ	Connector Name HAZARD SWITCH	
nector Color	lor BLUE		Connector Color	olor GRAY	>	Connector Color	color WHITE	TE	
ا آ							L		
S.	10 9 8 7 6 5 C 20 19 18 17 16 15	15 14 3 2 1 15 14 13 12 11 1	H.S.	20 19 18 17	18 7 6 5 4 3 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	H.S.		3 1 2 4	
ninal No.	Color of	Signal Name	Terminal No.	Color of	Signal Name	Terminal No.	Color of	Signal Name	
6	2 -	1	=	<u>a</u>	1	_	<u>a</u>	1	
10		1	12	۵	1	2	g	1	
19	۵	1							
20	۵	1							

Revision: June 2014 EXL-203 2015 Leaf NAM

## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [HALOGEN HEADLAMP]

E26

Connector No.

Connector Name | WIRE TO WIRE

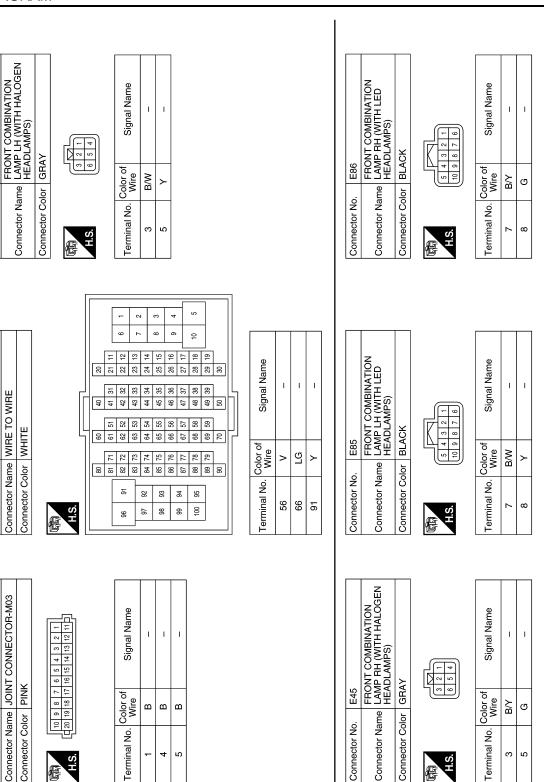
Connector Name | JOINT CONNECTOR-M03

M50

Connector No.

M77

Connector No.



**EXL-204** Revision: June 2014 2015 Leaf NAM

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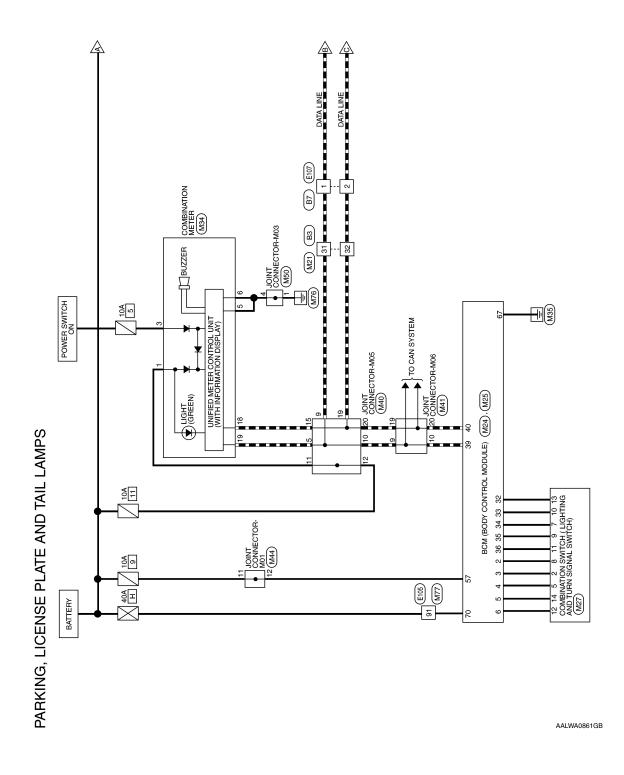
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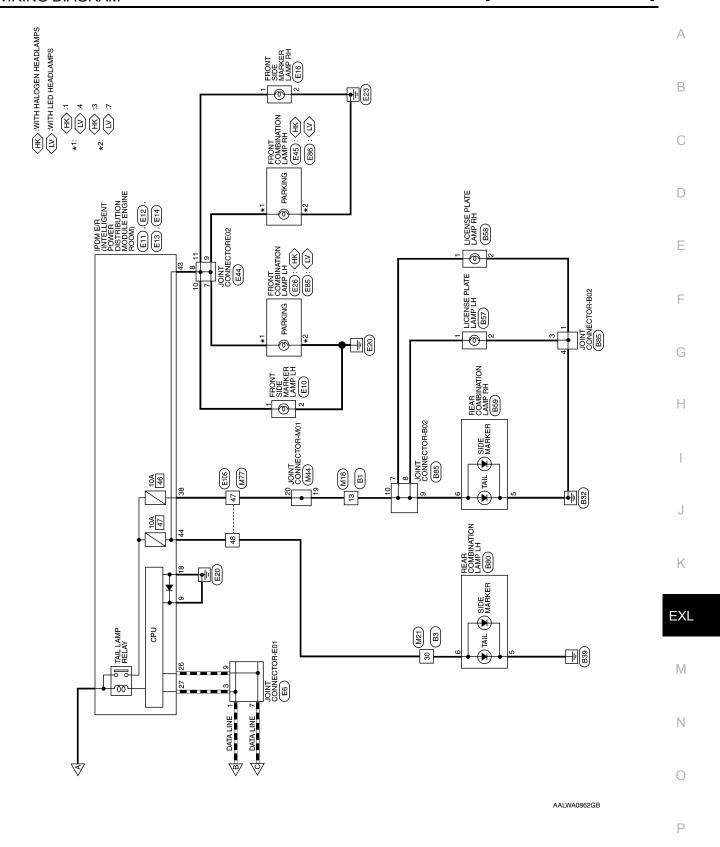
DIAGRAM >	[HALOGEN HEADLAWP]
	А
WIRE	В
B2	С
No.   B2   No.   B2   No.	D
Connector No. B2  Connector Name WIRE TO WIRE  Connector Color WHITE      2	E
	F
WIRE Signal Name	REAR COMBINATION LAMP LH WHITE  or of Signal Name Fe
	B80 LH WHITE  or of Signs  Ire  B B  HEAR COMBIN  Signs  A  T  T  T  T  T  T  T  T  T  T  T  T
Connector No. B1 Connector Name WIRE T Connector Color WHITE  This is in in it is in in it is in	
Connector No. Connector Nam Connector Colc H.S. 10	Connector No. Connector Color Terminal No. Www. W 4 5 5 6
8 8 8 8 8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	K
5 8 8 5 9	DN LAMP
	Signal Na
Connector No. M105  Connector Name WIRE TO WIRE  Connector Color WHITE  TH.S.  A.S.	
Connector No. M105  Connector Name WIRE T  Connector Color WHITE  A 9 1 12 22 2 4 4 1	mector N. mector N. minal No.
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**EXL-205** Revision: June 2014 2015 Leaf NAM

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram





Revision: June 2014 EXL-207 2015 Leaf NAM

# PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS

Connector Name WIRE TO WIRE Connector Color WHITE	Connector No.	M18	Ö
Connector Color WHITE	Connector Name	WIRE TO WIRE	Co
	Connector Color	WHITE	S

	WIRE		8 6 7 7 8 8 7 7 8 9 8 9 7 7 8 9 8 9 9 9 9 9
M21	VIRE TO	VHITE	16 15 14 19 12 11 10 9 8 7
	Connector Name WIRE TO WIRE	Connector Color WHITE	16 15 14 3
Connector No.	Connect	Connect	南南 H.S.
M18	e WIRE TO WIRE	WHITE	7 6 5 4
	_		

Signal Name	_	
Color of Wire	Μ	
Terminal No. Wire	13	

Signal Name	I	
Color of Wire	Μ	
ninal No. Wire	13	

Signal Name

Terminal No.

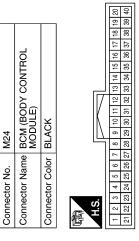
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32 33 38

M25	Connector Name BCM (BODY CONTROL MODULE)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

ITE	156   57   58   59   60   61   62   63   64   65   65   65   65   65   65   65	Signal Name	BATTERY (FUSE)	GND	(I/J) KBJITAB
lor WH	56 57	Color of Wire	۵	В	Υ
Connector Color WHITE	丽 H.S.	Terminal No. Wire	57	29	20
	· <u></u>				

Signal Name	COMBINATION SW INPUT 5	COMBINATION SW INPUT 4	COMBINATION SW INPUT 3	COMBINATION SW INPUT 2	COMBINATION SW INPUT 1	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2	COMBINATION SW OUTPUT 1	CAN-H	CAN-L
Color of Wire	L	GR	BB	9	^	GR	<b>\</b>	Μ	BG	۵	_	Ь
Terminal No. Wire	2	ε	4	9	9	35	88	34	35	98	68	40



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Connector NameIOINT CONNECTOR-M05		(10) 9 8 7 6 5 4 3 2 1 (20) 19 18 17 16 15 14 13 12 11	<u>22 11</u>	Terminal No. Wire Signal Name	2	- Л 6	10 L	11 LG -	12 LG -	15 P		. a.		Connector No.   M50	CON CITATION TINION	Connector Color PINK	10 9 8 7 6 5 4 3 2 1 1	Terminal No.	- B	4 B	
M34 COMBINATION METER	TE		12 11 10 9 8 7 6 5 4 3 32 31 30 29 28 27 26 25 24 23	Signal Name	BAT	NSI	GND	GND	CAN-L	CAN-H					TOTAL COLOUR NOOT	Connector Color   GRAY	8 7 6 5 4 3 2 1 18 17 16 15 14 13 12 11	Signal Name	1	ı	
			15 14 13 35 34 33	Color of Wire	re	GR	В	В	Ь	_				O. M44	-	arne JOIN	10 9 8	Color of Wire	۵	۵	/4/
Connector No.	Connector Color	H.S.	20 19 18 17 16 40 39 38 37 36	Terminal No.	-	ဇ	2	9	18	19				Connector No.		Connector Name	丽 H.S.	Terminal No.	F	12	Ç
M27 COMBINATION SWITCH		6 c	Sign	1	1	1	ı	1	1	1	I	ı	1		SOM GOTOSINION TINION SOSTORY		10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12 11	Signal Name	1	1	
		- 1		GR	BB	>	_	BG	>	۵	>	GR	σ	M41	J. Vi	lor BLUE	10 9 8	Color of Wire	_	_	٥
Connector No.	Connector Color		Terminal No.		5	7	8	6	9	1	12	13	4	Connector No.	No to to	Connector Color	H.S.	Terminal No.	6	10	9

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Revision: June 2014 EXL-209 2015 Leaf NAM

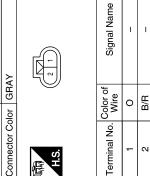
Connector No. E10 Connector Name FRONT SIDE MARKER LAMP LH Connector Color GRAY  A.S.  Terminal No. Color of Signal Name  1 0	Connector No. E13  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE  Terminal No. Color of Signal Name  26 P CAN-H  27 L CAN-H
Connector No.   E6   Connector No.   E6   Connector Name   JOINT CONNECTOR-E01   Connector Color   BLUE	Connector No. E12 Connector Name   IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color   BROWN  Torminal No. Color of Signal Name  18 B/W SGND
Connector No. M77  Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.  H.S.  Register September 198	Terminal No. Virie Signal Name  47 W -  48 L -  91 Y -  Connector No. E11  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color of BLACK  Terminal No. Volor of Signal Name  9 B POWER GROUND

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Connector No.	E26
Connector Name	FRONT COMBINATION LAMP LH (WITH HALOGEN HEADLAMPS)
Connector Color GRAY	GRAY
é	

Connector Name		LAMP LH (WITH HALOGEN HEADLAMPS)
Connector Color GRAY	lor GR/	λt
H.S.		T   T   T   T   T   T   T   T   T   T
Terminal No. Wire	Color of Wire	Signal Name
1	0	1
3	M/B	1

Connector No.	E16
Connector Name	Connector Name FRONT SIDE MARKER LAMP RH
Connector Color GRAY	GRAY



E14	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	
Connector No.	Connector Name	Connector Color BROWN	

39     38	of Signal Name	TAIL 1 (WITHOUT SOLAR CELL)	TAIL 1 (WITH SOLAR CELL)	CLEARANCE/L LH	TAIL 2
[6] 4]	Color of Wire	ГС	ш	0	В
H.S.	Terminal No.	38	38	43	44

Connector No.	). E85	
Connector Name		FRONT COMBINATION LAMP LH (WITH LED HEADLAMPS)
Connector Color BLACK	olor BLA	CK
H.S.	(c) (p)	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Terminal No. Wire	Color of Wire	Signal Name
4	0	ı
7	B/W	ı

Connector No.	. E45	
Connector Name		FRONT COMBINATION LAMP RH (WITH HALOGEN HEADLAMPS)
Connector Color	lor GRAY	47
所 H.S.		2 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Terminal No. Wire	Color of Wire	Signal Name
1	0	_
3	В/Υ	ı

r No.   E44	Connector Name JOINT CONNECTOR-E02	Connector Color BLUE	12 11 10 9 8 7 6 5 4 3 2 1
Connector No.	Connector Na	Connector Co	H.S.

Signal Name	ı	I	-	ı	ı
Color of Wire		0	0	0	0
Terminal No. Wire	7	8	6	10	11

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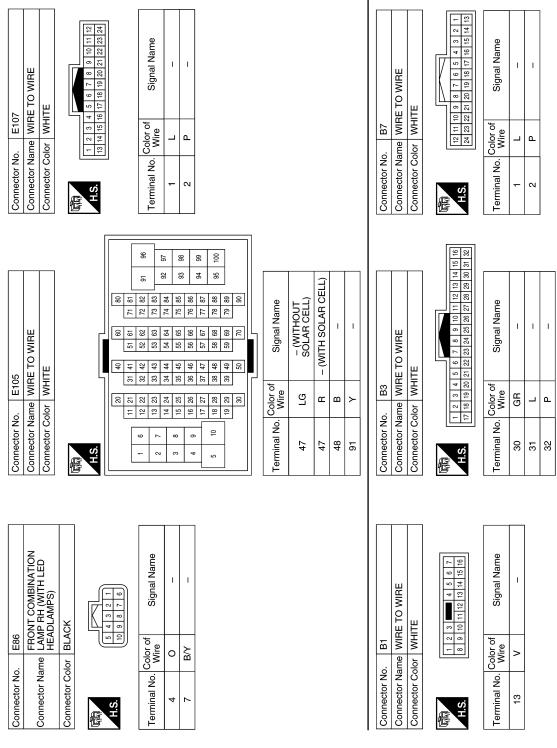
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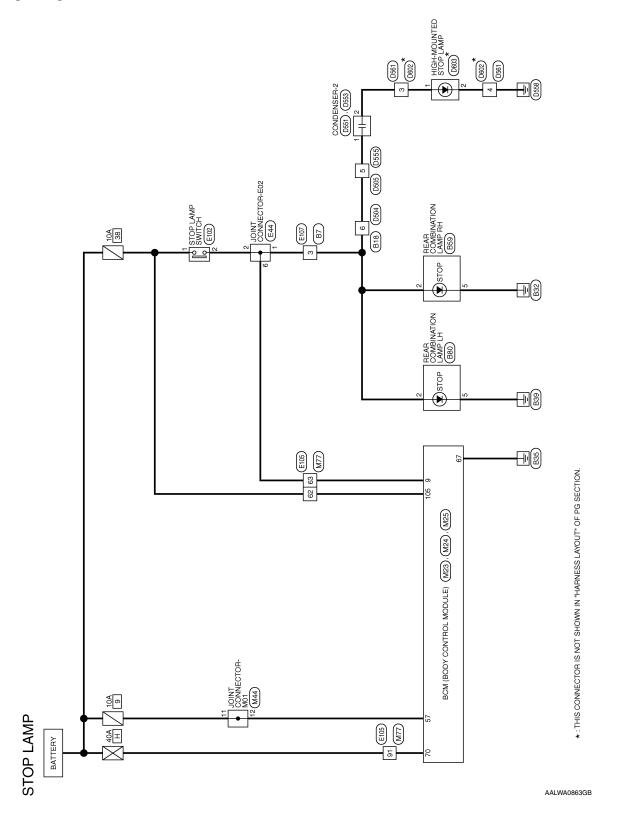
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Revision: June 2014 EXL-213 2015 Leaf NAM

STOP LAMP

Wiring Diagram



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STOP LAMP CONNECTORS	SO	INECTORS								
Connector No. M23	M2	53		Connector No.	. M24		ပြ	Connector No.	M25	
Connector Na	ame BC MC	Connector Name BCM (BODY CONTROL MODULE)		Connector Na	me BCM MOD	Connector Name BCM (BODY CONTROL MODULE)	ŏ	onnector Nam	ne BCM MOD	Connector Name BCM (BODY CONTROL MODULE)
Connector Color WHITE	olor WF	HTE		Connector Color BLACK	lor BLAC	X	[ၓ]	Connector Color WHITE	r WHIT	ш
				6			E		56 57 58 5	156 57 58 59 60 61 62 63 64   65  66  67  68  69  70
H.S.				H.S.			•	H.S.		
71 72 73 74 75 91 92 93 94 95 9	87 77 78 96 97 98	79 80 81 82 83 84 85 86 87 88 99 100101102103104105106107108	89 90 109110	1 2 3 4 5 6 7 21 22 23 24 25 26 27	6 7 8 9	10 11 12 13 14 15 16 17 18 19 20 30 31 32 33 34 35 36 37 38 39 40				
			7	]	]		7			
Terminal No. Color of Wire	Color o	of Signal Name		Terminal No. Wire	Color of Wire	Signal Name	_ <del>T</del>	Terminal No. Wire	Color of Wire	Signal Name
105	>	BRAKE SW2		o	BB	BRAKE SW1		57	۵	BATTERY (FUSE)

or of ire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name		Terminal No. Wire	Color of Wire	Signal Name	
>	BRAKE SW2	0	BR	BRAKE SW1		57	۵	BATTERY (FUSE)	
						29	В	GND	
						70	>	BATTERY (F/L)	
M44		Connector No.	o. M77			Terminal No	Color of	Signal Name	
JOINT	JOINT CONNECTOR-M01	Connector Name WIRE TO WIRE	ame WIR	E TO WIRE		3	Wire		
GRAY		Connector Color WHITE	lor WHI	1		62	>	ı	
5				1		63	BR	I	
7 0	- u					91	>	ı	
19 18 17	16 15 14 13	H.S.			-				
			8	60 40 20					
or of ire	Signal Name	96	81 71 6	61 51 41 31 21 11 6 6 6 52 42 32 22 12 6	-				
_	ı	97	73	23 23	2				
_	1	+	84 74 6	64 54 44 34 24 14 65 55 45 35 25 15 8	en en				
		_	9/	56 46 36 26	4				
		99 94	77 88	67 57 47 37 27 17 68 58 48 38 28 18 10	100				
		_	62	59 49 39 29	_				
			06	70 50 30					

Connector Color Connector Name Connector No.

Signal Name	_	ı	
Color of Wire	Ь	۵	
Terminal No. Wire	11	12	

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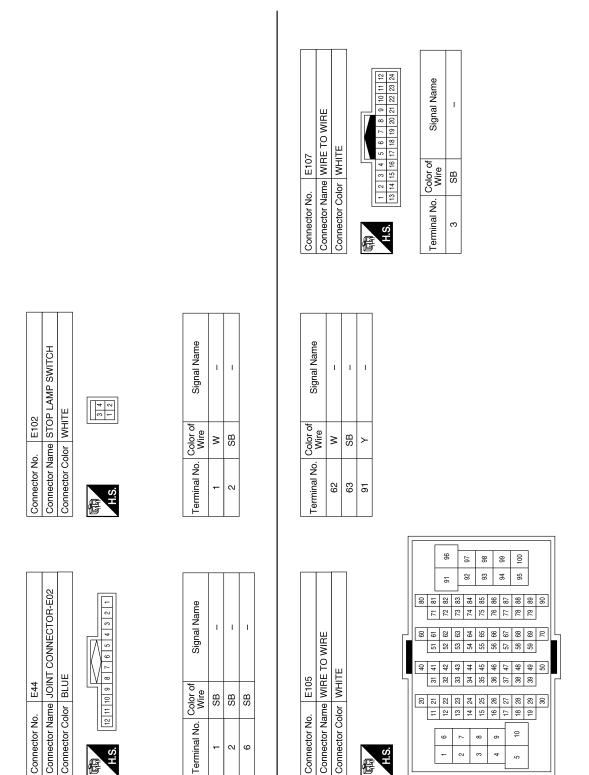
**EXL-215** Revision: June 2014 2015 Leaf NAM **EXL** 

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Connector Name REAR COMBINATION LAMP RH Connector Color WHITE	Terminal No. Color of Wire Signal Name  2 Y -	Connector No. D505 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Signal Name 5 R -
TE TO WIRE 4 5 6 10 11 12 13 19 20 15 16 17 18 19 20	Signal Name	TO WIRE  3 2 1  11 10 9 8 7  16 15 14 8 7	Signal Name
o. B18 ame WIRE olor WHITE olor 7 8 9 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Color of Wire BR	6 5 4	Color of Wire
Connector Name WIRE TO WIRE  Connector Color WHITE  1 2 3 4 10 11 12 13  7 8 9 10 11 12 13  7 8 14 15 16 17 18	Terminal No.	Connector No. D504  Connector Name WIRE TO WIRE  Connector Color WHITE  6 5 4 3 3  H.S. 20 19 13 12 11 10 9 20 19 18 17 16 15 14	Terminal No.
TO WIRE	Signal Name	Connector No. B80 Connector Name REAR COMBINATION LAMP LH Connector Color WHITE	Signal Name
No. B7 Name WIRE TO WIR Color WHITE  12 11 10 9 8 7 6 5 5 24 23 22 21 20 19 18 17	Color of Wire	B80  B80  LAMP L  Or WHITE	Color of Wire SB B B
Connector No. B7  Connector Name WIRE TO WIRE  Connector Color WHITE  TE 11 10 9 8 7 6 5 4  H.S. 24 23 22 21 20 19 18 17 18	Terminal No. C	Connector No. B80 Connector Name REAR C Connector Color WHITE	2 5 5
	Ter		Te

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Connector No. Connector Name		D551 CONDENSER-2 BLACK		Connector No. D553 Connector Name CONDENSER-2 Connector Color BLACK	o. D553 ame CONDE olor BLACK	DENSER-2 K	Connector No. Connector Nar Connector Col	Connector No. D555 Connector Name WIRE T Connector Color WHITE	Connector No. D555 Connector Name WIRE TO WIRE Connector Color WHITE	
是 H.S.			<u>.                                    </u>	H.S.			是 H.S.	- Φ	2 3 7 8 9 10 11 12	
Terminal No.	Color of Wire R	Signal Name		Terminal No.	Color of Wire	Signal Name	Terminal No. 5	No. Color of Wire	of Signal Name	
Connector No.	No.   D561	5		Connector No.	o. D602		Connector No.		D603	
Connector Name	Vame WIRE T	Connector Name WIRE TO WIRE Connector Color WHITE		Connector Name WIRE TO WIRE Connector Color WHITE	ame WIRE T	TO WIRE	Connector Name	or Name HI LA or Color GI	Connector Name HIGH-MOUNTED STOP LAMP Connector Color GRAY	1
是 H.S.		2 5 1		明.S.		2 3 8 4	是 H.S.		<u> </u>	٦ ،
Terminal No.	Color of Wire	Signal Name		Terminal No.	Color of Wire	Signal Name	Terminal No.	No. Color of Wire	of Signal Name	
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## **BACK-UP LAMP**

Wiring Diagram

(RC): WITH REAR VIEW MONITO

POWER SWITCH

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**BACK-UP LAMP** 

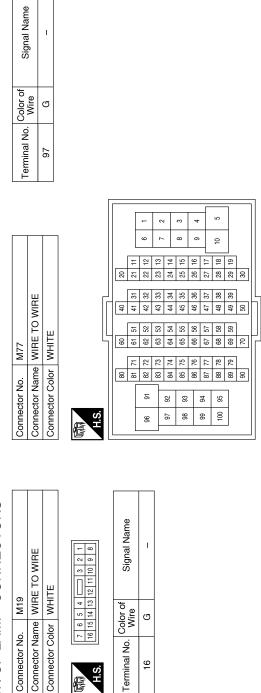
AALWA0853GB

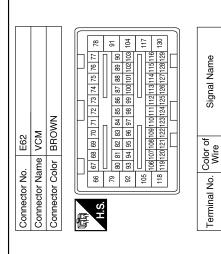
REVERSE LAMP

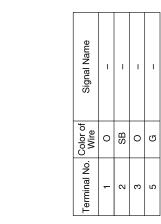
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# **BACK-UP LAMP- CONNECTORS**







Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
SS   SS   SS   SS   SS   SS   SS   S	52 51 50 6 48 47 48 47 61 60 59 58 57 56 55 54

Connector Name | REVERSE LAMP RELAY

E27

Connector No.

Connector No.

Connector Color BLUE

Signal Name	REV LAMP POWER	
Color of Wire	0	
Terminal No.	28	

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Connector No.   B2	Connector No.   B85   Connector Name   JOINT CONNECTOR-B02   Connector Color   BLACK
Signal Name	B80 LAMP LH WHITE  Prof Signal Name  G B B C C C C C C C C C C C C C C C C
Terminal No. Color of Wire 97 G	Connector No. B80 Connector Name REA Connector Color WHI  A.S. Terminal No. Color of  1 G 5 B
WHRE TO WIRE  WHITE  WHITE  WHITE  WHS 12 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	B59 REAR COMBINATION LAMP RH WHITE  or of Signal Name  3
Connector No. E10  Connector Name WIF  Connector Color WH  L2  11 21 22  13 23 8 15 25 6 1 14 24 9 15 25 6 1 17 27 8 15 25 6 1 17 27 8 15 25 6 1 17 27 8 15 25 6 1 17 27 8 15 25 6 1 17 27 8 1	Connector No. B59 Connector Name REA Connector Color   WHI Connector Color of

1	Signal Name	ı	I	
6 5	Color of Wire	ŋ	В	
H.S.	Terminal No. Wire	-	5	

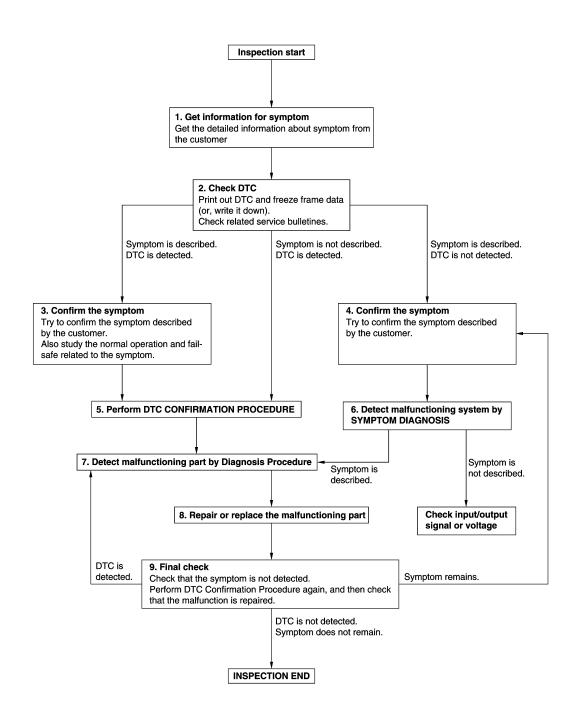
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## **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

**OVERALL SEQUENCE** 



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#### DIAGNOSIS AND REPAIR WORKFLOW

#### < BASIC INSPECTION >

[HALOGEN HEADLAMP]

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## 1.GET INFORMATION FOR SYMPTOM

- Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
- 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.)
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 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.

#### ${f 3.}$ 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.

#### f 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.

## $oldsymbol{5}$ .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 BCS-47, "DTC Inspection Priority Chart" (BCM) or PCS-19, "DTC Index" (IPDM E/R), and determine trouble diagnosis order.

- 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

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 GI-53, "Intermittent Incident".

## **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-

#### $\emph{/}$ .DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

**EXL-223** Revision: June 2014 2015 Leaf NAM **EXL** 

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#### **DIAGNOSIS AND REPAIR WORKFLOW**

#### < BASIC INSPECTION >

[HALOGEN HEADLAMP]

Inspect according to Diagnostic Procedure of the system.

#### Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to GI-53, "Intermittent Incident".

## 8.REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.
- 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 then check that the malfunction is repaired securely.

When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

#### 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.

#### **HEADLAMP (HI) CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

## DTC/CIRCUIT DIAGNOSIS

## HEADLAMP (HI) CIRCUIT

WITHOUT DAYTIME RUNNING LIGHT SYSTEM

## WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Component Function Check

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INFOID:0000000010634661

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## 1. CHECK HEADLAMP (HI) OPERATION

#### **PCONSULT ACTIVE TEST**

- 1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the test items, check that the headlamp (HI) is turned ON.

Hi : Headlamp (HI) ON
Off : Headlamp (HI) OFF

#### NOTE:

ON/OFF is repeated 1 second each.

#### Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-225, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

## WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure

Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

## 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

#### ©CONSULT ACTIVE TEST

- 1. Turn power switch OFF.
- 2. Disconnect front combination lamp connector.
- 3. Turn power switch ON.
- 4. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 5. While operating the test items, check voltage between IPDM E/R harness connector and ground.

(+) IPDM E/R		(-)	Test	item	Voltage (Approx.)			
Conr	nector	Terminal				(		
RH	40		19			Hi	Battery voltage	
КП	E15	49			EXTERNAL	Off	0 V	
LH				50	Giodila	LAMPS	Hi	Battery voltage
		30			Off	0 V		

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

- Turn power switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

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#### **HEADLAMP (HI) CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

	IPDM E/R		Front comb	oination lamp	Continuity
Con	nector	Terminal	Connector	Terminal	Continuity
RH	E15	49	E45	2	Yes
LH	EIS	50	E26	2	165

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 3.CHECK HEADLAMP (HI) FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	51	10 A
Headlamp HI (LH)	IFDIVI L/IX	52	10 A

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> GO TO 4.

## 4. CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT

- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

	IPDM E/R			Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E15	49	Ground	No
LH	E15	50		INO

#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is blown again.)

NO >> Replace the blown fuse after repairing the affected circuit.

## 5.CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT

- 1. Disconnect front combination lamp connector.
- 2. Check continuity between front combination lamp harness connector and ground.

	Front combination lamp			Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E45	4	Giouria	Yes
LH	E26	4		165

#### Is the inspection result normal?

YES >> Replace headlamp (HI) bulb.

NO >> Repair or replace harness.

#### WITH DAYTIME RUNNING LIGHT SYSTEM

## WITH DAYTIME RUNNING LIGHT SYSTEM: Component Function Check INFOID:000000010634662

## 1. CHECK HEADLAMP (HI) OPERATION

#### (P)CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the test items, check that the headlamp (HI) is turned ON.

Hi : Headlamp (HI) ON : Headlamp (HI) OFF Off

NOTE:

ON/OFF is repeated 1 second each.

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-227, "WITH DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure".

## WITH DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure

INFOID:0000000010634663

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## 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

#### **PCONSULT ACTIVE TEST**

- Turn power switch OFF.
- Disconnect headlamp high connector.
- 3. Turn power switch ON.
- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check voltage between IPDM E/R harness connector and ground.

(+) IPDM E/R		(-)	Test	item	Voltage (Approx.)		
Conr	nector	Terminal				,	
DH	RH				Hi	Battery voltage	
KH	F45	49	Ground	EXTERNAL	Off	0 V	
	E15			Giouna	LAMPS	Hi	Battery voltage
LΠ		30			Off	0 V	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

- Turn power switch OFF.
- Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

	IPDM E/R Front com		Front comb	ination lamp	Continuity
Conr	nector	Terminal	Connector Terminal		Continuity
RH	E15	49	E45	2	Yes
LH	LIS	50	E26	2	163

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 3.CHECK HEADLAMP (HI) FUSE

- Turn power switch OFF.
- Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	51	10 A
Headlamp HI (LH)	IFDIVI L/IX	52	10 A

#### Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> GO TO 4.

**EXL-227** Revision: June 2014 2015 Leaf NAM EXL

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#### **HEADLAMP (HI) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

## 4. CHECK HEADLAMP (HI) SHORT CIRCUIT

- 1. Disconnect IPDM E/R connector. Refer to PCS-30, "Removal and Installation".
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R				Continuity	
Conr	Connector		Ground	Continuity	
RH	E15	49	Ground	No	
LH	E13	50		INO	

#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is blown again.)

NO >> Replace the blown fuse after repairing the affected circuit.

## CHECK ILLUMINATION STATUS OF HEADLAMPS

Check illumination status of headlamps.

#### Which headlamp does not turn ON?

RH >> GO TO 6.

LH >> GO TO 9.

## 6.CHECK HEADLAMP HI (RH) GROUND OPEN CIRCUIT-1

- 1. Remove daytime running light relay.
- Check continuity between daytime running light relay harness connector and front combination lamp RH harness connector.

Daytime runn	ing light relay	Front combin	ation lamp RH	Continuity
Connector	Terminal	Connector Terminal		Continuity
E76	3	E45	4	Yes

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

## 7.CHECK HEADLAMP HI (RH) GROUND OPEN CIRCUIT-2

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

Daytime r	unning light relay		Continuity
Connector	Terminal	Ground	Continuity
E76	4		Yes

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

## 8.CHECK HEADLAMP HI (RH) DAYTIME RUNNING LIGHT RELAY CIRCUIT

Check continuity between terminal 3 - 4 of daytime running light relay.

Daytime running light relay	Continuity	
Terminal	Continuity	
3 - 4	Yes	

#### Is the inspection result normal?

YES >> Replace headlamp (HI) bulb. (Bulb socket is abnormal.)

NO >> Replace daytime running light relay.

## 9.CHECK HEADLAMP HI (LH) GROUND OPEN CIRCUIT

Check continuity between front combination lamp LH harness connector and ground.

## **HEADLAMP (HI) CIRCUIT**

## < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

Front com	bination lamp LH		Continuity
Connector	Terminal	Ground	Continuity
E26	4		Yes

Is the inspection result normal?

YES >> Replace headlamp (HI) bulb. (Bulb socket is abnormal.)

NO >> Repair or replace harness.

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## HEADLAMP (LO) CIRCUIT

## Component Function Check

## 1. CHECK HEADLAMP (LO) OPERATION

#### **©CONSULT ACTIVE TEST**

Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".

2. While operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON
Off : Headlamp (LO) OFF

#### Is the inspection result normal?

YES >> Headlamp (LO) circuit is normal.

NO >> Refer to EXL-230, "Diagnosis Procedure".

## Diagnosis Procedure

Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

## 1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

#### **PCONSULT ACTIVE TEST**

- 1. Turn power switch OFF.
- 2. Disconnect front combination lamp connector.
- 3. Turn power switch ON.
- 4. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 5. While operating the test items, check voltage between IPDM E/R harness connector and ground.

	(+) IPDM E/R		(-)	Test item		Voltage (Approx.)
Conr	nector	Terminal				( 44.0)
RH		52			Lo	Battery voltage
КП	E15	32	Ground	EXTERNAL	Off	0 V
LH	EIS	51	Ground	LAMPS	Lo	Battery voltage
LII					Off	0 V

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK HEADLAMP (LO) OPEN CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and front combination lamp harness connector.

Continuity	ination lamp	Front comb	IPDM E/R		
Continuity	Terminal	Connector	Terminal	nector	Coni
Yes	6	E45	52	E15	RH
165	0	E26	51	E15	LH

#### Is the inspection result normal?

YES >> Replace headlamp bulb.

NO >> Repair or replace harness.

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

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

# 3.CHECK HEADLAMP (LO) FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	54	15 A
Headlamp LO (LH)	IF DIVI E/IX	53	13 A

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> GO TO 4.

## 4. CHECK HEADLAMP (LO) SHORT CIRCUIT-1

- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R				Continuity	
Conr	Connector		Ground	Continuity	
RH	E15	52	Ground	No	
LH	L13	51		INU	

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace the blown fuse after repairing the affected circuit.

## ${f 5.}$ CHECK HEADLAMP (LO) SHORT CIRCUIT-2

#### CONSULT ACTIVE TEST

- 1. Replace fuse.
- 2. Connect IPDM E/R connector.
- Turn power switch ON.
- 4. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 5. Check that fuse is not blown when Lo button is operated.

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

## 6. CHECK HEADLAMP (LO) SHORT CIRCUIT-3

- Turn power switch OFF.
- Connect front combination lamp connector.
- Check that headlamp turns ON when lighting switch is in the 2ND position.

#### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Replace headlamp bulb.

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#### DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

#### DAYTIME RUNNING LIGHT RELAY CIRCUIT

## **Component Function Check**

INFOID:0000000010634666

## 1. CHECK DAYTIME RUNNING LIGHT OPERATION

#### **©CONSULT ACTIVE TEST**

- Select "External Lamps" in "Active Test" of "BCM (HEADLAMP)".
- While operating the test items, check that daytime running light operation.

On : Headlamp (HI) ON
Off : Headlamp (HI) OFF

#### Is the inspection result normal?

YES >> Daytime running light relay circuit is normal. NO >> Refer to EXL-232, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000010634667

Regarding Wiring Diagram information. Refer to EXL-36, "Wiring Diagram".

## 1. CHECK DAYTIME RUNNING LIGHT RELAY 2 FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuse is not blown:

Unit	Fuse No.	Capacity
Daytime running light relay 2	37	10 A

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

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

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

(+) Daytime running light relay 2		(-)	Voltage (Approx.)	
Connector	Terminal		(, , , , , , , , , , , , , , , , , , ,	
E76	2	Ground	Battery voltage	
E/0	5	Giodila	Dattery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK DAYTIME RUNNING LIGHT RELAY 2

Check daytime running light relay 2. Refer to EXL-233, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace daytime running light relay 2.

## 4. CHECK DAYTIME RUNNING LIGHT RELAY 2 CONTROL SIGNAL OUTPUT

#### **PCONSULT ACTIVE TEST**

- 1. Install daytime running light relay 2.
- Turn power switch ON.

#### DAYTIME RUNNING LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

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- 3. Select "External Lamps" in "Active Test" of "BCM (HEADLAMP)".
- 4. While operating the test item, check voltage between IPDM E/R harness connector and ground.

	(+) PDM E/R (-) Test item		(-) Tes		Voltage (Approx.)
Connector	Terminal				, , ,
E13	28	Ground External Lamps –		On	0 V
E13	Zo Ground Externa	External Lamps	Off	Battery voltage	

#### Is the inspection result normal?

YES >> Daytime running light relay 2 circuit is OK.

NO-1 (Fixed at 0 V)>>GO TO 5.

NO-2 (Fixed at battery voltage) >>Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

## ${f 5.}$ CHECK DAYTIME RUNNING LIGHT RELAY 2 CONTROL SIGNAL OPEN CIRCUIT

- 1. Turn power switch OFF.
- 2. Remove daytime running light relay 2.
- Disconnect IPDM E/R harness connector.
- Check continuity between IPDM E/R harness connector and daytime running light relay 2 harness connector.

IPDM E/R		Daytime runn	Continuity	
Connector	Terminal	Connector Terminal		Continuity
E13	28	E76	1	Yes

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 6.CHECK DAYTIME RUNNING LIGHT RELAY 2 CONTROL SIGNAL SHORT CIRCUIT

Check continuity between IPDM E/R harness connector and ground.

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E13	28		No

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Repair or replace harness.

## Component Inspection

## 1. CHECK DAYTIME RUNNING LIGHT RELAY 2

1. Turn the power switch OFF.

Remove daytime running light relay 2.

3. Apply battery voltage to daytime running light relay- between terminals 1 and 2.

4. Check continuity between daytime running light relay 2 terminals.

Daytime running light relay-2		- Condition Continuity		Continuity	
Terminal				Continuity	
	5			Apply	Yes
E76	5	4	Voltage	Not Apply	No
3	4	voitage	Apply	No	
	S			Not Apply	Yes

#### Is the inspection result normal?

YES >> Daytime running light relay 2 is normal.

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## **DAYTIME RUNNING LIGHT RELAY CIRCUIT**

[HALOGEN HEADLAMP]

NO >> Replace daytime running light relay 2.

#### **PARKING LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

#### PARKING LAMP CIRCUIT

## Component Function Check

#### INFOID:0000000010634669

## 1. CHECK PARKING LAMP OPERATION

#### **©CONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check that the parking lamp is turned ON.

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TAIL : Parking lamp ON
Off : Parking lamp OFF

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#### Is the inspection result normal?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-235, "Diagnosis Procedure".

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## Diagnosis Procedure

INFOID:0000000010634670

Regarding Wiring Diagram information. Refer to EXL-65. "Wiring Diagram".

## 1. CHECK PARKING LAMP FUSE

- Turn power switch OFF.
- 2. Check that the following fuse is not blown:

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

#### Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 2.

K

## 2.CHECK PARKING LAMP SHORT CIRCUIT

- 1. Disconnect the following connectors:
- IPDM E/R
- Front combination lamps
- Front side marker lamps
- Rear combination lamp (LH)
- 2. Check continuity between IPDM E/R harness connector and ground.

7	V	L	

IPDM E/R			Continuity	
Connector	Terminal	Ground	Continuity	
E14	43	Ground	No	

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#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if blown fuse is found again.)

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NO >> Replace the blown fuse after repairing the affected circuit.

Р

## 3.CHECK PARKING LAMP BULB

Check applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace bulb.

#### **PARKING LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

## 4. CHECK PARKING LAMP OUTPUT VOLTAGE

#### **®CONSULT ACTIVE TEST**

- 1. Disconnect front combination lamp connector.
- Turn power switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 4. While operating the test items, check voltage between IPDM E/R harness connector and ground.

	+) M E/R	(-)	Test item		(-) Test item		Voltage (Approx.)
Connector	Terminal				(11 - )		
E14	43	Ground EXTERNAL		TAIL	Battery voltage		
£14	45	Giouna	LAMPS	Off	0 V		

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

## 5. CHECK PARKING LAMP OPEN CIRCUIT

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

	IPDM E/R		Front comb	ination lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E14	43	E45	1	Yes
LH	□ □14	43	E26	1	res

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

#### 6. CHECK PARKING LAMP GROUND OPEN CIRCUIT

Check continuity between front combination lamp harness connector and ground.

Front combination lamp				Continuity	
Connector		Terminal	Ground	Continuity	
RH	E45	2	Giouna	Yes	
LH	E26	3		165	

#### Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

#### FRONT SIDE MARKER LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

## FRONT SIDE MARKER LAMP CIRCUIT

## Component Function Check

#### INFOID:0000000010634671

## 1. CHECK PARKING LAMP OPERATION

#### FOID:0000000010634671

Check that the parking lamp is turned ON.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Check parking lamp circuit. Refer to EXL-235, "Component Function Check".

## 2.CHECK FRONT SIDE MARKER LAMP OPERATION

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#### **PCONSULT ACTIVE TEST**

1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".

2. While operating the test items, check that the front side marker lamp is turned ON.

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TAIL : Front side marker lamp ON
Off : Front side marker lamp OFF

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#### Is the inspection result normal?

YES >> Front side marker lamp circuit is normal.

NO >> Refer to EXL-237, "Diagnosis Procedure".

INFOID:0000000010634672

#### Diagnosis Procedure

NFOID:00000000010634672

Regarding Wiring Diagram information. Refer to EXL-65, "Wiring Diagram".

## 1. CHECK FRONT SIDE MARKER LAMP BULB

Check applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

K

## 2.CHECK FRONT SIDE MARKER LAMP OPEN CIRCUIT

- Turn power 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	
Connector Terminal		Connector	Terminal	Continuity	
RH	E14	43	E16	- 1	Yes
LH		43	E10		

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#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

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## 3.CHECK FRONT SIDE MARKER LAMP GROUND OPEN CIRCUIT

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

Front side marker lamp				Continuity
Connector		Terminal	Ground	Continuity
RH	E16	2	Ground	Yes
LH	E10	2		165

#### Is the inspection result normal?

## FRONT SIDE MARKER LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

>> Check corresponding bulb socket and harness. Repair or replace if necessary. >> Repair or replace harness. YES

NO

#### TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

#### TAIL LAMP CIRCUIT

## Component Function Check

#### INFOID:0000000010634673

## 1. CHECK TAIL LAMP OPERATION

#### DID:0000000010634673

#### **©CONSULT ACTIVE TEST**

- 1. Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- 2. While operating the test items, check that the tail lamp is turned ON.

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TAIL : Tail Lamp ON
Off : Tail lamp OFF

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#### Is the inspection result normal?

YES >> Tail lamp circuit is normal.

NO >> Refer to EXL-239, "Diagnosis Procedure".

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#### Diagnosis Procedure

INFOID:0000000010634674

Regarding Wiring Diagram information. Refer to <a>EXL-65</a>, "Wiring Diagram"</a>.

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## 1. CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

#### Is the inspection result normal?

YES-1 [When tail lamp (LH) does not turn ON.]>>GO TO 5.

YES-2 [When tail lamp (RH) does not turn ON.]>>GO TO 2.

NO >> Check parking lamp circuit. Refer to <a href="EXL-235">EXL-235</a>, "Component Function Check".

## 2.CHECK TAIL LAMP (LH) FUSE

- Turn power switch OFF.
- Check that the following fuse is not blown:

Unit	Location	Fuse No.	Capacity
Tail lamp (RH)	IPDM E/R	46	10 A

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#### Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 4.

# 3.CHECK TAIL LAMP (RH) OUTPUT VOLTAGE

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#### ©CONSULT ACTIVE TEST

- 1. Disconnect rear combination lamp (RH) connector.
- 2. Turn power switch ON.
- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check voltage between IPDM E/R harness connector and ground.

	(+) IPDM E/R (-) T		Test	item	Voltage (Approx.)	
Connector	Terminal					
E14	E14 38 Ground	EXTERNAL	TAIL	Battery voltage		
⊏14		Ground	LAMPS	Off	0 V	

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

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#### TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

## 4. CHECK TAIL LAMP (RH) SHORT CIRCUIT

- 1. Disconnect IPDM E/R connector and rear combination lamp (RH) connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDN	M E/R		Continuity
Connector Terminal		Ground	Continuity
E14 38			No

#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if blown fuse is found again.)

NO >> Replace the blown fuse after repairing the affected circuit.

#### 5. CHECK TAIL LAMP OPEN CIRCUIT

- 1. Turn power switch OFF.
- 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	38	B59	6	Yes
LH	E14	44	B80	0	165

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

#### 6. CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

Rear combination lamp				Continuity
Connector		Terminal	0	Continuity
RH	B59	E	Ground	Yes
LH	B80	3		165

#### Is the inspection result normal?

YES >> Replace rear combination lamp. Refer to EXL-275, "Removal and Installation".

NO >> Repair or replace harness.

#### LICENSE PLATE LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

INFOID:0000000010634675

INFOID:0000000010634676

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#### LICENSE PLATE LAMP CIRCUIT

## Component Function Check

## 1. CHECK TAIL LAMP (RH) OPERATION

Check that the tail lamp (RH) is turned ON.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to EXL-239, "Component Function Check".

## 2.CHECK LICENSE PLATE LAMP OPERATION

#### **PCONSULT ACTIVE TEST**

Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".

While operating the lighting switch, check that the license plate lamp is turned ON.

: License plate lamp ON **TAIL** Off : License plate lamp OFF

#### Is the inspection result normal?

YES >> License plate lamp circuit is normal.

NO >> Refer to EXL-241, "Diagnosis Procedure".

#### Diagnosis Procedure

Regarding Wiring Diagram information. Refer to EXL-65, "Wiring Diagram".

## 1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

## 2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

- Turn power switch OFF.
- 2. Disconnect IPDM E/R connector and license plate lamp connector.
- Check continuity between IPDM E/R harness connector and license plate lamp harness connector.

IPDM E/R		License	Continuity		
Co	onnector	Terminal	Connector	Terminal	Continuity
RH	E14	38	B58	1	Yes
LH		36	B57	I	165

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

Check continuity between license plate lamp harness connector and ground.

License plate lamp				Continuity
Connector Terminal		Ground	Continuity	
RH	B58	2	Ground	Yes
LH	B57	2		163

#### Is the inspection result normal?

**EXL-241** Revision: June 2014 2015 Leaf NAM **EXL** 

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#### LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

#### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

## FRONT FOG LAMP CIRCUIT

## Component Function Check

#### INFOID:0000000010634677

## 1. CHECK FRONT FOG LAMP OPERATION

#### CONSULT ACTIVE TEST

- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".
- While operating the test items, check that the front fog lamp is turned ON.

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: Front fog lamp ON Fog Off : Front fog lamp OFF

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#### Is the measurement normal?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-243, "Diagnosis Procedure". Е

#### Diagnosis Procedure

INFOID:0000000010634678

Regarding Wiring Diagram information. Refer to EXL-55, "Wiring Diagram".

## 1. CHECK FRONT FOG LAMP FUSE

Turn power switch OFF.

Н

Check that the following fuse is not blown:

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

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

- Disconnect front fog connector and IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and ground. 2.

	IPDM E/R		Continuity	
Connector		Terminal	Ground	Continuity
RH	E12	19	Ground	No
LH		20	1	No

#### Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is blown again.)

>> Replace the blown fuse after repairing the affected circuit.

## 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 4.

NO

NO >> Replace bulb.

## f 4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

#### **©CONSULT ACTIVE TEST**

- Disconnect front fog lamp connector.
- Turn power switch ON.
- Select "EXTERNAL LAMPS" in "Active Test" of "IPDM E/R".

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#### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

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

(+) IPDM E/R		(-)	Test item		Voltage (Approx.)			
Conr	nector	Terminal				(, ,pp10x.)		
RH		19	10		Fog	Battery voltage		
IXII	E12	20	19	19	Ground	EXTERNAL	Off	0 V
LH	L 12		20	Giouna	LAMPS	Fog	Battery voltage	
ЦΠ					Off	0 V		

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

## 5. CHECK FRONT FOG LAMP OPEN CIRCUIT

- Turn power switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between IPDM E/R harness connector and front fog lamp harness connector.

IPDM E/R			Front f	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E12	19	E48	1	Yes
LH	EIZ	20	E30	, I	ies

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

## 6. CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

Check continuity between front fog lamp harness connector and ground.

	Front fog lamp		Continuity		
Connector		Terminal	Ground	Continuity	
RH	E48	2	Ground	Yes	
LH	E30	2		165	

#### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace harness.

#### **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

#### TURN SIGNAL LAMP CIRCUIT

## Component Function Check

#### INFOID:0000000010634679

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## 1. CHECK TURN SIGNAL LAMP

# ONSULT ACTIVE TEST

- 1. Select "FLASHER" in "Active Test" of "BCM (FLASHER)".
- 2. While operating the test items, check that the turn signal lamps is turned ON.

LH : Turn signal lamps (LH) ON
RH : Turn signal lamps (RH) ON
Off : Turn signal lamps OFF

#### Is the inspection result normal?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-245, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000010634680

Regarding Wiring Diagram information. Refer to EXL-60, "Wiring Diagram".

#### 1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

## 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

- 1. Turn power switch OFF.
- 2. Disconnect front combination lamp connector and rear combination lamp connector.
- 3. Turn power switch ON.
- 4. While operating the turn signal switch, check voltage between BCM harness connector and ground.

(+) BCM		(–) Condition		dition	Voltage (Approx.)	
(	Connector	Terminal				
LH		60			LH	(V) 15 10 5 0 1 s
	M25		Ground	Turn signal	OFF	0 V
RH	WIZJ	61	Ground	switch	RH	(V) 15 10 5 0 1 s
					OFF	0 V

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#### **TURN SIGNAL LAMP CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

#### Is the inspection result normal?

YES >> GO TO 3. NO >> GO TO 4.

# 3.check turn signal lamp open circuit

- 1. Turn power switch OFF.
- 2. Disconnect BCM connector.
- Check continuity between BCM harness connector and front combination lamp, side turn signal lamp or rear combination lamp harness connector.

Front turn signal lamp

BCM			Front comb	Continuity		
C	Connector	Terminal	Connector Terminal			
RH	M25	61	E45	E	Yes	
LH	IVIZO	60	E26	3	165	

Rear turn signal lamp

BCM			Rear comb	Continuity	
C	Connector	Terminal	Connector	Terminal	Continuity
RH	M25	61	B59	4	Yes
LH	IVIZS	60	B80	4	165

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between BCM harness connector and ground.

BCM				Continuity	
Connector		Terminal	Ground	Continuity	
RH	M25	61	- Giodila	No	
LH	IVIZO	60		No	

#### Is the inspection result normal?

YES >> Check each bulb socket for internal short circuit, and if check result is normal, replace BCM. Refer to <a href="BCS-72">BCS-72</a>, "Removal and Installation".

NO >> Repair or replace harness.

## 5.CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check continuity between BCM harness connector and front combination lamp or rear combination lamp and ground.

Front turn signal lamp

	Front combinatio	n lamp		Continuity	
	Connector	Terminal	Ground	Continuity	
RH	E45	2	Ground	Yes	
LH	E26	3		ies	

Rear turn signal lamp

Rear combination lamp				Continuity	
Connector		Terminal	Ground	Continuity	
RH	B59	5	Giodila	Yes	
LH	B80	5		165	

#### Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.

NO >> Repair or replace harness.

#### **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

#### **OPTICAL SENSOR**

## Component Function Check

#### INFOID:0000000010634681

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## 1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

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## ©CONSULT DATA MONITOR

- 1. Turn power switch ON.
- Select "OPTISEN (DTCT)" in "Data Monitor" of "BCM (HEADLAMP)".
- 3. Turn lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition		Voltage (Approx.)
OPTISEN (DTCT)	Optical sensor	When illuminating	3.1 V or more *
	Optical serisor	When shutting off light	0.6 V or less

<sup>\*:</sup> 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-247, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000010634682

Regarding Wiring Diagram information. Refer to EXL-42, "Wiring Diagram".

## 1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

Optica	+) I sensor	(-)	Voltage (Approx.)	
Connector	Terminal		(Αρφιολ.)	
M16	1	Ground	5 V	

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

## 2.CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

	(+)			
Optio	cal sensor	(-)	Voltage (Approx.)	
Connector	Terminal		( 11 - 11 )	
M16	3	Ground	0 V	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

## 3. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

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(+) Optical sensor		(-)	Condition		Voltage (Approx.)	
Connector	Terminal				(11 - /	
M16	2	Ground	Optical sensor When illuminating		3.1 V or more *	
IVITO	2	Ground	Optical serisor	When shutting off light	0.6 V or less	

<sup>\*:</sup> Illuminate the optical sensor. The value may be less than the standard if brightness is weak.

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the optical sensor. Refer to EXL-273, "Removal and Installation".

#### 4. CHECK OPTICAL SENSOR OPEN CIRCUIT

- Turn power switch OFF.
- Disconnect optical sensor connector and BCM connector.
- 3. Check continuity between optical sensor harness connector and BCM harness connector.

Optical sensor		В	Continuity	
Connector	Terminal	Connector Terminal		Continuity
M16	1	M24	17	Yes

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

#### ${f 5.}$ CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optica	l sensor		Continuity
Connector	Terminal	Ground	Continuity
M16	1		No

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

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

- Turn power switch OFF.
- 2. Disconnect optical sensor connector and BCM connector.
- Check continuity between optical sensor harness connector and BCM harness connector.

Optical sensor		ВСМ		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M16	3	M24	18	Yes

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

## 7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

- Turn power 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 >

#### [HALOGEN HEADLAMP]

Optica	Optical sensor		ВСМ		
Connector	Terminal	Connector Terminal		Continuity	
M16	2	M24	14	Yes	

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Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness. C

8. CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optical sensor Continuity Connector Terminal Ground M16 2

Is the inspection result normal?

>> Replace BCM. Refer to BCS-72, "Removal and Installation". YES

NO >> Repair or replace harness.

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#### HAZARD SWITCH

## **Component Function Check**

INFOID:0000000010634683

## 1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

#### **©CONSULT DATA MONITOR**

- Turn power switch ON.
- Select "HAZARD SW" in "Data Monitor" of "BCM (FLASHER)".
- 3. While operating the hazard switch, check the monitor status.

Monitor item	Con	Monitor status	
HAZARD SW	Hazard switch	ON	On
	Hazaru Switch	OFF	Off

#### Is the inspection result normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-250, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000010634684

Regarding Wiring Diagram information. Refer to EXL-60, "Wiring Diagram".

## 1. CHECK HAZARD SWITCH SIGNAL INPUT

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

	+)		
Hazar	d switch	(–)	Voltage (Approx.)
Connector	Terminal		
M45	2	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

## 2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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

Hazard switch		BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M45	2	M24	29	Yes	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity	
Connector	Connector Terminal		Continuity	
M45	2		No	

#### **HAZARD SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-72, "Removal and Installation".

NO >> Repair or replace harness.

## 4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity
Connector	Terminal	Ground	
M45	1		Yes

#### Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-274, "Removal and Installation".

NO >> Repair or replace harness.

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[HALOGEN HEADLAMP]

## SYMPTOM DIAGNOSIS

# EXTERIOR LIGHTING SYSTEM SYMPTOMS WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Symptom Table

INFOID:0000000010634685

#### **CAUTION:**

Perform the "Self Diagnostic Result" 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>Halogen bulb (HI)</li> <li>Harness between IPDM E/R and front combination lamp</li> <li>Harness between front combination lamp and ground</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to EXL-225, "WITHOUT DAY- TIME RUNNING LIGHT SYSTEM: Component Function Check".
	Both sides	Symptom diagnosis  "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON"  Refer to EXL-257. "WITHOUT DAYTIME RUNNING LIGHT SYST  Diagnosis Procedure".	
High beam indicator lamp [Headlamp (HI) is turned C		Combination meter	Combination meter     Data monitor "HI-BEAM IND"     BCM (HEAD LAMP)     Active test "HEADLAMP"
Headlamp (LO) is not turned ON. [Headlamp warning lamp is not turned ON.]	One side	<ul> <li>Fuse</li> <li>Harness between IPDM E/R and front combination lamp</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to EXL-230, "Component Function Check".
	Both sides	Symptom diagnosis  "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-259, "Diagnosis Procedure".	
Each lamp is not turned O	N/OFF using lighting	<ul><li>Combination switch</li><li>Harness between combination switch and BCM</li><li>BCM</li></ul>	Combination switch Refer to BCS-71, "Symptom Table".
switch AUTO.		<ul><li>Optical sensor</li><li>Harness between optical sensor and BCM</li><li>BCM</li></ul>	Optical sensor Refer to EXL-247, "Component Function Check".
Parking lamp is not turned ON.		<ul> <li>Fuse</li> <li>Parking lamp bulb</li> <li>Parking lamp bulb socket</li> <li>Harness between IPDM E/R and front combination lamp</li> <li>Harness between front combination lamp and ground</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to EXL-235, "Component Function Check".
Front side marker lamp is not turned ON.		<ul> <li>Fuse</li> <li>Front side marker lamp bulb</li> <li>Front side marker lamp bulb socket</li> <li>Harness between IPDM E/R and front side marker lamp</li> <li>Harness between front side marker lamp and ground</li> </ul>	Front side marker lamp circuit Refer to EXL-237, "Component Function Check".

#### **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Symp	otom	Possible cause	Inspection item
Tail lamp and rear side marker lamp are not turned ON.		<ul> <li>Fuse</li> <li>Harness between IPDM E/R and rear combination lamp</li> <li>Harness between rear combination lamp and ground</li> <li>Rear combination lamp</li> </ul>	Tail lamp circuit Refer to EXL-239, "Component Function Check".
License plate lamp is not turned ON.		<ul> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket</li> <li>Harness between IPDM E/R and license plate lamp</li> <li>Harness between license plate lamp and ground</li> </ul>	License plate lamp circuit Refer to EXL-241, "Component Function Check".
Parking lamp, side marker cense plate lamp are not to		Symptom diagnosis "PARKING, LICENSE PLATE, SIDI NOT TURNED ON" Refer to EXL-260, "Diagnosis Proc	E MARKER AND TAIL LAMPS ARE
Tail lamp indicator lamp is (Parking lamp, side marke cense plate lamp are turne	r lamp, tail lamp and li-	Combination meter	Combination meter     Data monitor "LIGHT IND"     BCM (HEAD LAMP)     Active test "TAIL LAMP"
Turn signal lamp does not	Indicator lamp is normal. (Applicable side performs high flasher activation.)	<ul> <li>Turn signal lamp bulb</li> <li>Turn signal lamp bulb socket</li> <li>Harness between BCM and each turn signal lamp</li> </ul>	Turn signal lamp circuit Refer to EXL-245, "Component Function Check".
llink.	Indicator lamp is included.	<ul><li>Combination switch</li><li>Harness between combination switch and BCM</li><li>BCM</li></ul>	Combination switch Refer to BCS-71, "Symptom Table".
	One side	Combination meter	_
Furn signal indicator lamp does not blink. (Turn signal lamp is nor-	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	Combination meter     Data monitor "TURN IND"     BCM (FLASHER)     Active test "FLASHER"
mal.)	Both sides (Only when activating hazard warning lamp with power switch OFF)	Combination meter power supply and ground circuit     Combination meter	Combination meter Power supply and ground circuit Refer to MWI-85. "COMBINATION METER: Diagnosis Procedure".
<ul> <li>Hazard warning lamp do</li> <li>Hazard warning lamp co</li> <li>(Turn signal is normal.)</li> </ul>		<ul><li>Hazard switch</li><li>Harness between hazard switch and BCM</li><li>BCM</li></ul>	Hazard switch Refer to EXL-250, "Component Function Check".
Front fog lamp is not	One side	<ul> <li>Front fog lamp bulb</li> <li>Harness between IPDM E/R and front fog lamp</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to EXL-243, "Component Function Check".
urned ON.	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS Refer to EXL-261, "Diagnosis Prod	
Front fog lamp indicator is (Front fog lamp is turned C		Combination meter	Combination meter     Data monitor "FR FOG IND"     BCM (HEAD LAMP)     Active test "FR FOG LAMP"

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM: Symptom Table

INFOID:0000000010634686

**CAUTION:** 

Revision: June 2014 EXL-253 2015 Leaf NAM

### **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Perform the "Self Diagnostic Result" with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symp	otom	Possible cause	Inspection item
	One side	Fuse     Halogen bulb (HI)     Harness between IPDM E/R and headlamp (HI)     Harness between headlamp (HI) and ground     IPDM E/R	Headlamp (HI) circuit Refer to EXL-225, "WITHOUT DAY- TIME RUNNING LIGHT SYSTEM: Component Function Check".
Headlamp (HI) is not turned ON.		Harness between IPDM E/R and daytime running light relay     Daytime running light relay     IPDM E/R	Daytime running light relay circuit Refer to EXL-226, "WITH DAYTIME RUNNING LIGHT SYSTEM: Com- ponent Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) AI Refer to EXL-257, "WITH DAYTIM nosis Procedure".	RE NOT TURNED ON" E RUNNING LIGHT SYSTEM : Diag-
High beam indicator lamp [Headlamp (HI) is turned C		Combination meter	Combination meter     Data monitor "HI-BEAM IND"     BCM (HEAD LAMP)     Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	Fuse     halogen bulb (LO)     Harness between IPDM E/R and headlamp lamp (LO)     Harness between headlamp (LO) and ground     IPDM E/R	Headlamp (LO) circuit Refer to EXL-230, "Component Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-259, "Diagnosis Procedure".	
Each lamp is not turned Of	N/OFF with lighting switch	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-71, "Symptom Table".
AUTO.		Optical sensor     Harness between optical sensor and BCM     BCM	Optical sensor Refer to EXL-247, "Component Function Check".
Daytime running light is not turned ON. [Headlamp (HI) is turned ON.]		Fuse     Harness between IPDM E/R and daytime running light relay     Daytime running light relay     IPDM E/R     BCM     ECM     Combination meter	Daytime running light relay circuit Refer to EXL-226, "WITH DAY-TIME RUNNING LIGHT SYSTEM: Component Function Check".     BCM (HEADLAMP)     Data monitor "ENGINE STATE"     Combination meter     Data monitor "PKB SW"     BCM (HEADLAMP)     Active test "DAYTIME RUNNING LIGHT"
Parking lamp is not turned	ON.	Fuse     Parking lamp bulb     Harness between IPDM E/R     and front combination lamp     IPDM E/R	Parking lamp circuit Refer to EXL-235, "Component Function Check".

### **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Symp	tom	Possible cause	Inspection item
ront side marker lamp is r	not turned ON.	<ul> <li>Front side marker lamp bulb</li> <li>Harness between IPDM E/R and front side marker lamp</li> <li>Harness between front side marker lamp and ground</li> <li>IPDM E/R</li> </ul>	Front side marker lamp circuit Refer to EXL-237, "Component Function Check".
Tail lamp (Rear side marker lamp) is not turned ON.		<ul> <li>Fuse</li> <li>Tail lamp bulb</li> <li>Harness between IPDM E/R and rear combination lamp</li> <li>Harness between and rear combination lamp and ground</li> </ul>	Tail lamp circuit Refer to EXL-239, "Component Function Check".
icense plate lamp is not tu	urned ON.	<ul> <li>License plate lamp bulb</li> <li>Harness between IPDM E/R and license plate lamp</li> <li>Harness between license plate lamp and ground</li> </ul>	License plate lamp circuit Refer to EXL-241, "Component Function Check".
Parking lamp, side marker cense plate lamp are not to		Symptom diagnosis "PARKING, SIDE MARKER, LICEN NOT TURNED ON" Refer to EXL-260, "Diagnosis Proc	ISE PLATE AND TAIL LAMPS ARE
Tail lamp indicator is not tu (Exterior lamps are turned		Combination meter	<ul> <li>Combination meter Data monitor "LIGHT IND"</li> <li>BCM (HEADLAMP) Active test "TAIL LAMP"</li> </ul>
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms high flasher acti- vation.)	<ul> <li>Turn signal lamp bulb</li> <li>Door mirror</li> <li>Harness between BCM and each turn signal lamp</li> <li>Harness between each turn signal lamp and ground</li> </ul>	Turn signal lamp circuit Refer to EXL-245, "Component Function Check".
	Indicator lamp is included.	<ul><li>Combination switch</li><li>Harness between combination switch and BCM</li><li>BCM</li></ul>	Combination switch Refer to BCS-71, "Symptom Table".
	One side	Combination meter	_
Furn signal indicator lamp does not blink. Turn signal lamp is nor-	Both sides (Always)	<ul><li>Turn signal indicator lamp 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>
mal.)	Both sides (Only when activating hazard warning lamp with power switch OFF)	<ul> <li>Combination meter power supply and ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to MWI-85, "COMBINATION METER: Diagnosis Procedure".
<ul> <li>Hazard warning lamp do</li> <li>Hazard warning lamp co</li> <li>(Turn signal is normal.)</li> </ul>		<ul> <li>Hazard switch</li> <li>Harness between hazard switch and BCM</li> <li>Harness between hazard switch and ground</li> <li>BCM</li> </ul>	Hazard switch circuit Refer to EXL-250. "Component Function Check".
Front fog lamp is not urned ON.	One side	<ul> <li>Front fog lamp bulb</li> <li>Harness between IPDM E/R and front fog lamp</li> <li>Harness between front fog lamp and ground</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to EXL-243, "Component Function Check".
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS Refer to EXL-261, "Diagnosis Proc	

**EXL-255** 2015 Leaf NAM Revision: June 2014

#### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

### 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 the control difference. This is normal.

### **BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON**

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

### BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON WITHOUT DAYTIME RUNNING LIGHT SYSTEM

INFOID:0000000010634688

WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Description

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

WITHOUT DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure INFOID:0000000010634689

### 1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-71, "Symptom Table".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

#### **PCONSULT DATA MONITOR**

- Select "HL HI REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

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

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

### 3. HEADLAMP (HI) CIRCUIT INSPECTION

Check headlamp (HI) circuit, Refer to EXL-225, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM; Component Function Check".

#### Is the inspection result normal?

>> Refer to GI-53, "Intermittent Incident". YES

>> Repair or replace the malfunctioning part. NO

#### WITH DAYTIME RUNNING LIGHT SYSTEM

### WITH DAYTIME RUNNING LIGHT SYSTEM: Description

INFOID:0000000010634690

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

### WITH DAYTIME RUNNING LIGHT SYSTEM: Diagnosis Procedure

INFOID:0000000010634691

### 1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-71, "Symptom Table".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

#### CONSULT DATA MONITOR

- Select "HL HI REQ" in "Data monitor" of "IPDM E/R".
- While operating the lighting switch, check the monitor status.

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

**EXL-257** Revision: June 2014 2015 Leaf NAM

### **BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON**

#### < SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

3. HEADLAMP (HI) CIRCUIT INSPECTION

Check headlamp (HI) circuit. Refer to <u>EXL-226</u>, "<u>WITH DAYTIME RUNNING LIGHT SYSTEM</u>: Component <u>Function Check"</u>.

#### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

### **BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON**

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

### BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description (INFOID:000000010634692

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

### Diagnosis Procedure

INFOID:0000000010634693

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### 1. CHECK COMBINATION SWITCH

Check combination switch. Refer to BCS-71, "Symptom Table".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

### 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

#### **©CONSULT DATA MONITOR**

- 1. Select "HL LO REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	On
TIL LO IVLQ	Lighting Switch	OFF	Off

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

### 3. HEADLAMP (LO) CIRCUIT INSPECTION

Check headlamp (LO) circuit. Refer to EXL-230, "Component Function Check".

#### Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

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Revision: June 2014 EXL-259 2015 Leaf NAM

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

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

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

Description INFOID:000000010634694

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

### Diagnosis Procedure

INFOID:0000000010634695

### 1. COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-71, "Symptom Table".

#### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

### 2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

#### (P)CONSULT DATA MONITOR

- Select "TAIL & CLR REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

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

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

#### BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

### BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:0000000010634696

The front fog lamps are not turned ON in any condition.

Diagnosis Procedure

INFOID:000000010634697

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Regarding Wiring Diagram information. Refer to EXL-31, "Wiring Diagram".

### 1. CHECK FUSE

Check that the following fuse is not blown:

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

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

### 2.combination switch inspection

Check combination switch. Refer to BCS-71, "Symptom Table".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

### 3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

#### **PCONSULT DATA MONITOR**

- Select "FR FOG REQ" in "Data Monitor" of "IPDM E/R".
- 2. While operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch	ON	On
TIVIOGINEQ	(With lighting switch 2ND)	OFF	Off

#### Is the item status normal?

YES >> Replace IPDM E/R. Refer to PCS-30, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-72, "Removal and Installation".

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Revision: June 2014 EXL-261 2015 Leaf NAM

### PERIODIC MAINTENANCE

### HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000010634698

#### 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.

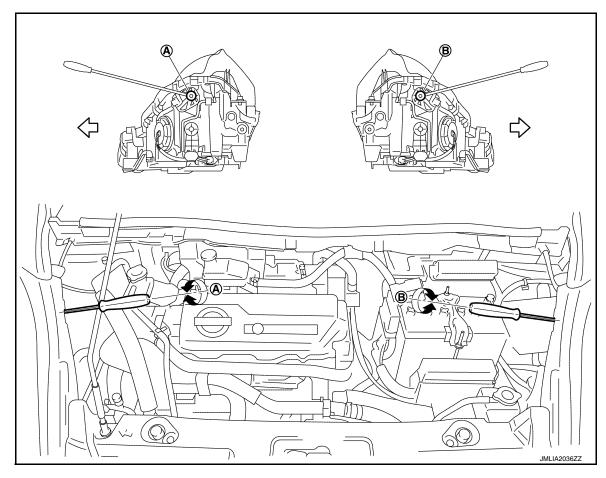
- Coolant and engine oil filled to correct level, fuel tank full.
- Confirm spare tire, jack and tools are stowed properly.
- · Maintain unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)
- · Carefully wipe any dirt from headlamp lens.

#### **CAUTION:**

#### Do not use organic solvent (thinner, gasoline etc.)

• Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.

#### AIMING ADJUSTMENT SCREW



Headlamp (RH) (UP/DOWN) adjustment

∠ Vehicle center

Headlamp (LH) (UP/DOWN) adjustment

#### **HEADLAMP AIMING ADJUSTMENT**

#### < PERIODIC MAINTENANCE >

#### [HALOGEN HEADLAMP]

	Adjustment screw	Rotation	Facing direction
A Hoodiama PH (LIP/DOW/N)		Clockwise	DOWN
A Headlamp RH (UP/DOWN)	Counterclockwise	UP	
В	Headlems I.H. (UD/DOWN)	Clockwise	DOWN
В	Headlamp LH (UP/DOWN)	Counterclockwise	UP

### Aiming Adjustment Procedure

INFOID:0000000010634699

1. Place the screen.

#### NOTE:

- · Stop the vehicle facing the wall.
- Place the aiming screen on the same level and flat surface as the vehicle.
- 2. Face the aiming screen with the vehicle. Maintain 10 m (33 ft) between the headlamp center and the aiming screen.
- 3. Start the engine. Turn the headlamp (LO) ON.

#### NOTE:

Block the opposite headlamp from projecting a beam pattern onto the aiming screen, using a suitable object. Aim each headlamp individually.

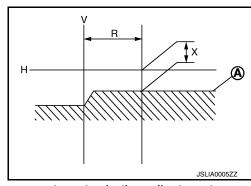
#### **CAUTION:**

Do not cover the lens surface with a tape etc. The lens is made of resin.

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) : 350 $\pm$ 175 mm (13.78 $\pm$ 6.89 in)

Low beam distribution on the screen

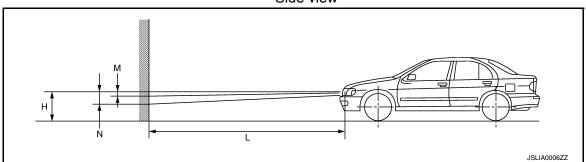


5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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)

#### Side view



**EXL-263** Revision: June 2014 2015 Leaf NAM Α

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### **HEADLAMP AIMING ADJUSTMENT**

[HALOGEN HEADLAMP]

Distance between the headlamp center and the screen (L) : 10 m (33 ft)

#### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

### FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:000000010634700

#### 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 fog lamp assembly has been replaced.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with 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 fog lamp.

#### **CAUTION:**

Never use organic solvent (thinner, gasoline etc.)

· Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

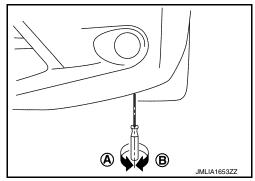
Turn the aiming adjusting screw for adjustment.

A: DOWN B: UP

 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:0000000010634701

### Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

- Stop the vehicle facing the wall.
- Place the aiming screen on the same level and flat surface as the vehicle.
- Face the aiming screen with the vehicle. Maintain 10 m (33 ft) between the front fog lamp center and the screen.
- 3. Start the motor. Turn the front fog lamp ON.

#### NOTE:

Block the headlamps from projecting a beam pattern onto the aiming screen, using a suitable object. Aim each headlamp individually.

#### **CAUTION:**

Do not cover the lens surface with a tape etc. The lens is made of resin.

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 (5.906 in).

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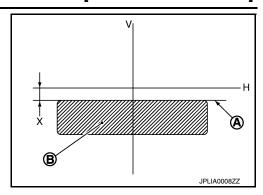
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### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

Front fog lamp light distribution on the screen



A : Cutoff line

B : High illuminance area

H : Horizontal center line of front fog lampV : Vertical center line of front fog lamp

X : Cutoff line height

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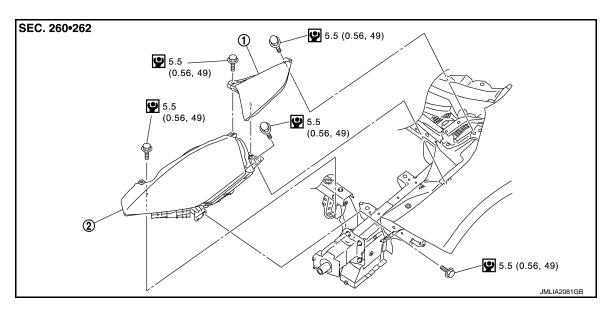
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# REMOVAL AND INSTALLATION

### FRONT COMBINATION LAMP

**Exploded View** INFOID:0000000010634702

#### **REMOVAL**



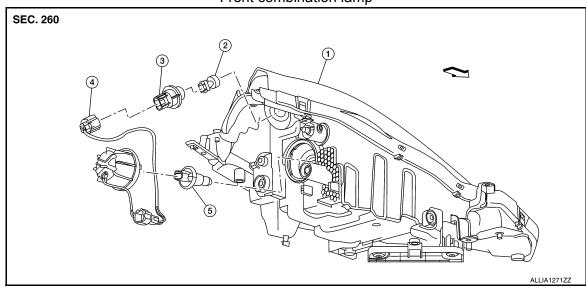
Front side marker lamp

Front combination lamp

: N·m (kg-m, in-lb)

#### DISASSEMBLY

#### Front combination lamp



Housing assembly

Harness

<□ : Vehicle front

- 2. Front turn signal lamp bulb
- Halogen bulb

Front turn signal lamp bulb socket

#### Removal and Installation

#### **CAUTION:**

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INFOID:0000000010634703

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#### FRONT COMBINATION LAMP

#### < REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

Disconnect the 12V battery negative terminal or remove the fuse to electric leakage. Refer to EXL-8, "Precaution for Removing 12V Battery".

#### REMOVAL

- 1. Remove front bumper fascia. Refer to EXT-13, "Removal and Installation".
- 2. Remove front side marker lamp mounting bolts.
- Pull up front side marker lamp, disconnect the front side marker lamp harness connector and remove the front side marker lamp.
- 4. Remove front combination lamp mounting bolts.
- 5. Pull out front combination lamp forward the vehicle, and then disconnect the connector before removing front combination lamp.

#### INSTALLATION

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

#### NOTE:

After installation, perform aiming adjustment. Refer to EXL-262, "Description".

### **Bulb Replacement**

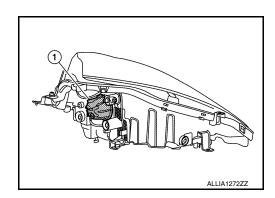
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#### **CAUTION:**

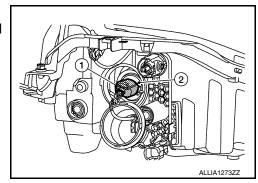
- Disconnect the 12V battery negative terminal or remove the fuse to electric leakage. Refer to <a href="EXL-151">EXL-151</a>, "Precaution for Removing 12V Battery".
- · After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it to prevent damage to the bulb.
- Never touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- 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.

#### **HEADLAMP BULB**

Rotate resin cap (1) counterclockwise and unlock it.



- 2. Rotate headlamp bulb (2) counterclockwise and unlock it.
- 3. Disconnect headlamp bulb from the harness connector (1) and remove.



#### FRONT TURN SIGNAL LAMP BULB

- Rotate bulb socket counterclockwise and unlock it.
- 2. Remove bulb from the bulb socket.

#### FRONT COMBINATION LAMP

# [HALOGEN HEADLAMP] < REMOVAL AND INSTALLATION > Disassembly and Assembly INFOID:0000000010634705 Α DISASSEMBLY 1. Rotate resin cap counterclockwise and unlock it. В 2. Rotate headlamp bulb counterclockwise and unlock it. 3. Disconnect headlamp bulb harness connector. 4. Rotate front turn signal lamp bulb socket counterclockwise and unlock it. C 5. Remove front turn signal lamp bulb from bulb socket. 6. Remove combination lamp harness connector. D **ASSEMBLY** Assembly is in the reverse order of disassembly. Е F Н K EXL M Ν

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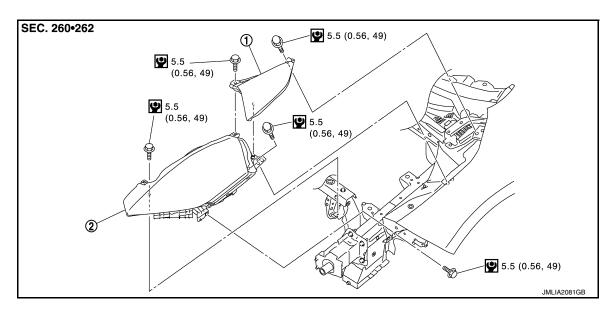
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**EXL-269** Revision: June 2014 2015 Leaf NAM

### FRONT SIDE MARKER LAMP

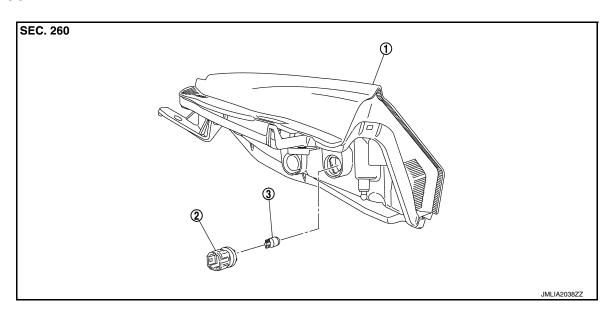
**Exploded View** INFOID:0000000010634707

#### **REMOVAL**



- Front side marker lamp
- Front combination lamp

#### DISASSEMBLY



- Front side marker lamp housing
- 2. Front side marker lamp bulb socket 3. Front side marker lamp bulb

#### **REMOVAL**

- 1. Remove front side marker lamp mounting bolts.
- Pull up front side marker lamp and disconnect the harness connector.
- Remove front side marker lamp.

#### Removal and Installation

INFOID:0000000010634708

### **Bulb Replacement**

INFOID:0000000010634709

#### FRONT SIDE MARKER LAMP

#### < REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

- After installing the bulb, install the resin cap 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 to prevent damage to the bulb.
- Never touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- 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 SIDE MARKER LAMP BULB

- 1. Rotate bulb socket counterclockwise and unlock it.
- 2. Remove bulb from the bulb socket.

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### **LIGHTING & TURN SIGNAL SWITCH**

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

### **LIGHTING & TURN SIGNAL SWITCH**

Exploded View

The lighting & turn signal switch is integrated in the combination switch. Refer to <u>BCS-73</u>, "Removal and <u>Installation"</u>.

#### [HALOGEN HEADLAMP]

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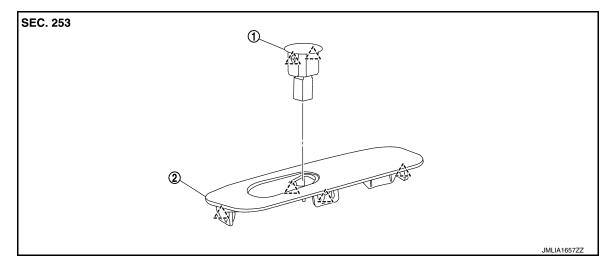
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### **OPTICAL SENSOR**

### Exploded View



Optical sensor
 Pawl

2. Switch panel

#### Removal and Installation

#### **REMOVAL**

- 1. Insert suitable tool between the switch panel and the instrument upper panel and release switch panel pawls.
- 2. Disconnect the optical sensor connector.
- 3. Using a suitable tool release pawls and remove optical sensor from switch panel.

#### **INSTALLATION**

Installation is in the reverse order of removal.

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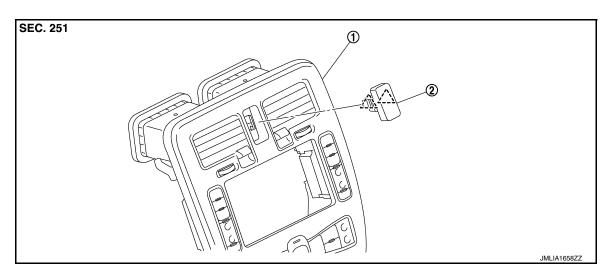
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Revision: June 2014 EXL-273 2015 Leaf NAM

### **HAZARD SWITCH**

Exploded View



Cluster lid C

2. Hazard switch

ےٰ : Pawl

#### Removal and Installation

INFOID:0000000010634714

#### **REMOVAL**

- 1. Remove cluster lid C. Refer to IP-17, "Removal and Installation".
- 2. Disengage hazard switch fixing pawls, and then remove hazard switch.

#### **INSTALLATION**

Install in the reverse order of removal.

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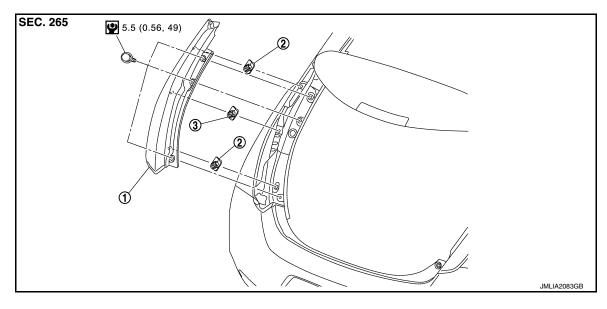
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### **REAR COMBINATION LAMP**

Exploded View

REMOVAL

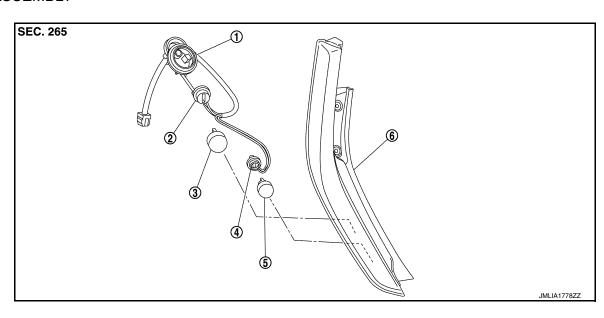


Rear combination lamp
 N·m (kg-m, in-lb)

Grommet A

3. Grommet B

DISASSEMBLY



- Rear combination lamp harness
- Buck-up lamp bulb socket
- 2. Rear turn signal bulb socket
- Buck-up lamp bulb
- . Rear turn signal bulb
- Rear combination lamp housing assembly

#### Removal and Installation

INFOID:000000010634716

#### **CAUTION:**

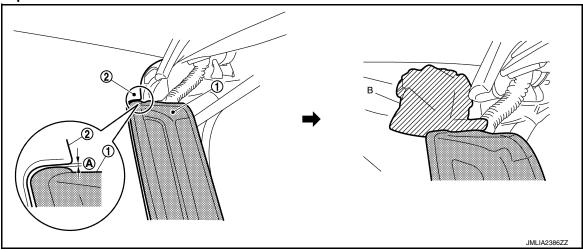
 Fogging of rear combination lamp inside is not a malfunction. Never replace parts. Fogging is a symptom in which inner surface of lens becomes whitely clouded, without there being visible water drops or water spots, as if lens is made of frosted-glass.

#### **REMOVAL**

- 1. Remove luggage side lower finisher. Refer to <a href="INT-42">INT-42</a>, "LUGGAGE SIDE LOWER FINISHER: Removal and Installation".
- 2. Disconnect rear combination lamp connector.
- 3. Remove rear combination lamp mounting bolts.
- 4. Insert a shop cloth (B) into clearance (A) between rear combination lamp (1) and rear fender panel (2), or apply protective tape.

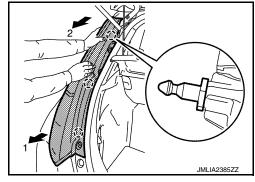
#### **CAUTION:**

- To prevent rear fender panel paint surface from being damaged, always apply protection using a shop cloth or protective tape.
- When using protective tape, apply protective tape to both rear fender panel and rear combination lamp.



5. Pull rear combination lamp toward vehicle rear side, as shown by the arrow in the figure.





6. Remove rear combination lamp.

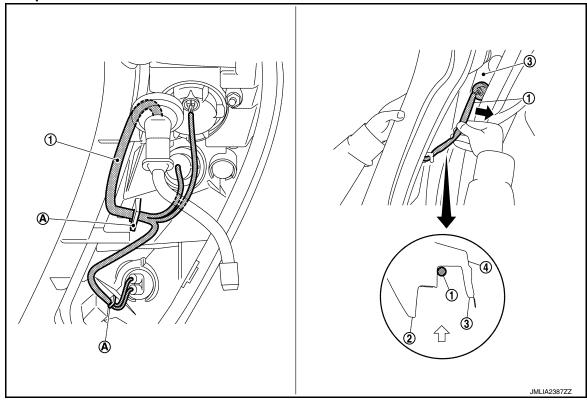
#### **INSTALLATION**

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

**CAUTION:** 

[HALOGEN HEADLAMP]

When installing rear combination lamp, fix harness using harness fixing hook (A) on backside of rear combination lamp housing and place harness toward vehicle inside so that harness is not pinched by rear fender panel.



Harness

Rear fender panel

3. Rear fender extension

Rear inner panel

: Vehicle front

Replacement

INFOID:0000000010634717

#### **CAUTION:**

- 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.

#### STOP/TAIL LAMP BULB

LED is used for stop/tail lamp bulb. Always replace rear combination lamp assembly as a unit, when bulb is to be replaced because of malfunction.

#### REAR TURN SIGNAL LAMP BULB

- Remove rear combination lamp mounting bolts.
- Insert a shop cloth (B) into clearance (A) between rear combination lamp (1) and rear fender panel (2), or apply protective tape.

#### **CAUTION:**

 To prevent rear fender panel paint surface from being damaged, always apply protection using a shop cloth or protective tape.

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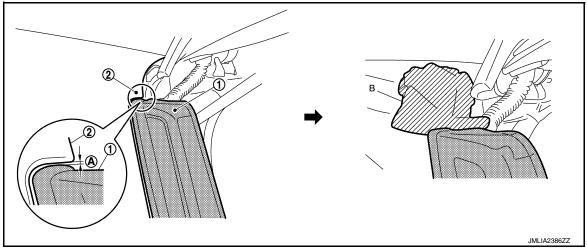
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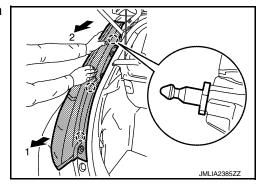
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• When using protective tape, apply protective tape to both rear fender panel and rear combination lamp.



3. Pull rear combination lamp toward vehicle rear side, as shown by the arrow in the figure.





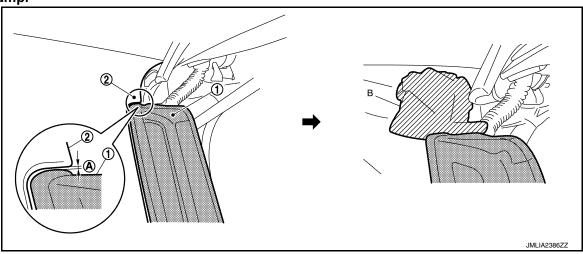
- Rotate bulb socket counterclockwise and unlock it.
- 5. Remove bulb from the socket.

#### **BACK-UP LAMP BULB**

- 1. Remove rear combination lamp mounting bolts.
- 2. Insert a shop cloth (B) into clearance (A) between rear combination lamp (1) and rear fender panel (2), or apply protective tape.

#### **CAUTION:**

- To prevent rear fender panel paint surface from being damaged, always apply protection using a shop cloth or protective tape.
- When using protective tape, apply protective tape to both rear fender panel and rear combination lamp.



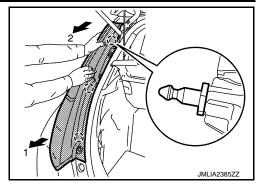
### **REAR COMBINATION LAMP**

#### < REMOVAL AND INSTALLATION >

### [HALOGEN HEADLAMP]

3. Pull rear combination lamp toward vehicle rear side, as shown by the arrow in the figure.

( ]) : Clip



- 4. Rotate bulb socket counterclockwise and unlock it.
- 5. Remove bulb from the socket.

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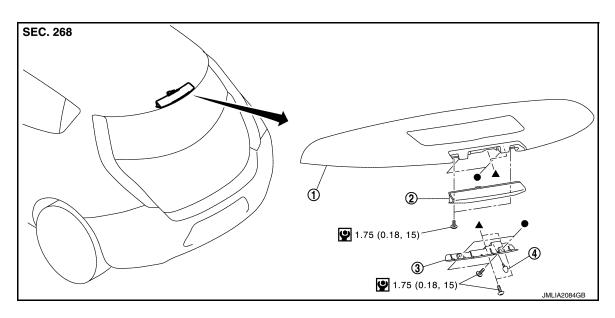
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### HIGH-MOUNTED STOP LAMP

Exploded View



1. Rear spoiler

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

- 4. Rear washer nozzle
- : N·m (kg-m, in-lb)
- ●,▲: Indicates that the part is connected at points with same symbol in actual vehicle.

#### Removal and Installation

INFOID:0000000010634719

#### **REMOVAL**

- 1. Remove rear spoiler. Refer to EXT-36, "Removal and Installation".
- 2. Remove high-mounted stop lamp cover mounting screws, and then remove high-mounted stop lamp cover.
- 3. Remove high-mounted stop lamp mounting screws.
- 4. Disconnect high-mounted stop lamp harness connector.
- 5. Remove high-mounted stop lamp.

#### INSTALLATION

Install in the reverse order of removal.

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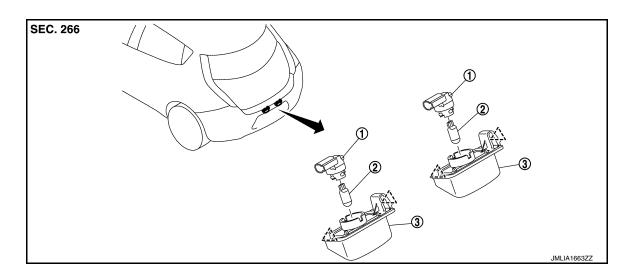
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### LICENSE PLATE LAMP

### Exploded View



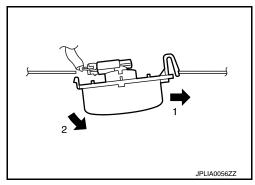
- 1. License plate lamp bulb socket
- 2. License plate lamp bulb
- 3. License plate lamp housing

\_\_\_` : Pawl

#### Removal and Installation

#### REMOVAL

1. Remove license plate lamp in numerical order shown in the figure.



2. Disconnect license plate lamp connector, and then remove license plate lamp.

#### **INSTALLATION**

Install in the reverse order of removal.

Replacement NFOID:000000010634722 N

#### **CAUTION:**

- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it to prevent damage to the bulb.
- Never touch bulb by hand while it is lit or right after being turned off to prevent a burns.
- 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.
- Turn the bulb socket counterclockwise and unlock it.
- Remove the bulb from the socket.

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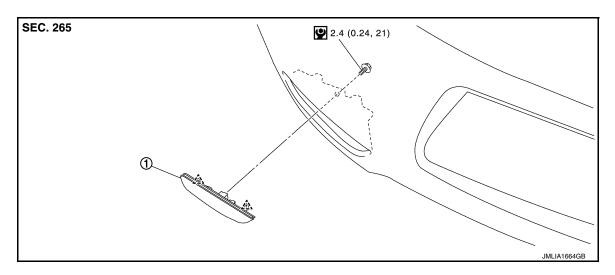
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Revision: June 2014 EXL-281 2015 Leaf NAM

### REAR REFLEX REFLECTOR

Exploded View



1. Reflex refractor

^` : Pawl

: N·m (kg-m, in-lb)

### Removal and Installation

INFOID:0000000010634724

#### **REMOVAL**

- 1. Remove rear bumper fascia. Refer to EXT-17, "Removal and Installation".
- Remove rear reflex reflector fixing screws and disengage fixing pawls, and then remove rear reflex reflector.

#### **INSTALLATION**

Install in the reverse order of removal.

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

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HALOGEN HEADLAMP]

INFOID:0000000010634725

# SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

**Bulb Specifications** 

	Item	Wattage (W)*
For the continuous lands	Headlamp (HI/LOW)	60/55
Front combination lamp	Turn signal/Park lamp	27/7
Front side maker lamp		5
Front fog lamp (if equipped)		55
	Stop lamp/Tail lamp	_
Deer combination laws	Rear turn signal lamp	21
Rear combination lamp	Back-up lamp	16
	Rear side maker lamp	_
License plate lamp		5
High-mounted stop lamp		_

<sup>\*:</sup> Always check with the Parts Department for the latest parts info.

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