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# **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

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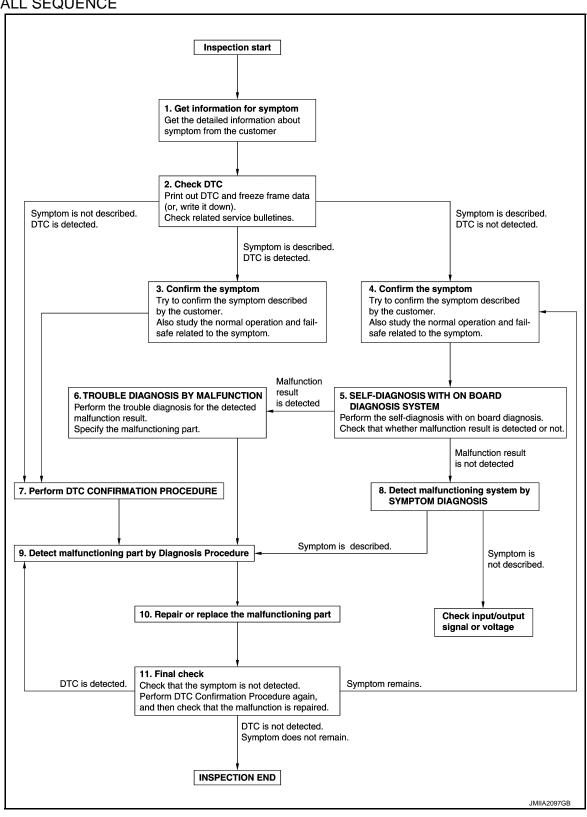
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#### **OVERALL SEQUENCE**



**DETAILED FLOW** 

#### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION > [XENON TYPE]

# 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 7.

### 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 7.

### 4. 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.

## SELF-DIAGNOSIS WITH ON BOARD DIAGNOSIS SYSTEM

Perform the self-diagnosis with on board diagnosis. Check that whether malfunction result is detected or not. <u>Is malfunction result detected?</u>

YES >> GO TO 6. NO >> GO TO 8.

## 6. TROUBLE DIAGNOSIS BY MALFUNCTION

Perform the trouble diagnosis for the detected malfunction result. Specify the malfunctioning part.

>> GO TO 9.

## 7.PERFORM DTC CONFIRMATION PROCEDURE

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

#### NOTE:

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

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

#### Is DTC detected?

#### DIAGNOSIS AND REPAIR WORK FLOW

[XENON TYPE] < BASIC INSPECTION > YES >> GO TO 9. NO >> Check according to GI-42, "Intermittent Incident". Α f 8.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step В 4, and determine the trouble diagnosis order based on possible causes and symptom. Is the symptom described? YES >> GO TO 9. NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT. 9. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE D Inspect according to Diagnosis Procedure of the system. Is malfunctioning part detected? Е YES >> GO TO 10. NO >> Check according to GI-42, "Intermittent Incident". 10. REPAIR OR REPLACE THE MALFUNCTIONING PART Repair or replace the malfunctioning part. 2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement. Check DTC. If DTC is detected, erase it. >> GO TO 11. Н 11. 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 9. YES-2 >> Symptom remains: GO TO 4. >> Before returning the vehicle to the customer, always erase DTC. NO K **EXL** 

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#### INSPECTION AND ADJUSTMENT

< BASIC INSPECTION > [XENON TYPE]

### INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL UNIT)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL

UNIT): Description

Perform "LEVELIZER ADJUSTMENT" with CONSULT when replacing the AFS control unit.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (AFS CONTROL

UNIT): Special Repair Requirement

INFOID:0000000008288943

## 1.LEVELIZER ADJUSTMENT

Perform "LEVELIZER ADJUSTMENT".

>> Refer to EXL-10, "LEVELIZER ADJUSTMENT: Special Repair Requirement".

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR)

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR):

Description

NPOID:000000008288944

Perform "LEVELIZER ADJUSTMENT" with CONSULT when replacing the height sensor.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (HEIGHT SENSOR): Special Repair Requirement

## 1.LEVELIZER ADJUSTMENT

Perform "LEVELIZER ADJUSTMENT".

>> Refer to EXL-10, "LEVELIZER ADJUSTMENT : Special Repair Requirement".

#### LEVELIZER ADJUSTMENT

LEVELIZER ADJUSTMENT : Description

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INFOID:0000000008288946

Perform "LEVELIZER ADJUSTMENT" when installing, removing, and replacing the height sensor and the suspension components.

LEVELIZER ADJUSTMENT : Special Repair Requirement

INFOID:0000000008288947

## 1. CHECK VEHICLE CONDITION

- 1. Park the vehicle in the straight-forward position.
- Unload the vehicle (no passenger aboard).

>> GO TO 2.

# 2.LEVELIZER ADJUSTMENT

#### (P)CONSULT WORK SUPPORT

- 1. Select "LEVELIZER ADJUSTMENT" of ADAPTIVE LIGHT work support item.
- Select "START".
- 3. When "ADJUSTMENT IS COMPLETED", select "END". CAUTION:

If "CAN NOT BE TESTED" is indicated, AFS control unit detects that the height sensor signal changes. The levelizer adjustment is cancelled. In this case, turn the ignition switch OFF to prevent the vehicle from the height change. Perform the levelizer adjustment again.

### **INSPECTION AND ADJUSTMENT**

[XENON TYPE] < BASIC INSPECTION > Is the levelizer adjustment completed? Α YES >> GO TO 3. NO >> Perform the levelizer adjustment again. 3.self-diagnosis result check В Perform self-diagnosis with CONSULT. Check that any DTC is not detected. Is any DTC detected? YES >> GO TO 2. С >> Levelizer adjustment completed NO D Е F G Н J Κ **EXL** M Ν 0

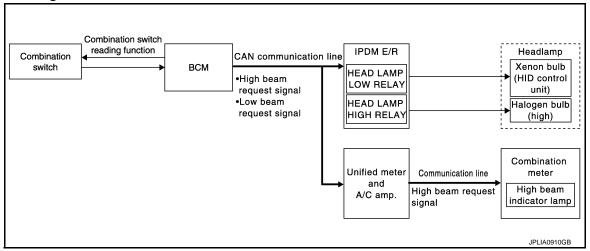
**EXL-11** Revision: 2013 December 2013 EX

## SYSTEM DESCRIPTION

### **HEADLAMP SYSTEM**

### System Diagram

INFOID:0000000008288948



## System Description

INFOID:0000000008288949

#### **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
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low beam request signal.

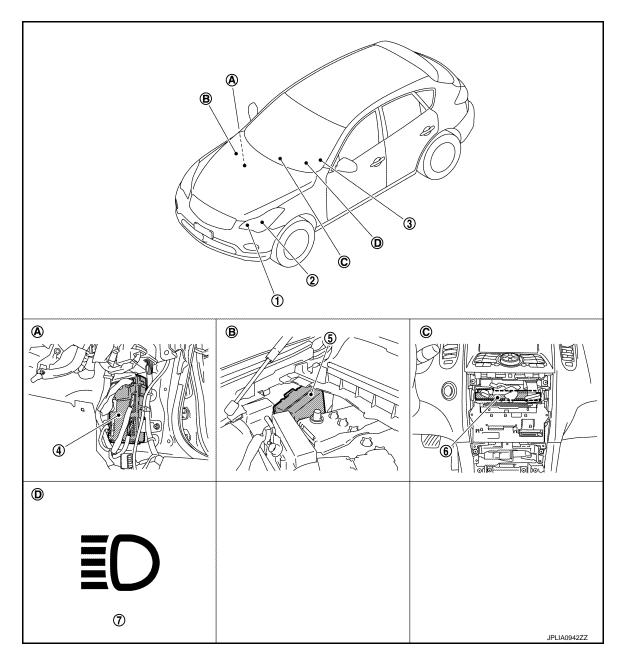
#### **HEADLAMP (HI) OPERATION**

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

#### Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

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- 1. Headlamp (HI)
- 4 PCM
- 7. High beam indicator lamp
- A. Dash side lower (Passenger side)
- D. On the combination meter
- 2. Headlamp (LO)
- 5. IPDM E/R
- B. Engine room dash panel (RH)
- Combination switch
- 6. Unified meter and A/C amp.
- C. Behind the cluster lid C

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### **HEADLAMP SYSTEM**

## < SYSTEM DESCRIPTION >

[XENON TYPE]

# Component Description

Part	Description
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges that the headlamp is turned ON according to the vehicle condition.</li> <li>Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).</li> <li>Requests the high beam indicator lamp ON to the combination meter [with CAN communication (through unified meter and A/C amp.)].</li> </ul>
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].
Front combination lamp assembly  • HID control unit • Xenon bulb	Refer to EXL-71, "Description".

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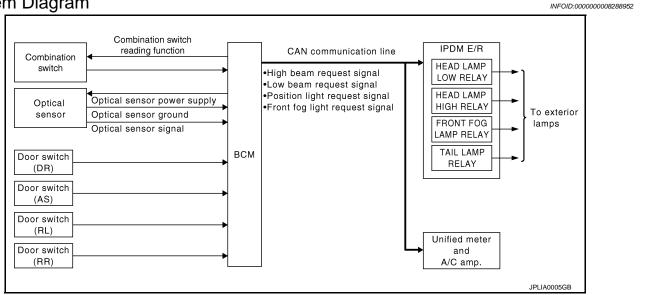
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### **AUTO LIGHT SYSTEM**

### System Diagram



## System Description

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#### 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

#### Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function and the delay timer function.
- Auto light function turns the exterior lamps\* and each illumination ON/OFF automatically according to the outside brightness.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF depending on the vehicle condition with the auto light function after a certain period of time.
- \*: Headlamp (LO/HI), parking 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 ignition 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 with 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 EXL-34, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP) (Xenon Type)".

#### **DELAY TIMER FUNCTION**

BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the ignition 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).

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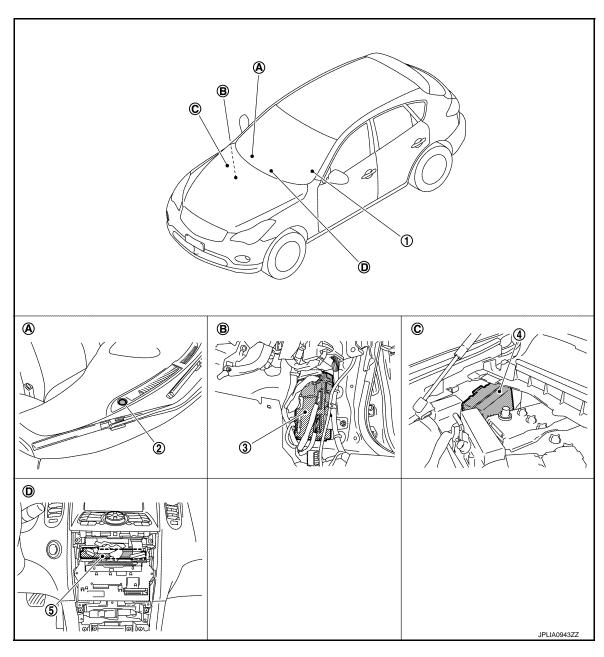
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- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>EXL-34</u>, "<u>HEAD-LAMP</u>: CONSULT Function (BCM HEAD LAMP) (Xenon Type)".

#### 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.

### **Component Parts Location**



- 1. Combination switch
- 4. IPDM E/R
- A. Instrument upper panel (RH)
- D. Behind the cluster lid C
- 2. Optical sensor
- 5. Unified meter and A/C amp.
- B. Dash side lower (Passenger side)
- 3. BCM
- C. Engine room dash panel (RH)

## **AUTO LIGHT SYSTEM**

## < SYSTEM DESCRIPTION >

## [XENON TYPE]

# Component Description

INFOID:0000000008288955

Part	Description
BCM	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the outside brightness from the optical sensor signal.</li> <li>Judges the OFF timing according to the vehicle condition.</li> <li>Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition.</li> <li>Requests ON/OFF of each relay to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".
Optical sensor	Refer to EXL-80, "Description".

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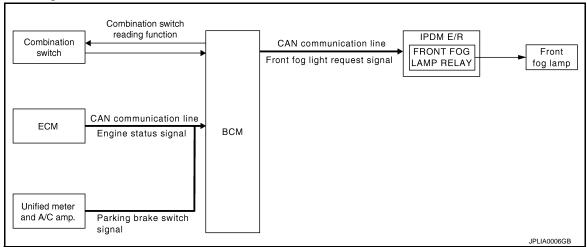
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[XENON TYPE]

## DAYTIME RUNNING LIGHT SYSTEM

### System Diagram

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## System Description

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#### **OUTLINE**

- Turns the front fog lamp ON 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 depending on the following signals.
- Engine condition signal (received from ECM with CAN communication)
- Parking brake switch signal (received from unified meter and A/C amp. with CAN communication)
- BCM transmits the front fog light request signal to IPDM E/R with CAN communication according to the daytime running light ON condition.

#### Daytime running light ON condition

While the engine running with the parking brake released

#### Daytime running light OFF condition

- Engine stopped
- Headlamp ON (Passing included)
- IPDM E/R turns the integrated front fog lamp relay ON and turns the front fog lamp ON according to the front fog light request signal.

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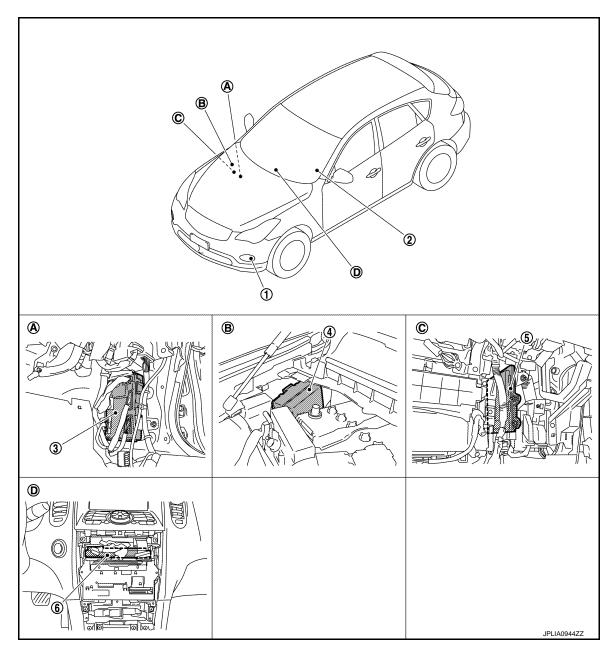
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- Daytime running light (Front fog lamp)
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- D. Behind the cluster lid C
- 2. Combination switch
- 5. ECM
- B. Engine room dash panel (RH)
- 3. BCM
- 6. Unified meter and A/C amp.
- C. Behind the glove box

## Component Description

Part	Description
BCM	<ul> <li>Judges each switch condition with the combination switch reading function.</li> <li>Judges the headlamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).

### **DAYTIME RUNNING LIGHT SYSTEM**

### < SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".
ECM	Transmits the engine condition signal to BCM with CAN communication.
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.

[XENON TYPE]

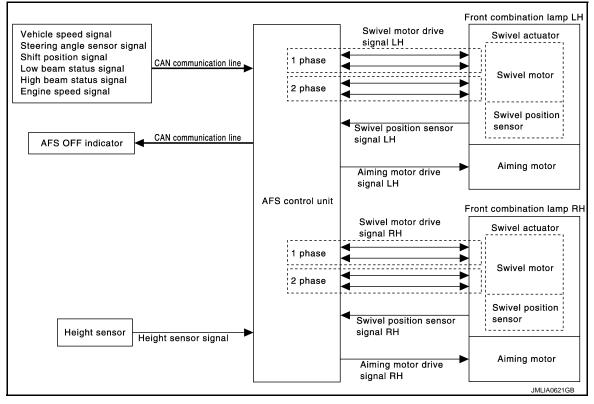
### ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

System Diagram

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## System Description

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#### OUTLINE

- AFS (ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM) is controlled by AFS control unit.
- AFS has AFS control (swivel control) and the headlamp auto aiming control.
- AFS control swivels the headlamp to the steering direction.
- Headlamp auto aiming control moves the headlamp light axis up/down according to the vehicle height.

#### AFS (ADAPTIVE FRONT-LIGHTING SYSTEM)

#### **AFS Control Description**

- AFS control controls the headlamp (right) only when the steering wheel is turned rightward, and the headlamp (left) only when the steering wheel is turned leftward.
- AFS control unit detects the vehicle condition necessary for AFS control with the following signals.
- Steering angle sensor signal (received from steering angle sensor with CAN communication)
- Engine speed signal (received from ECM with CAN communication)
- Shift position signal (received from TCM with CAN communication)
- Low beam status and high beam status (received from IPDM E/R with CAN communication)
- Vehicle speed signal (received from unified meter and A/C amp. with CAN communication)
- When the operation conditions are satisfied, AFS control unit controls the swivel angle depending on the steering angle and the vehicle speed.

#### AFS operation condition

- Swivel actuator initialization completed
- Headlamp ON
- While the engine running
- Selector lever position other than "P" or "R"
- Vehicle speed approximately 25 km/h (15.5 MPH) or more (left swivel only; Right swivel activates regardless of the vehicle speed.)

#### Swivel Actuator Initialization

AFS control unit performs the swivel actuator initialization when detecting that the engine starts.

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#### ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM

[XENON TYPE]

#### ACTIVE ADAPTIVE FRONT-LIGHTING STSTEM

- Swivels the headlamp to the vehicle-center side until it hits the stopper.
- Returns the swivel angle from the stopper. Completes the initialization with regarding the returned position as the swivel angle 0° (straight-forward position).

#### **Swivel Operation**

< SYSTEM DESCRIPTION >

- AFS control unit transmits the drive signal to the swivel actuator when activation conditions are satisfied.
   And swivels the headlamp.
- The swivel starts after steering approximately 20° or more from straight-forward position.

#### NOTE:

The steering angle differs between right turn and left turn.

- The swivel angle becomes the maximum angle toward the driving direction if the steering angle is approximately 90° or more depending on the vehicle speed. The swivel angle is maintained by shutting off the drive signal.
- The swivel starts, and returns to the swivel angle 0° (straight-forward position) when the steering is returned to the straight-forward position.
- AFS control unit returns the swivel angle to the straight-forward position, and stops the swivel regardless of the steering angle if the operation condition is not satisfied while the swivel angle is 0°.

#### AFS OFF Indicator Lamp

- AFS control unit transmits AFS OFF indicator lamp signal to the combination meter (through the unified meter and A/C amp.) with CAN communication.
- Combination meter turns AFS OFF indicator lamp ON/OFF/blinking according to AFS OFF indicator lamp signal.
- AFS OFF indicator lamp is turned ON for 1 second for the AFS OFF indicator lamp bulb check when the ignition switch is turned ON. AFS OFF indicator lamp is turned OFF within 1 second when the engine starts.
- AFS OFF indicator lamp blinks (1 second each) if AFS control unit detects a specific DTC.
   NOTE:

Combination meter blinks AFS OFF indicator lamp (approximately 1 second each) if AFS OFF indicator lamp signal is not received from AFS control unit.

#### **HEADLAMP AUTO AIMING**

Headlamp Auto Aiming Control Description

- Headlamp auto aiming control controls the headlamp light axis height appropriately according to the vehicle height.
- AFS control unit detects the vehicle condition necessary for headlamp auto aiming control with the following signals.
- Height sensor signal
- Engine speed signal (received from ECM with CAN communication)
- Low beam status signal and high beam status signal (received from IPDM E/R with CAN communication)
- Vehicle speed signal (received from unified meter and A/C amp. with CAN communication)
- When the operation conditions are satisfied, AFS control unit transmits the aiming motor drive signal for adjusting the headlamp axis height.

#### Headlamp auto aiming operation condition

- Headlamp ON
- While the engine running
- Vehicle speed (Control mode is switched according to the driving condition.)

#### **Headlamp Auto Aiming Operation**

 AFS control unit calculates the vehicle pitch angle from the height sensor signal. AFS control unit judges the angle for adjusting the axis gap from the preset position.
 CAUTION:

# Adjusted axis position may differ from the preset position although the headlamp auto aiming activates properly if the suspension is replaced or worn.

- AFS control unit controls the headlamp axis by changing the aiming motor drive signal output according to the vehicle-rearward height when detecting the following vehicle condition. Output is maintained if other condition than following is detected.
- Engine starts.
- Headlamp is turned ON.
- Vehicle posture becomes stable after changing the vehicle posture change is detected with the headlamp ON and the vehicle stopped.
- Vehicle speed is maintained with the headlamp ON and the vehicle driven.

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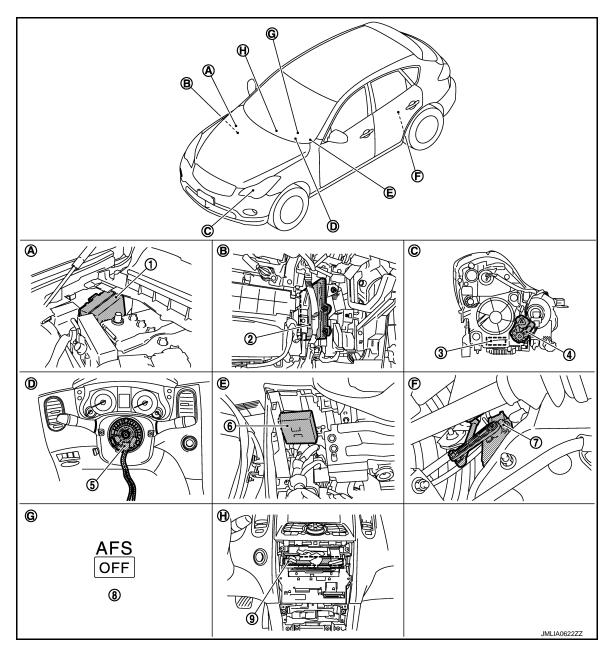
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- 1. IPDM E/R
- 4. Aiming motor
- 7. Height sensor
- A. Engine room dash panel (RH)
- D. Steering column cover (inside)
- G. On the combination meter

- 2. ECM
- 5. Steering angle sensor
- 8. AFS OFF indicator lamp
- B. Behind the glove box
- E. Behind the instrument driver lower panel
- H. Behind the cluster lid C

- Swivel actuator
- 6. AFS control unit
- 9. Unified meter and A/C amp.
- C. Front combination lamp (back)
- F. Rear suspension member (LH)

## Component Description

Part	Description
AFS control unit	Refer to EXL-57, "Description".
Swivel actuator	Refer to EXL-45, "Description".

### **ACTIVE ADAPTIVE FRONT-LIGHTING SYSTEM**

### < SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description
Aiming motor	Refer to EXL-72, "Description".
Height sensor	Refer to EXL-51, "Description".
Steering angle sensor	Refer to EXL-60, "Description".
IPDM E/R	Transmits the headlamp (LO) ON signal and the headlamp (HI) ON signal to AFS control unit with CAN communication.
ECM	Transmits the engine speed signal to AFS control unit with CAN communication.
TCM	Refer to EXL-54, "Description".
Unified meter and A/C amp.	Refer to EXL-55, "Description".
Combination meter	Turns AFS OFF indicator lamp ON/OFF/blinking according to AFS control unit request [with CAN communication (through unified meter and A/C amp.)].

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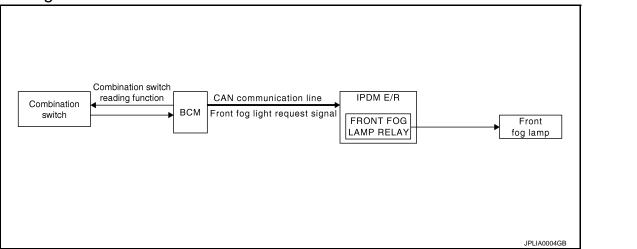
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## FRONT FOG LAMP SYSTEM

### System Diagram



### System Description

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#### **OUTLINE**

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

#### NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to EXL-18. "System Diagram" for the detail.

#### FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

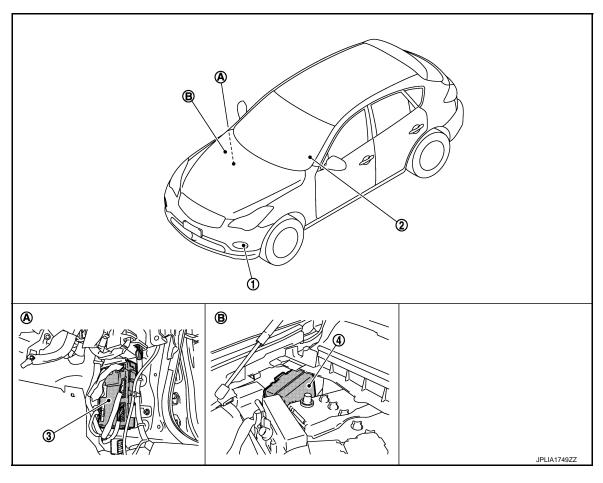
- Front fog lamp switch ON with the headlamp ON (except for the high beam ON)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.

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- 1. Front fog lamp
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Combination switch
- 3. BCM
- B. Engine room dash panel (RH)

## Component Description

Part	Description		
BCM	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the front fog lamp ON/OFF status according to the vehicle condition.</li> <li>Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>		
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the requestrom BCM (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".		

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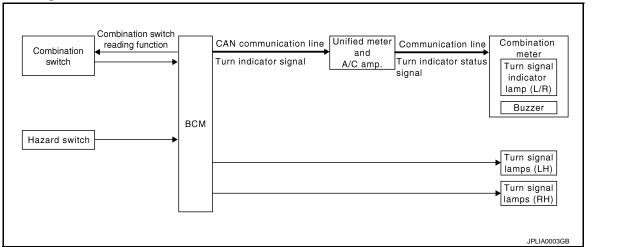
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### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### System Diagram



## System Description

INFOID:0000000008288969

#### **OUTLINE**

Turn signal 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 ignition switch is turned 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 turned ON. BCM blinks the hazard warning lamp.

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

- BCM transmits the turn signal indicator lamp signal to the combination meter (through the unified meter and A/C amp.) with CAN communication while the turn signal lamp and the hazard warning lamp 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.

#### HIGH FLASHER OPERATION (FAIL-SAFE)

- 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.

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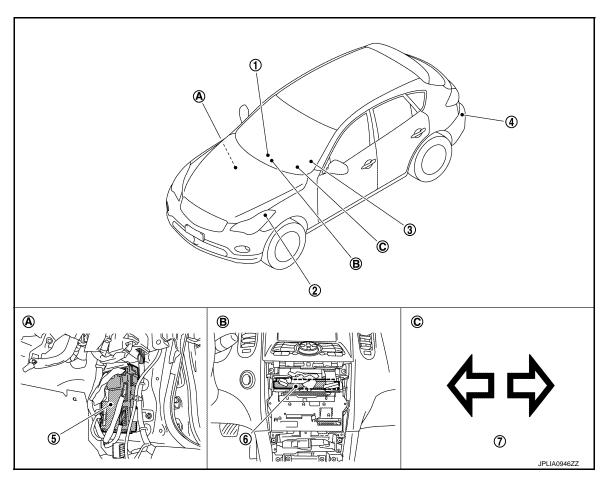
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- 1. Hazard warning switch
- 4. Rear turn signal lamp
- 7. Turn signal indicator lamp
- A. Dash side lower (Passenger side)
- 2. Front turn signal lamp
- 5. BCM
- B. Behind the cluster lid C
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. On the combination meter

## Component Description

Part	Description		
ВСМ	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.</li> <li>Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).</li> </ul>		
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".		
Hazard switch (Multifunction switch)	Refer to EXL-83, "Description".		
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].		

### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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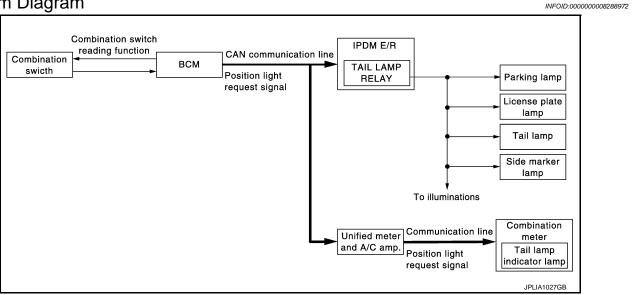
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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

System Diagram



## System Description

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**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 with 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 (with auto light system)
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking lamp, the 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.

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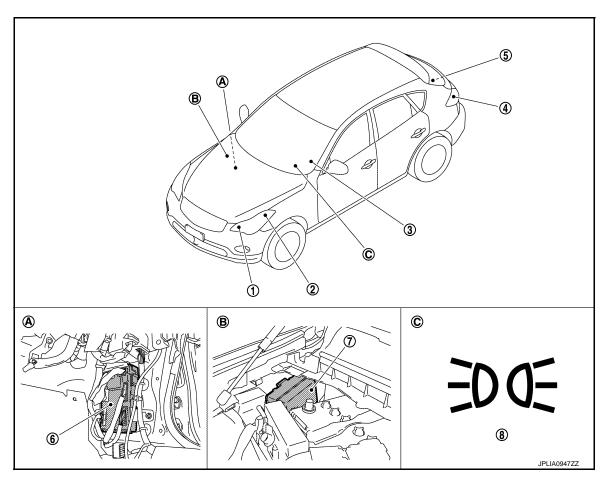
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- 1. Parking lamp
- 4. Tail lamp and side marker lamp
- 7. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Side marker lamp
- 5. License plate lamp
- 8. Tail lamp indicator lamp
- B. Engine room dash panel (RH)
- 3. Combination switch
- 6. BCM
- C. On the combination meter

## Component Description

Part	Description		
BCM	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>		
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".		
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].		

[XENON TYPE]

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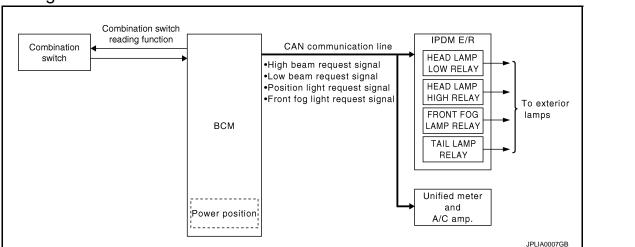
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### EXTERIOR LAMP BATTERY SAVER SYSTEM

System Diagram



## System Description

INFOID:0000000008288977

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. Refer to EXL-15, "System Diagram".

#### EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM activates the timer and turns the exterior lamp OFF 5 minutes after the ignition switch is turned from ON → OFF with the exterior lamps ON.

#### NOTE:

- Headlamp control function turns the exterior lamps ON normally when the ignition switch is turned ACC or the engine started (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  $\rightarrow$  1ST or 2ND with the exterior lamp OFF.

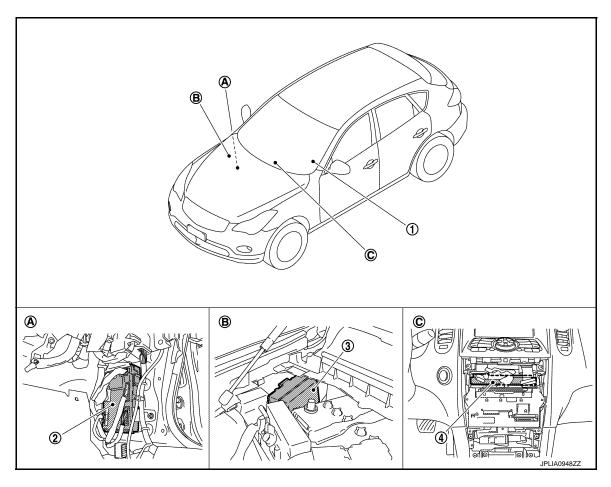
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- 1. Combination switch
- 4. Unified meter and A/C amp.
- A. Dash side lower (Passenger side)
- 2. BCM
- B. Engine room dash panel (RH)
- 3. IPDM E/R
- C. Behind the cluster lid C

# Component Description

Part	Description	
BCM	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication).</li> </ul>	
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN commucation).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".	

[XENON TYPE]

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000008772638

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#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

×: Applicable item

System	Sub system salastics item	Diagnosis mode		
System	Sub system selection item	Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
<del>-</del>	AIR CONDITONER*			
Intelligent Key system     Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	ВСМ	×		
IVIS - NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open system	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

#### NOTE:

### FREEZE FRAME DATA (FFD)

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

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<sup>\*:</sup> This item is displayed, but is not used.

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

#### NOTE:

- \*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.
- · Closing door
- Opening door
- · Door is locked using door request switch
- Door is locked using Intelligent Key

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

#### **HEADLAMP**

HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (Xenon Type)

INFOID:0000000008288981

**WORK SUPPORT** 

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Service item	Setting item	Setting		
BATTERY SAVER SET	On*	With the exterior lamp battery saver function		
DATTERT SAVER SET	Off	Without the exterior lamp battery saver function		
	MODE 1*	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.		
ILL DELAY SET	MODE 4	60 sec.	Sets delay timer function timer operation time.	
	MODE 5	90 sec.	(All doors closed)	
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		
MODE 1* Normal				
CUSTOM A/LIGHT SET-	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)		
TING	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)		
	MODE 4	Less sensitive setting than normal setting (Turns ON later than normal operation.)		

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

### **DATA MONITOR**

#### NOTE:

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

Monitor item [Unit]	Description		
PUSH SW [On/Off]	Indicates [ON/OFF] condition of push-button ignition switch.		
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates [STOP/START/CRANK/RUN] condition of engine states.		
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from unified meter and A/C amp. by numerical value [Km/h].		
KEY SW-SLOT [On/Off]	Indicates [ON/OFF] condition of key slot.		
TURN SIGNAL R [On/Off]			
TURN SIGNAL L [On/Off]			
TAIL LAMP SW [On/Off]			
HI BEAM SW [On/Off]			
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function		
HEAD LAMP SW2 [On/Off]			
PASSING SW [On/Off]			
AUTO LIGHT SW [On/Off]			
FR FOG SW [On/Off]			

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Monitor item [Unit]	Description	
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.	
DOOR SW-DR [On/Off]	Indicated [ON/OFF] condition of front door switch (driver side).	
DOOR SW-AS [On/Off]	Indicated [ON/OFF] condition of front door switch (passenger side).	
DOOR SW-RR [On/Off]	Indicated [ON/OFF] condition of rear door switch RH.	
DOOR SW- RL [On/Off]	Indicated [ON/OFF] condition of rear door switch LH.	
DOOR SW-BK [On/Off]	Indicated [ON/OFF] condition of back door switch.	
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	

#### **ACTIVE TEST**

Test item	Operation	on Description	
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.	
	Off	Stops the position light request signal transmission.	
	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).	
HEAD LAMP	Low	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).	
	Off	Stops the high & low beam request signal transmission.	
FR FOG LAMP	On	Transmits the front fog light request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.	
	Off	Stops the front fog light request signal transmission.	
RR FOG LAMP	On	NOTE:	
RR FOG LAWIF	Off	The item is indicated, but cannot be tested.	
DAYTIME RUNNING LIGHT	On	NOTE:	
DAT TIME NORMING LIGHT	Off	The item is indicated, but cannot be tested.	
	RH		
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.	
	Off		
ILL DIM SIGNAL	On	NOTE:	
ILL DIW SIGNAL	Off	The item is indicated, but cannot be tested.	

# FLASHER

# FLASHER : CONSULT Function (BCM - FLASHER) (Xenon Type)

INFOID:0000000008288982

### **WORK SUPPORT**

Service item	Setting item	Setting			
HAZARD ANSWER BACK	Lock Only*	With locking only			
	Unlk Only	With unlocking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or		
	Lock/Unlk	With locking/unlocking	the key fob.		
	Off	Without the function			

# **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

[XENON TYPE]

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# **DATA MONITOR**

#### NOTE:

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

Monitor item Description [Unit] **REQ SW-DR** Indicated [ON/OFF] condition of door request switch (driver side). [On/Off] **REQ SW-AS** Indicated [ON/OFF] condition of door request switch (passenger side). [On/Off] **PUSH SW** Indicates [ON/OFF] condition of push-button ignition switch. [On/Off] TURN SIGNAL R [On/Off] Each switch condition that BCM judges from the combination switch reading function TURN SIGNAL L [On/Off] HAZARD SW The switch status input from the hazard switch [On/Off] **RKE-LOCK** Indicates [ON/OFF] condition of LOCK signal from Intelligent Key. [On/Off] **RKE-UNLOCK** Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key. [On/Off] **RKE-PANIC** Indicates [ON/OFF] condition of PANIC button of Intelligent Key. [On/Off]

#### **ACTIVE TEST**

Test item	Operation	Description
	RH	Outputs the voltage to blink the right side turn signal lamps.
FLASHER	LH	Outputs the voltage to blink the left side turn signal lamps.
	Off	Stops the voltage to turn the turn signal lamps OFF.

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

[XENON TYPE]

# DIAGNOSIS SYSTEM (IPDM E/R)

# **Diagnosis Description**

INFOID:0000000008772689

#### **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.

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Side maker lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

#### Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

#### NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

- 2. Turn the ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF.

#### **CAUTION:**

#### Close passenger door.

- Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
- 5. The oil pressure warning lamp starts blinking when the auto active test starts.
- 6. After a series of the following operations is repeated 3 times, auto active test is completed.

#### NOTE:

When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF. **CAUTION:** 

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-63</u>, "Component Function Check".
- Do not start the engine.

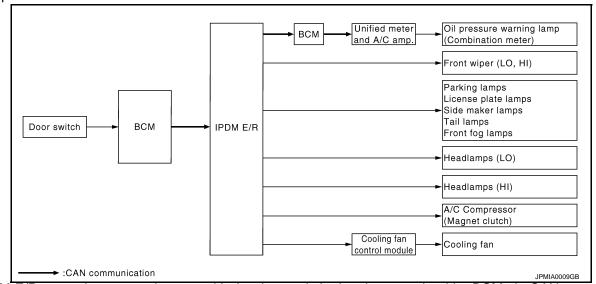
Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Side maker lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> </ul>	10 seconds
4	Headlamps	LO 10 seconds     HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6 <sup>*</sup>	Cooling fan	MID for 5 seconds → HI for 5 seconds

<sup>\*:</sup> Outputs duty ratio of 50% for 5 seconds  $\rightarrow$  duty ratio of 100% for 5 seconds on the cooling fan control module.

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
Any of the following components do not operate		YES	BCM signal input circuit
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Side maker lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamp (HI, LO)</li> <li>Front wiper (HI, LO)</li> </ul>	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
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES	Unified meter and A/C amp. signal input circuit CAN communication signal between unified meter and A/C amp. and ECM CAN communication signal between ECM and IPDM E/R
		NO	Magnet clutch     Harness or connector between IPDM E/R and magnet clutch     IPDM E/R
	Perform auto active test.	YES	Harness or connector between IPDM E/R and oil pressure switch     Oil pressure switch     IPDM E/R
Oil pressure warning lamp does not operate	Does the oil pressure warning lamp blink?	NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter

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

[XENON TYPE]

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

# CONSULT Function (IPDM E/R)

INFOID:0000000008772690

#### APPLICATION ITEM

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

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

## SELF DIAGNOSTIC RESULT

Refer to EXL-185, "DTC Index".

## **DATA MONITOR**

#### NOTE:

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

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

# DIAGNOSIS SYSTEM (IPDM E/R)

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Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.  NOTE:
·		For models without steering lock unit, this item is not monitored.
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.  NOTE:  For models without steering lock unit, this item is not monitored.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

# **ACTIVE TEST**

Test item

Test item	Operation	Description
	Off	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	RH	
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.

# DIAGNOSIS SYSTEM (IPDM E/R)

# < SYSTEM DESCRIPTION >

[XENON TYPE]

Test item	Operation	Description
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
MOTOR PAIN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.
	Off	OFF
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

[XENON TYPE]

# **DIAGNOSIS SYSTEM (AFS)**

# **CONSULT Function (ADAPTIVE LIGHT)**

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#### APPLICATION ITEM

Diagnostic mode	Description
ECU Identification	Allows confirmation of auto levelizer control unit part number.
Self Diagnostic Result	Displays the diagnosis results judged by AFS control unit.
Work support	Sets each sensor.
Data monitor	Indicates AFS control unit input data in real time.
Active test	Provides the drive signal to the load. Checks operation.

## **WORK SUPPORT**

Service item	Description
ST ANG SEN ADJUSTMENT*	_
LEVELIZER ADJUSTMENT	Adjusts the height sensor signal output value (AFS control unit recognized) in the unloaded vehicle condition.

<sup>\*:</sup> Adjusts the steering angle sensor neutral position on ABS actuator and electrical unit (control unit) side. Refer to <a href="https://example.com/BRC-9">BRC-9</a>, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION: Special Repair Requirement".

#### DATA MONITOR

#### NOTE:

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

Monitor item [Unit]	Description
STR ANGLS SIG [deg]	The steering angle value judged by the steering angle sensor signal received from the steering angle sensor with CAN communication
VHCL SPD [km/h]	The vehicle speed signal value from the unified meter and A/C amp. with CAN communication
SLCT LVR POSI [P - 1]	The selector lever status judged by the position indicator signal received from TCM with CAN communication
HEAD LAMP [On/Off]	The headlamp On/Off status judged by the low beam headlamp (ON) signal received from IPDM E/R with CAN communication
AFS SW [On/Off]	NOTE: The item is indicated, but not monitored.
HI SEN OTP RR [V]	The height sensor signal voltage value input from the height sensor
LEV ACTR VLTG [%]	The ratio value to the battery voltage generated by the levelizer activation signal control value judged by AFS control unit
SWVL SEN RH* [deg]	The head lamp swivel angle value judged by AFS control unit received from the swiv-
SWVL SEN LH* [deg]	el position sensor signal input from the swivel actuator
SWVL ANGLE RH* [deg]	The public length command value to the public length indeed by ACC
SWVL ANGLE LH * [deg]	The swivel angle command value to the swivel motor judged by AFS control unit

<sup>\*:</sup> The swivel angle "0°" (feedback value) of the swivel position sensor signal may differ from the swivel angle "0°" of the swivel motor (AFS control unit command value). This causes that the swivel motor initializes the value based on the step number from the stopper.

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[XENON TYPE]

# **ACTIVE TEST**

## NOTE:

Start the engine when using "ACTIVE TEST".

Test item	Operation Item	Description
	Origin Fast	Swivels the right headlamp to the swivel angle 0° in the normal speed.
	Peak Fast	Swivels the right headlamp to the swivel angle approximately 15° in the normal speed.
LOW BEAM TEST RIGHT	Origin Slow	Swivels the right headlamp to the swivel angle 0° in the speed at the initialization.
	Peak Slow	Swivels the right headlamp to the swivel angle approximately 15° in the speed at the initialization.
	Origin Fast	Swivels the left headlamp to the swivel angle 0° in the normal speed.
	Peak Fast	Swivels the left headlamp to the swivel angle approximately 17° in the normal speed.
LOW BEAM TEST LEFT	Origin Slow	Swivels the left headlamp to the swivel angle $0^{\circ}$ in the speed at the initialization.
	Peak Slow	Swivels the left headlamp to the swivel angle approximately $17^{\circ}$ in the speed at the initialization.
LEVELIZER TEST	Origin	Changes the aiming motor drive signal to approximately 70% of the battery voltage. Moves the headlamp upward and downward.
LLVLLIZLIX TEST	Peak	Changes the aiming motor drive signal to approximately 15% of the battery voltage. Moves the headlamp upward and downward.

# NOTE:

<sup>&</sup>quot;Fast" operation speed is as three times fast as "Slow".

< DTC/CIRCUIT DIAGNOSIS >

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# DTC/CIRCUIT DIAGNOSIS

# B2503, B2504 SWIVEL ACTUATOR

Description INFOID:0000000008288986

#### SWIVEL ACTUATOR

The swivel actuator is installed in the headlamp unit. The swivel actuator consists of the swivel motor and the swivel position sensor.

#### SWIVEL MOTOR

- The swivel motor is the two-phase step motor.
- The swivel motor drives headlamp by exciting the two drive coils according to the drive signal from AFS con-
- The rotation direction of the swivel motor is changeable by changing the exciting pattern.

#### SWIVEL POSITION SENSOR

The swivel position sensor detects the headlamp swivel angle to transmit the swivel position sensor signal to AFS control unit.

**DTC** Logic INFOID:0000000008288987

#### DTC DETECTION LOGIC

- [B2503] Swivel actuator [RH]
- [B2504] Swivel actuator [LH]

DTC detection condition	DTC erase condition	Possible cause	
<ul> <li>AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more.</li> <li>AFS control unit-recognized swivel position differs extremely from the swivel position sensor-input value while the swivel operating.</li> <li>The swivel position sensor signal does not change even though AFS control unit transmits the swivel motor driving signal while the swivel operating.</li> <li>The swivel motor short and open is detected while the swivel operating.</li> <li>The swivel position sensor power supply is 6 V or more, or 4 V or less.</li> <li>The swivel position sensor signal is 0.25 V or less, or 4.75 V or more.</li> </ul>	Ignition switch OFF	Swivel position sensor	J

<sup>\*:</sup> Initialization is not included.

#### DTC CONFIRMATION PROCEDURE

## 1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

# 2.CONFIRMATION DTC SELECTION

Select "B2503" or "B2504" for confirmation.

Which DTC is confirmation?

B2503 >> GO TO 3.

B2504 >> GO TO 4.

# 3.DTC CONFIRMATION (B2503)

- Steer to the straight-forward position.
- 2. Start the engine.
- Turn the headlamp ON. 3.
- Shift the selector lever to "N".
- Steer to the right. (Rotate it once or more.)
- Perform the self-diagnosis with CONSULT.

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#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

#### Is "B2503" detected?

YES >> Refer to EXL-46, "Diagnosis Procedure".

NO >> Refer to GI-42, "Intermittent Incident".

# 4.DTC CONFIRMATION (B2504)

- 1. Steer to the straight-forward position.
- 2. Start the engine.
- 3. Turn the headlamp ON.
- Drive at 25 km/h (15.5 MPH) or more.
- 5. Steer to the left. (Rotate it once or more.)
- 6. Stop the vehicle.
- 7. Perform the self-diagnosis with CONSULT.

#### Is "B2504" detected?

YES >> Refer to EXL-46, "Diagnosis Procedure".

NO >> Refer to GI-42, "Intermittent Incident".

# Diagnosis Procedure

INFOID:0000000008288988

# 1. CHECK SWIVEL POSITION SENSOR SIGNAL INPUT

- 1. Turn the ignition switch ON.
- 2. Check the voltage between the AFS control unit harness connector and the ground.

	Terminals				
	(+)		(-)	Voltage (Approx.)	
	AFS control	unit		(Approx.)	
C	Connector	Terminal	Ground		
RH	M16	9	Giodila	0.25 - 4.75 V	
LH	IVITO	29	1	0.25 - 4.75 V	

#### Is the measurement value within the standard value?

YES >> GO TO 2.

Less than the standard value >>GO TO 6.

Higher than the standard value>>GO TO 9.

# 2.check swivel motor

Check the swivel motor. EXL-49, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the front combination lamp.

# 3. CHECK SWIVEL MOTOR OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector and the headlamp swivel actuator connector.
- Check continuity between the AFS control unit harness connector and the headlamp swivel actuator harness connector.

#### < DTC/CIRCUIT DIAGNOSIS >

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	AFS contro	ol unit	Headlamp swivel actuator		Continuity					
Co	onnector	Terminal	Connector	Terminal						
		11		8						
RH		13	13 32 34	E29	E20	E20	E20	F20 7	7	
IXII		32			3					
	M16	34				4	Existed			
	IVITO	15		3	Existed					
LH		17	E59	4						
LH	36	L39	8							
		38		7						

## Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

# 4. CHECK SWIVEL MOTOR SHORT CIRCUIT

Check continuity between the AFS control unit harness connector and the ground.

	AFS contro	l unit		Continuity
	Connector	Terminal		Continuity
		11		
RH		13		
КΠ	.п	32	Ground	
	MAG	34	Not existed	
	- M16	15		Not existed
LH		17		
LH		36		
		38		

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

# 5. CHECK SWIVEL MOTOR CIRCUIT VOLTAGE OUTPUT

- 1. Connect AFS control unit connector.
- 2. Turn the ignition switch ON.
- 3. Turn the headlamp ON.
- 4. Select "LOW BEAM TEST RIGHT" or "LOW BEAM TEST LEFT" of ADAPTIVE LIGHT active test item.
- 5. With operating the test item, check the voltage between the AFS control unit harness connector and the ground.

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Terminals		Condition				
(+) (-)		(-)	Condition	Voltage		
	AFS contr	ol unit		Swivel motor	(Approx.)	
Cor	nector	Terminal		Swiver motor		
RH		11				
КΠ		32			(V) 15	
		15			10 5	
LH	M16	36	Ground	Ground	Active	0 +-100μs SKIB2408J 8 - 12 V
RH		13				
КΠ		34		Stop	9.5 - 11.5 V	
LH		17		Зюр	9.5 - 11.5 V	
L□		38				

#### Is the measurement value within the standard value?

YES >> Replace the front combination lamp.

NO >> Replace AFS control unit.

# 6.CHECK SWIVEL POSITION SENSOR SIGNAL OUTPUT

Check the voltage between the AFS control unit harness connector and the ground.

-	(+) (-)			Voltage (Approx.)
	AFS contro	l unit		(Approx.)
	Connector Terminal		Ground	
RH	M16	4	Glound	5 V
LH	IVITO	24		J V

#### Is the measurement value normal?

YES >> GO TO 7.

NO >> GO TO 9.

# 7.CHECK SWIVEL POSITION SENSOR POWER SUPPLY CIRCUIT INPUT VOLTAGE

- Turn the ignition switch OFF.
- 2. Disconnect the headlamp swivel actuator connector.
- 3. Turn the ignition switch ON.
- 4. Check the voltage between the headlamp swivel actuator harness connector and the ground.

-	(+) (-)				
	Headlamp swive	el actuator		(Approx.)	
	Connector Terminal		Ground		
RH	E29	2	Giodila	5 V	
LH	E59	2		3 V	

#### Is the measurement value normal?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

# 8. CHECK SWIVEL POSITION SENSOR SIGNAL SHORT CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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- Turn the ignition switch OFF.
- Disconnect AFS control unit connector.
- Check continuity between the AFS control unit harness connector and the headlamp swivel actuator harness connector.

Continuity	wivel actuator	Headlamp sv	ol unit	AFS contro	
Continuity	Terminal	Connector	Terminal	nnector	Со
Existed	1	E29	9	M16	RH
LAISIEU	1	E59	29	IVITO	LH

#### Does continuity exist?

>> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

# 9. CHECK SWIVEL POSITION SENSOR GROUND CIRCUIT VOLTAGE OUTPUT

Check the voltage between the AFS control unit harness connector and the ground.

	Terminals				
	(+)		(-)	Voltage	
	AFS control unit			(Approx.)	
-	Connector	Terminal	Ground		
RH	M16	2	Giodila	0 V	
LH	IVITO	27		O V	

#### Is the measurement value normal?

YES >> GO TO 10.

>> Replace AFS control unit. NO

# 10.check swivel position sensor short ground circuit

- Turn the ignition switch OFF.
- Disconnect AFS control unit connector and the headlamp swivel actuator connector.
- Check continuity between the AFS control unit harness connector and the headlamp swivel actuator harness connector.

Continuity	Headlamp swivel actuator				ol unit	AFS contr	
Continuity	Terminal	Connector	Terminal	onnector	Co		
Existed	6	E29	2	M16	RH		
LAISIEU	6	E59	27	IVITO	LH		

## Does continuity exist?

YES >> Replace the front combination lamp.

>> Repair the harnesses or connectors.

# Component Inspection

Revision: 2013 December

# 1. CHECK SWIVEL MOTOR SINGLE PART

- Disconnect the swivel actuator connector.
- Check the resistance among each swivel actuator connector terminal.

Swivel	Resistance	
Terminal	Terminal	(Approx.)
3	7	7.2 Ω
4	8	7.2 Ω
3	4	10 M $\Omega$ or more

**EXL-49** 

INFOID:0000000008288989

# < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# Is the measurement value normal?

YES >> Swivel actuator is normal.

NO >> Replace the front combination lamp.

# **B2514 HEIGHT SENSOR UNUSUAL [RR]**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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# B2514 HEIGHT SENSOR UNUSUAL [RR]

Description INFOID:0000000008288990

The height sensor is installed to the rear suspension arm. The height sensor detects the suspension arm displacement as the vehicle height change. The height sensor transmits the height sensor signal to AFS control unit.

#### NOTE:

The sensor angle of the unloaded vehicle position is the reference value.

DTC Logic INFOID:000000000828899:

## DTC DETECTION LOGIC

[B2514] Height sensor unusual [RR]

DTC detection condition	DTC erase condition	Possible cause
<ul> <li>An applicable DTC is indicated when any of the following conditions is detected continuously for 2 seconds or more.</li> <li>The height sensor power supply is 6 V or more, or 4 V or less.</li> <li>The height sensor signal is 0.25 V or less, or 4.75 V or more.</li> </ul>	Ignition switch OFF	Height sensor  • Height sensor  • Harness and connector  • AFS control unit

#### DTC CONFIRMATION PROCEDURE

# 1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

# 2.DTC CONFIRMATION

- Start the engine.
- Turn the headlamp ON.
- Select the self-diagnosis with CONSULT.
- Check the self-diagnosis result. Refer to <u>EXL-198</u>, "<u>DTC Index</u>".

# Is "B2514" detected?

YES >> Refer to EXL-51, "Diagnosis Procedure".

>> Refer to GI-42, "Intermittent Incident". NO

# Diagnosis Procedure

1. CHECK HEIGHT SENSOR POWER SUPPLY OUTPUT

- Turn the ignition switch ON.
- Check the voltage between the AFS control unit harness connector and the ground.

Terminals			
(+) (-)		(-)	Voltage
AFS control unit			(Approx.)
Connector Terminal		Ground	
M16	6		5 V

Is the measurement value within the standard value?

YES >> GO TO 2.

NO >> Replace AFS control unit.

2.CHECK HEIGHT SENSOR POWER SUPPLY INPUT

Check the voltage between the AFS control unit harness connector and the ground.

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# **B2514 HEIGHT SENSOR UNUSUAL [RR]**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Terminals			
(+) (-)			Voltage
AFS control unit			(Approx.)
Connector	Terminal	Ground	
M16	28		0.25 - 4.75 V

#### Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 3.

Higher than the standard value>>GO TO 6.

# 3.check height sensor power supply circuit output voltage

- 1. Turn the ignition switch OFF.
- 2. Disconnect the height sensor connector.
- Turn the ignition switch ON.
- 4. Check the voltage between the height sensor harness connector and the ground.

Terminals			
(-	+)	(-)	Voltage
Height sensor			(Approx.)
Connector Terminal		Ground	
B32	1		5 V

#### Is the measurement value within the standard value?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

# 4. CHECK HEIGHT SENSOR SIGNAL OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector.
- Check continuity between the AFS control unit harness connector and the height sensor harness connector.

AFS control unit		Height sensor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M16	28	B32	2	Existed

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

## 5. CHECK HEIGHT SENSOR SIGNAL SHORT CIRCUIT

Check continuity between the height sensor harness connector and the ground.

Height	Height sensor		Continuity
Connector	Terminal	Ground	Continuity
B32	2		Not existed

# Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace the height sensor.

## 6.CHECK HEIGHT SENSOR GROUND

Check the voltage between the AFS control unit harness connector and the ground.

# **B2514 HEIGHT SENSOR UNUSUAL [RR]**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Terminals			
(+) (-)			Voltage
AFS control unit			(Approx.)
Connector Terminal		Ground	
M16	8		0 V

## Is the measurement value within the standard value?

YES >> GO TO 7.

NO >> Replace AFS control unit.

# 7.check height sensor ground circuit

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector and the height sensor connector.
- Check continuity between the AFS control unit harness connector and the height sensor harness connector.

AFS control unit		Height sensor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M16	8	B32	3	Existed

#### Does continuity exist?

YES >> Replace the height sensor.

NO >> Repair the harnesses or connectors.

# Component Inspection

# 1. CHECK HEIGHT SENSOR

- 1. Remove the height sensor (the height sensor connector is connected).
- 2. Start the engine.
- 3. Turn the light switch 2ND.
- Select "HI SEN OTP RR" of AFS data monitor item.
- 5. With moving the sensor lever, check the monitor status.

Monitor item	Condition		Monitor status [Standard value (Approx.)]
		Contact with stopper	0.9 V
HI SEN OTP RR	Sensor lever position	Moving be- tween two posi- tions	Smooth move- ment
		90° from stopper	4.5 V

#### Is the output value normal?

YES >> Height sensor is normal.

NO >> Replace the height sensor.

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[XENON TYPE]

INFOID:0000000008288996

# B2516 SHIFT SIGNAL [P, R]

**Description** 

AFS control unit receives the shift position signal from TCM with CAN communication.

DTC Logic

# DTC DETECTION LOGIC

[B2516] Shift signal [P, R]

DTC detection condition	DTC erase condition	Possible causes
The shift position signal is not received.	Ignition switch OFF	TCM AFS control unit

#### DTC CONFIRMATION PROCEDURE

# 1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

# 2.DTC CONFIRMATION

- 1. Turn ignition ON.
- Select the self-diagnosis with CONSULT.
- Check the self-diagnosis result. Refer to <u>EXL-198</u>, "<u>DTC Index</u>".

#### Is "B2516" detected?

YES >> Refer to EXL-54, "Diagnosis Procedure".

NO >> Refer to GI-42, "Intermittent Incident".

# Diagnosis Procedure

1.TCM SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT. Check that TCM does not detect any DTCs.

#### Is any DTC detected?

YES >> Check TCM. Refer to TM-156, "DTC Index".

NO >> GO TO 2.

## 2.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

## Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

# **B2517 VEHICLE SPEED SIGNAL**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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# **B2517 VEHICLE SPEED SIGNAL**

Description

AFS control unit receives the vehicle speed signal from the unified meter and A/C amp. with CAN communication.

DTC Logic

#### DTC DETECTION LOGIC

[B2517] Vehicle speed signal

DTC detection condition	DTC erase condition	Possible causes
The vehicle speed signal is not received.	Ignition switch OFF	<ul><li>Unified meter and A/C amp.</li><li>AFS control unit</li></ul>

## DTC CONFIRMATION PROCEDURE

# 1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

# 2.DTC CONFIRMATION

- 1. Turn ignition ON.
- 2. Select the self-diagnosis with CONSULT.
- Check the self-diagnosis result. Refer to <u>EXL-198, "DTC Index"</u>.

## Is "B2517" detected?

YES >> Refer to EXL-55, "Diagnosis Procedure".

NO >> Refer to <u>GI-42</u>, "Intermittent Incident".

# Diagnosis Procedure

# 1. UNIFIED METER AND A/C AMP. SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT. Check that the unified meter and A/C amp. does not detect any DTCs.

# Is any DTC detected?

YES >> Check the unified meter and A/C amp. Refer to MWI-110, "DTC Index".

NO >> GO TO 2.

# 2.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

#### Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

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# **B2519 LEVELIZER CALIBRATION**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# **B2519 LEVELIZER CALIBRATION**

Description INFOID:000000008289000

AFS control unit transmits the height sensor signal from the height sensor.

DTC Logic

[B2519] Levelizer calibration

DTC detection condition	DTC erase condition	Possible causes
The height sensor adjustment position is not recognized.	When the levelizer adjust- ment is completed	AFS control unit

# Diagnosis Procedure

INFOID:0000000008289002

# 1.LEVELIZER ADJUSTMENT

Perform the levelizer adjustment.

>> Refer to EXL-10, "LEVELIZER ADJUSTMENT : Special Repair Requirement".

[XENON TYPE]

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# **B2521 ECU CIRCUIT**

Description INFOID:0000000008289003

AFS control unit judges the vehicle condition from each signal. AFS control unit controls AFS function and the headlamp aiming.

DTC Logic

## DTC DETECTION LOGIC

[B2521] ECU circuit

Error detection condition	DTC erase condition	Possible cause
<ul> <li>AFS control unit indicates an applicable DTC when detecting any of the following conditions continuously for 2 seconds or more.</li> <li>The swivel position sensor is shorted to the power supply or the ground.</li> <li>The swivel position sensor signal is shorted to the ground.</li> <li>The height sensor power supply is shorted to the power supply or the ground.</li> <li>The height sensor signal is shorted to the ground.</li> <li>AFS control unit RAM/ROM error</li> </ul>	Ignition switch OFF	Swivel position sensor Swivel position sensor Harness and connector AFS control unit Height sensor Height sensor Harness and connector AFS control unit AFS control unit AFS control unit

#### DTC CONFIRMATION PROCEDURE

## 1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

# 2.DTC CONFIRMATION PROCEDURE

- 1. Turn ignition ON.
- 2. Select the self-diagnosis with CONSULT.
- Check the self-diagnosis result. Refer to <u>EXL-198</u>, "<u>DTC Index</u>".

## Is "B2521" detected?

YES >> Refer to EXL-57, "Diagnosis Procedure".

NO >> Refer to GI-42, "Intermittent Incident".

# Diagnosis Procedure

1. CHECK EACH SENSOR POWER SUPPLY

Turn the ignition switch ON.

2. Check the voltage between the AFS control unit harness connector and the ground.

Terminals			
(+)		(-)	Voltage
AFS control unit			(Approx.)
Connector	Terminal		
	4	Ground	
M16	6		5 V
	24		

# Is the measurement value within the standard value?

YES >> GO TO 2.

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Less than the standard value >>GO TO 3.

Higher than the standard value>>GO TO 4.

**EXL-57** 

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# 2.CHECK EACH SENSOR SIGNAL

Check the voltage between the AFS control unit harness connector and the ground.

Terminals			
(+)		(–)	Voltage
AFS control unit			(Approx.)
Connector	Terminal		
	9	Ground	
M16	28		0.25 - 4.75 V
	29		

#### Is the measurement value within the standard value?

YES >> Replace AFS control unit.

Less than the standard value >>GO TO 5.

Higher than the standard value>>GO TO 6.

# 3.check each sensor power supply short circuit

- Turn the ignition switch OFF.
- Disconnect AFS control unit connector.
- 3. Check continuity between the AFS control unit harness connector and the ground.

AFS control unit			Continuity
Connector	Terminal	Continu	Continuity
	4	Ground	
M16	6		Not existed
	24		

## Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace AFS control unit.

# 4. CHECK EACH SENSOR POWER SUPPLY CIRCUIT

- Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector.
- 3. Check the voltage between the AFS control unit harness connector and the ground.

Terminals			
(+)		(-)	Voltage (Approx.)
AFS control unit			(Approx.)
Connector	Terminal		
	4	Ground	
M16	6		0 V
	24		

#### Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

# 5.check each sensor signal short circuit

- Turn the ignition switch OFF.
- Disconnect AFS control unit connector.
- 3. Check continuity between the AFS control unit harness connector and the ground.

# **B2521 ECU CIRCUIT**

## < DTC/CIRCUIT DIAGNOSIS >

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AFS control unit			Continuity
Connector	Terminal	1	Continuity
	9	Ground	
M16	28		Not existed
	29		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace AFS control unit.

# 6. CHECK EACH SENSOR SIGNAL SHORT CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector.
- 3. Turn the ignition switch ON.
- 4. Check the voltage between the AFS control unit harness connector and the ground.

Terminals			
(+) (-)		(–)	Voltage
AFS control unit			(Approx.)
Connector	Terminal		
	9	Ground	
M16	28		0 V
	29		

## Is the measurement value normal?

YES >> Replace AFS control unit.

NO >> Repair the harnesses or connectors.

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Revision: 2013 December

**EXL-59** 

# **C0126 STEERING ANGLE SENSOR SIGNAL**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# C0126 STEERING ANGLE SENSOR SIGNAL

Description INFOID:000000008289008

AFS control unit receives the steering angle sensor signal from the steering angle sensor with CAN communication.

DTC Logic

## DTC DETECTION LOGIC

[C0126] Steering angle sensor signal

DTC detection condition	DTC erase condition	Possible causes
In any of the following conditions  The steering angle sensor signal is not received.  The steering angle sensor signal error is received.  Out-of-standard signal (-900°- +900°) is received.	The ignition switch OFF	Steering angle sensor     AFS control unit

#### DTC CONFIRMATION PROCEDURE

## 1.DTC ERASE

Erase the DTC memory of AFS with CONSULT.

>> GO TO 2.

# 2.DTC CONFIRMATION

- 1. Start the engine.
- 2. Turn the steering wheel to the maximum right/left.
- Select the self-diagnosis with CONSULT.
- Check the self-diagnosis result. Refer to <u>EXL-198</u>, "<u>DTC Index</u>".

## Is "C0126" detected?

YES >> Refer to <u>EXL-60</u>, "<u>Diagnosis Procedure</u>". NO >> Refer to <u>GI-42</u>, "<u>Intermittent Incident</u>".

# Diagnosis Procedure

INFOID:0000000008289008

# ${f 1.}$ ABS ACTUATOR AND ELECTRICAL UNIT (CONTROL UNIT) SELF-DIAGNOSIS

Check the self-diagnosis result with CONSULT. Check that ABS actuator and electrical unit (control unit) does not detect any DTCs.

#### Is any DTC detected?

YES >> Check ABS actuator and electrical unit (control unit).Refer to <a href="BRC-117">BRC-117</a>, "DTC No. Index".

NO >> GO TO 2.

# 2.DTC ERASE

Erase DTC memory of AFS with CONSULT.

#### Is the memory erased?

YES >> Inspection end.

NO >> Replace AFS control unit.

# **C0428 STEERING ANGLE SENSOR CALIBRATION**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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# C0428 STEERING ANGLE SENSOR CALIBRATION

Description

AFS control unit receives the steering angle sensor signal from the steering angle sensor with CAN communication.

DTC Logic

[C0428] Steering angle sensor calibration

DTC detection condition	DTC erase condition	Possible causes
The steering angle sensor neutral position is not recognized.	When the steering angle sensor neutral position registration is completed	Steering angle sensor

# Diagnosis Procedure

INFOID:0000000008289011

1. STEERING ANGLE SENSOR NEUTRAL POSITION ADJUSTMENT

Perform the steering angle sensor neutral position adjustment.

CAUTION:

Perform the steering angle sensor neutral position adjustment on VDC side. VDC may activate incorrectly.

>> Refer to <u>BRC-9</u>, "ADJUSTMENT OF STEERING ANGLE SENSOR NEUTRAL POSITION : Special Repair Requirement".

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[XENON TYPE]

# U1000 CAN COMM CIRCUIT

Description

CAN (Controller Area Network) is the serial transmission for real time application. CAN is the multiplex communication for the vehicle with superior data transmission speed and error detection ability. Many electronic control units are equipped on the vehicle. These control units do not operate individually, but associates with other control units by sharing information. In CAN communication, each control unit is connected with two communication lines (CAN-H and CAN-L). Much information is transmitted with fewer communication lines than before. Each control unit transmits/receives data and reads the necessary data only. CAN Communication Signal Chart. Refer to LAN-25, "CAN Communication Signal Chart".

DTC Logic

## DTC DETECTION LOGIC

[U1000] CAN communication circuit

DTC detection condition	DTC erase condition	Possible causes
When AFS control unit does not transmit/receive CAN communication signal continuously for 2 seconds or more	Ignition switch OFF	CAN communication system

# Diagnosis Procedure

INFOID:0000000008289014

# 1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 2. Check "Self Diagnostic Result".

#### Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-16, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-42, "Intermittent Incident".

# **U1010 CONTROL UNIT (CAN)**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# U1010 CONTROL UNIT (CAN)

DTC Logic

DTC DETECTION LOGIC

[U1000] CAN communication circuit

DTC	CONSULT display de- scription	DTC detection condition	Possible causes
U1010	CONTROL UNIT (CAN)	AFS control unit detected internal CAN communication circuit malfunction.	AFS control unit

# Diagnosis Procedure

INFOID:0000000008289016

1. REPLACE AFS CONTROL UNIT

When DTC [U1010] is detected, replace AFS control unit.

>> Replace AFS control unit.

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# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000008772641

# 1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Signal name	Fuse and fusible link No.
Battery power supply	К
battery power suppry	10

#### Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM connectors.
- 3. Check voltage between BCM harness connector and ground.

(	Voltage		
В	СМ		(Approx.)
Connector	Terminal	Ground	
M118	1	Glound	Battery voltage
M119	11		Ballery Vollage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

# 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

В	СМ		Continuity
Connector Terminal		Ground	Continuity
M119	13		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

# 1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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Signal name	Fuses and fusible link No.
	С
Battery power supply	50
	51

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- Check voltage between IPDM E/R harness connector and the ground.

(+) IPDM E/R		(-)	Voltage (Approx.)
E4	1	Giodila	Battery voltage

## Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

# 3.CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connectors and the ground.

IPDM E/R			Continuity	
Connector	Terminal	Ground	Continuity	
E5	12	Giodila	Existed	
E6	41		LXISIEU	

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

## AFS CONTROL UNIT

# AFS CONTROL UNIT : Diagnosis Procedure

# 1. FUSE INSPECTION

Check that the following fuses are not fusing.

Signal name	Connection position	Fuse No.	Capacity
Ignition power supply	FUSE BLOCK (J/B)	3	10 A

#### Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect AFS control unit harness connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between AFS control unit harness connector and ground.

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Revision: 2013 December EXL-65

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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(	Voltage		
AFS co	ntrol unit		(Approx.)
Connector	Terminal	Ground	
M16 1			Battery voltage

## Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

# 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between AFS control unit harness connectors and ground.

AFS co	ntrol unit		Continuity
Connector Terminal		Ground	Continuity
M16	25		Existed

## Does continuity exist?

YES >> Power supply and ground circuit are normal.

NO >> Repair harness or connector.

# **HEADLAMP (HI) CIRCUIT**

## < DTC/CIRCUIT DIAGNOSIS >

#### [XENON TYPE]

# **HEADLAMP (HI) CIRCUIT**

# Component Function Check

## INFOID:0000000008289020

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# 1. CHECK HEADLAMP (HI) OPERATION

## **PIPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the headlamp switches to the high beam.

#### **PCONSULT ACTIVE TEST**

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With 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 headlamp (HI) turned ON?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-67, "Diagnosis Procedure".

# Diagnosis Procedure

# INFOID:0000000008289021

# 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

## **©CONSULT ACTIVE TEST**

- 1. Turn the ignition switch OFF.
- Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

Terminals				Condition			
(+)		(-)	Condition	Voltage			
	IPDM E	/R		External	(Approx.)		
Cor	nnector	Terminal		lamp			
RH	89	Ground	Hi	Battery voltage			
	E8					Orodria	Off
LH 90		Hi	Battery voltage				
			Off	0 V			

#### Is the measurement value normal?

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

2.CHECK HEADLAMP (HI) OPEN CIRCUIT

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

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#### < DTC/CIRCUIT DIAGNOSIS >

	IPDM E/R		Front combination lamp		Continuity
Coni	nector	Terminal	Connector Terminal		Continuity
RH	E8	89	E28	7	Existed
LH	LO	90	E58	7	LAISIGU

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

# 3.CHECK HEADLAMP (HI) FUSE

- 1. Turn the ignition switch OFF.
- 2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp HI (LH)	IPDM E/R	#54	10 A

## Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

# 4. CHECK HEAD LAMP (HI) SHORT CIRCUIT

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

IPDM E/R			Continuity	
Connector Terminal		Ground	Continuity	
RH	E8	89	Giodila	Not existed
LH	E0	90		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

# 5. CHECK HEAD LAMP (HI) GROUND OPEN CIRCUIT

- Turn the ignition switch OFF.
- Disconnect the front combination lamp connector.
- Check continuity between the front combination lamp harness connector and the ground.

Fro	nt combinat	ion lamp		Continuity
Connector		Terminal	Ground	Continuity
RH			Giodila	Existed
LH E58		2		LAISIEU

## Does continuity exist?

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

NO >> Repair the harnesses or connectors.

# **HEADLAMP (LO) CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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# HEADLAMP (LO) CIRCUIT

Description

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

For the details of HID control unit and the xenon headlamp, refer to EXL-71, "Description".

# Component Function Check

# 1. CHECK HEADLAMP (LO) OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the headlamp is turned ON.

#### **PCONSULT ACTIVE TEST**

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the headlamp (LO) is turned ON.

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

#### Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-69, "Diagnosis Procedure".

# Diagnosis Procedure

# 1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

## PCONSULT ACTIVE TEST

- 1. Turn the ignition switch OFF.
- Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

Terminals				Test item		
(+)			(-)	lest item	Voltage (Approx.)	
IPDM E/R			EXTERNAL			
Connector Terminal		Terminal		LAMP		
RH		83	Ground	Lo	Battery voltage	
	E8			Off	0 V	
LH	LO	84		Lo	Battery voltage	
				Off	0 V	

## Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

Revision: 2013 December

# 2.CHECK HEADLAMP (LO) OPEN CIRCUIT

- Turn the ignition switch OFF.
- Disconnect IPDM E/R connector.
- Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector.

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#### < DTC/CIRCUIT DIAGNOSIS >

IPDM E/R			Front comb	Continuity	
Connector		Terminal	Connector		
RH	E8	83	E28	5	Existed
LH	LO	84	E58	5	LAISIEU

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

# 3.CHECK HEADLAMP (LO) FUSE

- 1. Turn the ignition switch OFF.
- 2. Check that the following fuses are not fusing.

Unit	Lotion	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	#57	15 A
Headlamp LO (LH)	IPDM E/R	#56	15 A

#### Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

# 4. CHECK HEADLAMP (LO) SHORT CIRCUIT

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

IPDM E/R				Continuity
Connector Terminal		Terminal	Ground	Continuity
RH	E8	83	Giodila	Not existed
LH	LO	84		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

# 5. CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

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

F	ront comb	ination lamp		Continuity	
Connector		Terminal	Ground	Continuity	
RH	RH E28 3		Cround	Existed	
LH E58		3		LXISIEU	

## Does continuity exist?

YES >> Perform the xenon headlamp diagnosis. Refer to <a href="EXL-71">EXL-71</a>, "Diagnosis Procedure".

NO >> Repair the harnesses or connectors.

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# **XENON HEADLAMP**

Description

#### **OUTLINE**

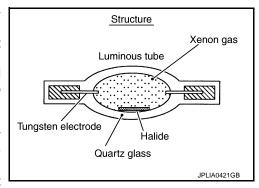
- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead
  of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb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

#### ILLUMINATION PRINCIPLE

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

#### NOTE:

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



#### PRECAUTIONS FOR TROUBLE DIAGNOSIS

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

#### WARNING.

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

## **CAUTION:**

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

#### NOTE:

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

# **Diagnosis Procedure**

# 1. CHECK XENON BULB

Install the normal bulb to the applicable headlamp. Check that the xenon bulb is turned ON.

#### Is the headlamp turned ON?

YES >> Replace the xenon bulb.

NO >> Check the headlamp control system, replace the xenon headlamp assembly if normal.

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INFOID:0000000008289026

## **HEADLAMP LEVELIZER CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

# HEADLAMP LEVELIZER CIRCUIT

Description INFOID:000000008289027

The headlamp levelizer adjusts the headlamp light axis upward and downward with the aiming motor integrated in the front combination lamp.

# Component Function Check

INFOID:0000000008289028

# 1. CHECK AIMING MOTOR OPERATION

# (P)CONSULT ACTIVE TEST

- 1. Start the engine.
- 2. Turn the lighting switch 2ND.
- 3. Select "LEVELIZER TEST" of ADAPTIVE LIGHT active test item.
- 4. With operating the test item, check the operation.

Test item	Light axis angle	10 m (32.8 ft)-forward light axis change reference quantity (Approx.)	
LEVELIZER TEST	(Reference value)		
Origin	0°	_	
Peak	2.5°	450 mm (17.9 in)	

#### Is the operation normal?

YES >> Headlamp levelizer circuit is normal.

NO >> Refer to EXL-72, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000008289029

# 1. CHECK AIMING MOTOR DRIVE SIGNAL OUTPUT

# **©CONSULT ACTIVE TEST**

- 1. Start the engine.
- Turn the light switch 2ND.
- Select "LEVELIZER TEST" of ADAPTIVE LIGHT active test item.
- 4. With operating the test item, check the voltage between the AFS control unit harness connector and the ground.

Terminals				Test item		
(+)		(-)	rest item	Voltage (Approx.)		
AFS control unit			LEVELIZER TEST			
Con	Connector Terminal		1	LEVELIZER 1E31		
RH		10	Ground  Ground	Origin	8.8 V	
IXII	M16	19		Peak	1.9 V	
LH		40		Origin	8.8 V	
				Peak	1.9 V	

# Is the measurement value normal?

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

2.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT INPUT

- 1. Turn the ignition switch OFF.
- 2. Disconnect AFS control unit connector and aiming motor connector.
- 3. Check continuity between AFS control unit harness connector and the aiming motor harness connector.

### **HEADLAMP LEVELIZER CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

AFS control unit		Aiming	Continuity		
Conn	nector	Terminal	Connector Terminal		Continuity
RH	M16	19	E26	1	Existed
LH	IVITO	40	E56	1	LXISIGU

#### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses and connectors.

# ${f 3.}$ CHECK AIMING MOTOR DRIVE SIGNAL SHORT CIRCUIT

1. Turn the ignition switch OFF.

- 2. Disconnect AFS control unit connector and aiming motor connector.
- 3. Check continuity between AFS control unit harness connector and ground.

AFS control unit				Continuity	
Con	nector	Terminal	Ground	Continuity	
RH	M16	19	Ground	Not existed	
LH		40			

#### Does continuity exist?

YES >> Repair the harness and connectors.

NO >> Replace AFS control unit.

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[XENON TYPE]

### FRONT FOG LAMP CIRCUIT

## Component Function Check

INFOID:0000000008289030

## 1. CHECK FRONT FOG LAMP OPERATION

### **®IPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

#### (P)CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With 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 front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

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

## Diagnosis Procedure

INFOID:0000000008289031

## 1. CHECK FRONT FOG LAMP FUSE

- 1. Turn the ignition switch OFF.
- Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	10 A

#### Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	Eo	86	Giouna	Not existed
LH	E8	87		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

## 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

## 4. CHECK FRONT FOG LAMP OUTPUT VOLTAGE

#### **PCONSULT ACTIVE TEST**

- Disconnect the front fog lamp connector.
- Turn the ignition switch ON.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.

### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals	Test item		
(+)			(-)	- rest item	Voltage
	IPDM E/R			EXTERNAL	(Approx.)
Cor	nector	Terminal		LAMP	
RH		86	Ground	Fog	Battery voltage
	E8			Off	0 V
LH	87		Fog	Battery voltage	
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

## 5. CHECK FRONT FOG LAMP OPEN CIRCUIT

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

Continuity	g lamp	Front foo	IPDM E/R		
Continuity	Terminal	Connector	Terminal	Connector Term	
Existed	1	E34	86	E8	RH
LXISIEU	1	E64	87	LO	LH

#### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

### 6.CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

Check continuity between the front fog lamp harness connector and the ground.

	Front fog la	amp		Continuity
Conr	Connector Terminal		Ground	Continuity
RH	E34	2	Giodila	Existed
LH	E64	2		Existed

#### Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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### **PARKING LAMP CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

### PARKING LAMP CIRCUIT

## Component Function Check

INFOID:0000000008289032

## 1. CHECK PARKING LAMP OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

Activate IPDM E/R auto active test. Refer to <u>PCS-9</u>, "<u>Diagnosis Description</u>".

Check that the parking lamp is turned ON.

#### (P)CONSULT ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

2. With operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
Off : Parking lamp OFF

#### Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-76, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008289033

## 1. CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.

Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Parking lamp	IPDM E/R	#52	10 A

#### Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

## 2.CHECK PARKING LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E9	91	Ground	Not existed
LH	E9	92		INOLEXISIEU

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if fusing is found again.)

### 3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

## 4. CHECK PARKING LAMP OUTPUT VOLTAGE

#### (R)CONSULT ACTIVE TEST

- 1. Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.

### **PARKING LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals	Test item		
	(+)			iest item	Voltage
	IPDM E/R			EXTERNAL	(Approx.)
Cor	nnector	Terminal		LAMP	
RH		91	Ground	TAIL	Battery voltage
	E9			Off	0 V
LH		92		TAIL	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

## 5. CHECK PARKING LAMP OPEN CIRCUIT

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

IPDM E/R		Front combin	Continuity		
Conr	Connector Terminal		Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	_5	92	E58	8	LAISIEU

#### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

### **6.**CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

Fro	nt combinat	ion lamp		Continuity
Conr	Connector Terminal		Ground	Continuity
RH	E28	4	Giodila	Existed
LH	E58	4		Existed

#### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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[XENON TYPE]

### TURN SIGNAL LAMP CIRCUIT

Description INFOID:000000008289034

BCM performs the high flasher operation (fail-safe) if any bulb or harness of the turn signal lamp circuit is open.

#### NOTE:

Turn signal lamp blinks at normal speed when using the hazard warning lamp.

## Component Function Check

INFOID:0000000008289035

## 1. CHECK TURN SIGNAL LAMP

### **PCONSULT ACTIVE TEST**

- 1. Select "FLASHER" of BCM (FLASHER) active test item.
- 2. With operating the test items, check that the turn signal lamp blinks.

LH: Turn signal lamp LH blinking
RH: Turn signal lamp RH blinking
Off: The turn signal lamp OFF

### Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-78, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008289036

### 1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

## 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

#### (P)CONSULT ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector or the rear combination lamp connector.
- Turn the ignition switch ON.
- Select "FLASHER" of BCM (FLASHER) active test item.
- With operating the turn signal switch, check the voltage between the BCM harness connector and the ground.

Terminals				Test item		
(+)		(-)	iest item	Voltage (Approx.)		
	BCM			FLASHER	Voltage (Approx.)	
Conne	ector	Terminal		FLASHER		
Front RH		17			(V) 15	
Front LH	M119	18	Ground	LH or RH	5 0 1 1 s PKID0926E	
Rear RH	M120	20		Off	0 V	
Rear LH	IVITZU	25		Oll	U V	

Is the measurement value normal?

#### TURN SIGNAL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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YES >> GO TO 3.

NO >> Replace BCM.

# 3.check turn signal lamp open circuit

- Turn the ignition switch OFF.
- Disconnect BCM connector. 2.
- Check the continuity between the BCM harness connector and the front combination lamp or the rear combination lamp harness connector.

всм			Front combination lamp/ Rear combination lamp		Continuity
Conr	Connector Terminal Connector Terminal				
Front RH	M119	17	E28	6	
Front LH	WIII9	18	E58	6	Existed
Rear RH	M120	20	B261	1	EXISTEC
Rear LH	M120	25	B260	1	

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

### 4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

	BCM			Continuity
Con	nector	Terminal		Continuity
Front RH	M119	17	Ground	
Front LH		18	Glound	Not existed
Rear RH		20		Not existed
Rear LH		25		

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

## 5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

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

	t combination r combination	•		Continuity
Con	nector	Terminal		
Front RH	E28	4	Ground	
Front LH	E58	4		Existed
Rear RH	B261	2		Existed
Rear LH	B260	2		

### Does continuity exist?

YES >> Replace the front combination lamp or the rear combination lamp.

NO >> Repair the harnesses or connectors. **EXL** 

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### **OPTICAL SENSOR**

Description INFOID:000000008289037

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

## Component Function Check

INFOID:0000000008289038

## 1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

### (P)CONSULT DATA MONITOR

- 1. Turn the ignition switch ON.
- Select "OPTICAL SENSOR" of BCM (HEADLAMP) data monitor item.
- 3. Turn the lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition		Voltage (Approx.)
	Optical	When illuminating	3.1 V or more *
OPTICAL SENSOR	sensor	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 item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-80, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008289039

## 1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(-	+)	(-)	Voltage (Approx.)
Optica	sensor		(Approx.)
Connector Terminal		Ground	
M94	1		5 V

#### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

## 2.CHECK OPTICAL SENSOR GROUND INPUT

Check the voltage between the optical sensor harness connector and the ground.

(-	+)	(-)	Voltage (Approx.)
Optica	sensor		(Approx.)
Connector	Terminal	Ground	
M94	3		0 V

### Is the measurement value normal?

YES >> GO TO 3.

NO >> GO TO 6.

## 3.check optical sensor signal output

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#### < DTC/CIRCUIT DIAGNOSIS >

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

	Terminals		Condition		
(+	(+) (-)		Condition	Voltage	
Optical sensor			Optical sensor	(Approx.)	
Connector	Terminal		Optical serisor		
		Ground	When illuminating	3.1 V or more *	
M94	2		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 measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

## 4. CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optical sensor		В	Continuity	
Connector	Terminal	Connector Terminal		Continuity
M94	1	M123	138	Existed

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

### 5.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check the continuity between the optical sensor harness connector and the ground.

Optica	l sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	1		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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

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

Optical sensor		В	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M94	3	M123	137	Existed

#### Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

### 7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

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

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Optical sensor		В	Continuity	
Connector	Terminal	Connector Terminal		Continuity
M94	2	M123	113	Existed

#### Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

# 8.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check the continuity between the optical sensor harness connector and the ground.

Optical	sensor		Continuity	
Connector	Terminal	Ground	Continuity	
M94	2		Not existed	

## Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

[XENON TYPE]

INFOID:0000000008289040

INFOID:0000000008289041

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### HAZARD SWITCH

Description

Hazard switch is integrated in the multifunction switch. Hazard switch inputs the signals to BCM when pressing the switch.

## Component Function Check

## 1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

## **©CONSULT DATA MONITOR**

- 1. Turn the ignition switch ON.
- 2. Select "HAZARD SW" of BCM (FLASHER) data monitor item.
- 3. With operating the hazard switch, check the monitor status.

Monitor item	C	Monitor status	
HAZARD SW	Hazard switch	While pressing the switch	On
TINZ/IIID OW	Tiazara Switch	While not pressing the switch	Off

#### Is the item status normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-83, "Diagnosis Procedure".

## Diagnosis Procedure

## 1. CHECK HAZARD SWITCH SIGNAL INPUT

With operating the hazard switch, check the voltage between the BCM harness connector and the ground.

	Terminals		Condition		
(+	·)	(-)	Condition	Voltage (Approx.)	
ВСМ			Hazard switch	- vollage (Approx.)	
Connector	Terminal		Tiazaid Switch		
			While pressing the switch	0 V	
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0 10 ms JPMIA0012GB	

#### Is the measurement value normal?

YES >> Replace BCM.

NO >> GO TO 2.

## 2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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

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Multifunction switch		ВСМ		Continuity
Connector	Terminal	Connector Terminal		Continuity
M72	16	M122	110	Existed

#### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

## 3.check hazard switch signal short circuit

Check continuity between the multifunction switch harness connector and the ground.

Multifunc	tion switch		Continuity	
Connector	Connector Terminal		Continuity	
M72	16		Not existed	

### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

## 4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunc	Multifunction switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

#### Does continuity exist?

YES >> Replace the hazard switch (multifunction switch).

NO >> Repair the harnesses or connectors.

### TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [XENON TYPE]

### TAIL LAMP CIRCUIT

## Component Function Check

#### INFOID:0000000008289043

## 1. CHECK TAIL LAMP OPERATION

#### **■IPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the tail lamp is turned ON.

#### (P)CONSULT ACTIVE TEST

- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With 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 tail lamp turned ON?

YES >> Tail lamp circuit is normal.

>> Refer to EXL-85, "Diagnosis Procedure". NO

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## Diagnosis Procedure

#### INFOID:0000000008289044

## 1. CHECK TAIL LAMP FUSE

- Turn the ignition switch OFF.
- Check that the following fuses are not fusing.

	Н	

Unit	Location	Fuse No.	Capacity
Tail lamp     Rear side marker lamp     License plate lamp	IPDM E/R	#53	10 A

#### Is the fuse fusing?

YES >> Repair the malfunctioning part before replacing the fuse.

NO >> GO TO 2.

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## 2.CHECK TAIL LAMP OUTPUT VOLTAGE

#### ©CONSULT ACTIVE TEST

- Disconnect the rear combination lamp connector.
- Turn the ignition switch ON. 2.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With operating the test items, check the voltage between the IPDM E/R harness connector and the

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ground.		
Terminals	To	st item

**EXL-85** 

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	Terminals	Test item		
(+)		(–)	rest item	Voltage (Approx.)
IPDM E/R			EXTERNAL	
Connector	Terminal	Ground	LAMP	
E5	7	Oround	TAIL	Battery voltage
	ľ		Off	0 V

Р

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R.

## 3.CHECK TAIL LAMP OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.

### TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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

	IPDM E	/R	Rear combination lamp		Continuity
C	Connector	Terminal	Connector Terminal		Continuity
RH	E5	7	B232	1	Existed
LH	E3	,	B60	1	Existed

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between the rear combination lamp harness connector and the ground.

	Rear combinat	ion lamp		Continuity
-	Connector	Terminal	Ground	Continuity
RH	B232	4	Giodila	Existed
LH	B60	4		Existed

### Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

### LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

### LICENSE PLATE LAMP CIRCUIT

## Component Function Check

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#### NOTE:

Check the tail lamp circuit if the tail lamp and the license plate lamp are not turned ON.

### 1. CHECK LICENSE PLATE LAMP OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the license plate lamp is turned ON.

#### (P)CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With 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 license plate lamp turned ON?

YES >> License plate lamp circuit is normal.

NO >> Refer to EXL-87, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:0000000008289046

## 1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

## 2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

Continuity	late lamp	License p	/R	IPDM E	
Continuity	Terminal	Connector	Terminal	onnector	С
Existed	1	D117	7	E5	RH
Existed	1	D112	,	E3	LH

#### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

## 3.check license plate lamp ground open circuit

Check continuity between the license plate lamp harness connector and the ground.

	License plate	alamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	D117	2	Ground	Existed
LH	D112	2		LAISIEU

#### Does continuity exist?

YES >> Replace the license plate lamp.

NO >> Repair the harnesses or connectors.

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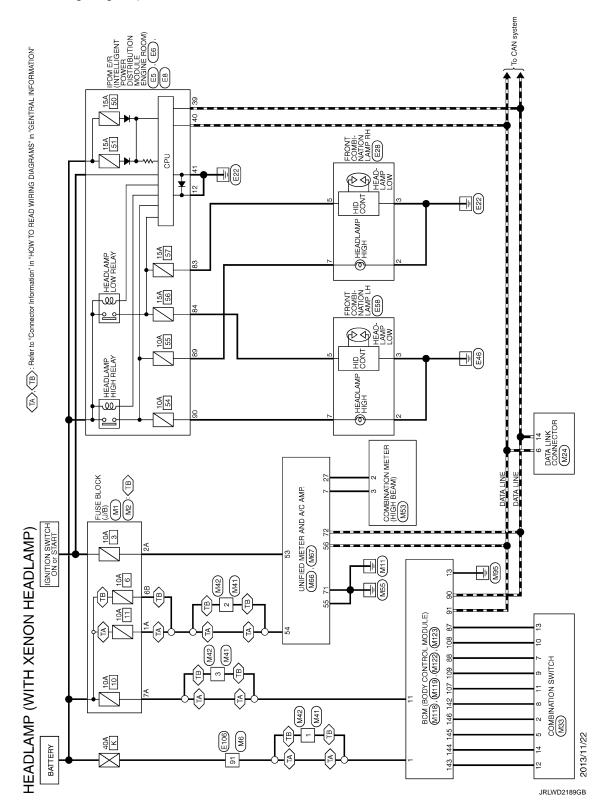
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INFOID:0000000008289047

## **HEADLAMP SYSTEM**

## Wiring Diagram - HEADLAMP -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



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Corrector Name   Front Coult   Name   Specification   Corrector Name   Name   Name   Specification   Corrector Name   N	HEADLAMP (WITH XENON HEADLAMP)	ŀ	Γ				
Corrector Name   FRONT COMBINATION LAMP LH   15 SB	nnector No. E5	46 R	Connector No.	E58	15	۵	
Convector Name   Conv	IPDM EIR (INTELLIGENT POWER DISTRIBUTION MODULE			HI GMA LINGITANIDADO DAGO	16	۸	
Corrector Value   Corrector	INCUIDING ENSINE ROOM)			TACINI COMBINATION LAWIP LA	17	SB	
Corrector Name   Control of	nector Type TH20FW-CS12-M4-1V	Г	Connector Type	RS08FB-PR	18	>	
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Terminal Cobr Of   Signal Name   Specification    Signal Name   Signal Name   Specification    Signal Name   Sig		<u> </u>			c7	<b>&gt;</b>	
Terminal Code Official Conference of the confe				)	56	>	
Terminal Color Of Signal Name   Specification    24   24   24   24   24   24   24		5000			27	*	
No.   With   Control of the contro	Cional Mana I	88 88 8/		Circol Nama [Specification]	28	9	
Training   Carrocator Name   Saparal Name   Sapar	Wire Signal Name of		_	olgikal ivalite [opecification]	31	98	
Terminal Cotr Off   Signal Name   Sportfication    Signal Name   Signal Name   Sportfication    Signal Name   Sportfication    Signal Name   Sportfication    Signal Name   Signal Name   Sportfication    Signal Name   Sportfication    Signal Name   Si	>		┞	,	32	^	
No.   Wire   Signal Name (Specification)   4   EW   10   EV   EV   EV   EV   EV   EV   EV   E		Color Of	H		33		
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Corrector No.   E28   Corrector No.   E106   E106   Corrector No.   E106					4	×	
Corrector Name   FRONT COMBINATION LAMP RH   Corrector Name   Signal Name   Specification   Signal Name   Spe	. BG	H	ı	E106	42	o	
Corrector No.   E/3     E/3	- 1			L Control of L	43	BR	
Corrector No. E28   Corrector Name   FRONT COMBINATION LAMP RH   Sugar Name   Sugar Name   Specification   Signal Name   Specification   Si	GR .			WIRE IO WIRE	45	*	1
Convector Name   FRONT COMBINATION LAMP RH   Convector Name   FRONT COMBINATION LAMP RH   Convector Type   RS06FB-PR   RS06F	- 9			TH80FW-CS16-TM4	49	7	
Corrector Type RSide B-PR			[		20	Ь	
Convector Type   RS08FB-PR   Like				2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	51	7	
Terminal Color Of Name   Specification    Specification    Separat Name   Specification    Separation   Separ		Connector Type RS08FB-PR	•	- 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	24	BG	
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Terminal Color Of Signal Name (Specification)   Signal Name (Spe				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	61	Ü	
Signal Name   Specification    Secretary   Secret		( 2 3 4)			62	SB	1
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2         B         -         4         GR         -         68         L/G           Sgral Name (Specification)         3         B/W         -         6         R         -         70         W           6         V         -         9         BR         -         7         R           7         BR         -         11         SB         -         73         B           8         P         -         12         BG         -         74         BR           14         R         R         -         14         R         -         74         BR		wire	1	•	29	SHIELD	
Signal Name (Specification)         2         BMY         6         CR         6         LG           5         EG         -         <		$\dashv$	$\dashv$		99	>	
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6         V         N	olaria Name [5	B/W	H		70	Μ	
6         V         -         10         8G         -         77         Y         7         BK         -         73         B           - <td></td> <td>H</td> <td>H</td> <td>,</td> <td>74</td> <td>α</td> <td></td>		H	H	,	74	α	
7         BR         7         CAN TO SER         7         BR         1         1         BR         2		H	╀		12	>	
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12 BG - 74 BK - 17 BG - 74 BK - 17 BK	Diw.	+	+		2 ;	a 8	
13 L 74 L 75 G	- 28	_	+		4	¥.	- [with ICC]
	BR		+		74	_	- [Without ICC]
	9		_	-	75	9	- [With ICC]

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	SB	74 BR - [With ICC]	74 L - [Without ICC]	9	Ľ	*	77 P - [Without ICC]	77 R - [With ICC]	78 L - [With ICC]	78 R - [Without ICC]	H	79 Y - [With ICC]	80 SB -	81 SB -		83 V	84 G -	T 98	- d 98	87 W		90 SHIELD	T	>	93 BR	H	95 GR .	- M 96	1	98 SHIELD	Н	100 SB -		١	Connector No. M24	Connector Name DATA LINK CONNECTOR		Connector Type BD16FW	ď				1	3 4 5 6 7 8						
	10 R	11 BR -	12 BG -	13 L	14 R	L	16 V -	17 SB -	18 V	20 BG -	21 L	22 W -	23 Р -	24 BR -	25 Y -	26 V -	27 G -	28 G -	31 L	32 G	В	H	H	굜	T	38 BG	H	41 W	BG	43 BG -	45 W -	49 L		51 BR -	$\dashv$	$\dashv$	M	- 7 09	61 G -	62 SB -	63 G	H	L	┝	67 SHIELD	Т	69 GR	H	╀	H
	5A V -	6A Y -	7A R -	L			Connector No. M2		Connector Name FUSE BLUCK (J/B)	Commector Type NS10FW-CS	ı			H.3.		9c H9 H/ H8 H6			Terminal Color Of	No. Wire Signal Name [Specification]	38 P	4B G	BG	>	۵	88 R	Ë			Connector No. M6	Consector Name TO WIRE		Connector Type TH80MW-CS16-TM4					8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8				Terminal Color Of	No. Wire Signal Name [Specification]	1 W	2 R		₽ P	9	╀	
ADLAMP (WITH X	w - [Wi	W	\ -	۵		BR		_	>	- 8S 08	H	H	83 BG -	84 G -		86 P	- v 28		90 SHIELD	91 W	⊢	93 V	94 LG	⊢		⊢	φ	- 1 66	100 P			Connector No. M1	Connector Name FLISE BLOCK (JIR)		Connector Type NS06FW-M2	φ			1 47 T	0A 7A 64 54 44	0			al Color Of	No. Wire Signal Name [Specification]	1A GR	╀	L	4A P - [For push button]	R - Fo

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Cornector No. M66 Cornector Name UNIFIED METER AND A/C AMP. Cornector Type TH40FW-NH1		Terminal Color Of	Terminal Color Of   Signal Name (Specification)
Cornector No. MS3 Cornector Name COMBINATION METER Cornector Type TH40FW-NH		No. Ware   Signal Name [Specification]	
AMP)  Connector No. M41  Connector Name WIRE TO WIRE  Connector Type M33MV-LC	H.S.	Terminal Color Of   Signal Name   Specification   No. vivo   Signal Name   Specification	
HEADLAMP (WITH XENON HEADLAMP)   Terminal Color of   Signal Name   Specification   Consequence   1	6	Connector No.   Miss	

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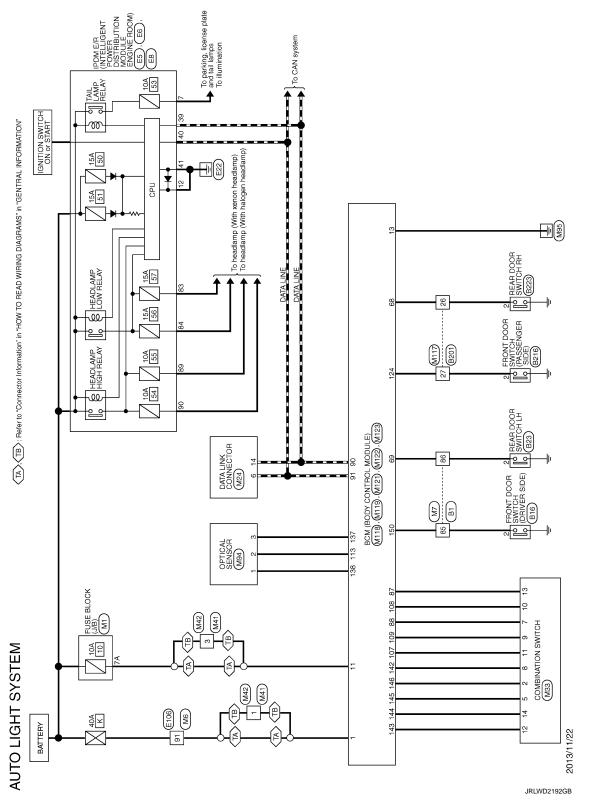
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## **AUTO LIGHT SYSTEM**

## Wiring Diagram - AUTO LIGHT SYSTEM -

For connector terminal arrangements, harness layouts, and alphabets in a  $\bigcirc$  (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



<u>ი</u>	T SYSTEM								
Connector No. B1		09	۵		Connector No. B16	Termina	Terminal Color Of	Signal Name [Specification]	
Connector Name WII	WIRE TO WIRE	61	7 100		Connector Name FRONT DOOR SWITCH (DRIVER SIDE)	ġ.	Wire		
Connector Type THB0FW-CS16-TM4	ROEW-CS16-TM4	70 69	Sulfill R		Connector Type A03EW	- ^	<b>α</b>		
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			M		<u></u>	17	BR		
		73	SB			26	æ	1	
Terminal Color Of		74	_		Terminal Color Of	27	_		
No. Wire	Signal Name [Specification]	75	Μ		No. Wire Signal Name [Specification]	28	٨	,	
H		9/	æ		2 V	59	>		
5 G		2.2	ď			30	GR		
H	-	282	Ь			31	œ		
H		62	GR		Connector No. B23	32	BR		
H	1	83	BG		OTHER GOOD DAVID	33	9	1	
12 SB	-	82	۸			51	ч		
Н	-	98	FIG	-	Connector Type A03FW	22	9	-	
14 GR		87	Υ			26	ď		
┝		88	ď		<u>K</u>	25	Μ		
17 W		88			K	28			
H		06	BG		Ž.	26	SHIELD		
H		9	9		2	09	91		
20 BR	,	95	BR		<u>'I</u>	61	*		
S		93	9		<u></u>	62	BR		
г		8	SB			63	۵		
┝		92	9		Terminal Color Of	64	7		
27 B		96	>		No. Wire Signal Name [Specification]	99	9		
H		86	Μ		2 LG -	99	۵		
⊦		66	GR			29	_		
						89	SHIELD		
31 SHIELD					Connector No. B201	69	>		
	•				TOWN OT POWER ASSESSMENT	20	Υ		
Н						71	SB	-	
34 L	-				Connector Type TH80FW-CS16-TM4	72	W	=	
35 P						73	BR		
36 L						75	Υ		
37 P						80	>		
F					7 N	81	æ		
> 68						82	97		
44 Y					0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	83	۵		
H						84	ď		
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	16 V -	17 SB -	-	20 BG -		╀	4	23 G	24 P	4	25 Y		4	27 W		_	Od	+	32 W	H		35	ō	Т	37 V	30 DD			41 W		+	43 BR	ł	45 W	49 L	0 09	+	51 L	. BG	ł	5/ BK .	29 W	H	+	61 G	H	ł	63 W -		20	+	66 R -	67 SHIELD -	T	+	- 57 69	L	ł	+	72 Y -	B 82	1 2	BK	74 L - [Without ICC]		4	75 W - PWithout ICCI	: 3	76 W - [With ICC]
	П	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	ENGINE ROOM)	Connector Type NS08FW-CS							Ī	90 88 87 88	1		1			Signal Name [Specification]		n n		- W				ad	5	- d 06		1		Connector No. E106		Connector Name WIRE TO WIRE		THEOFIN COAS TMA				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2			8 9 6 9	1			Wire Signal Name [Specification]		1 R	2 W			4 GR	- 25			9 BR	- Sa						14 R		15 P
	Connector No. E5	Connector Name POM E/R (NTELLIGENT POWER DISTRIBUTION MODILE		Connector Type TH20FW-CS12-M4-1V	]   	4	全ラ			12 13							Torminal Color Of	5	No. Wire	^ 4	C	7 8	ľ	┨		21	+		L	0 0	+	27 BG	ł	- T 97	30 GR	H	-			Γ	Connector No. Eb		Connector Name ENGINE ROOM)	ľ	Connector Type TH08FW-NH		d <sub>2</sub>		K			41 40 39		46 45 44 43			Terminal Color Of	No Wire Signal Name (Specification)	1	39 P	- 40	t	+	43 SB	$^{+}$	+	45 G	ł	46 R
AUTO LIGHT SYSTEM	91 V -	92 R	94 R -	_	⊦		4	- W	L	4	100				I	Connector No. B216		Connector Name FRONT DOOR SWITCH (PASSENGER SIDE)		Connector Type A03EW	ſ		THE THE PARTY NAMED IN COLUMN TO THE PARTY NA	<u>k</u>	- P	<u>I</u>	2	<u>4</u>	_	]			No Miro Signal Name [Specification]		2 L				Connector No B223	Τ	Connector Name REAR DOOR SWITCH RH		Connector Type A03EW	П	<b>_</b>		K AT		21			41		]		Terminal Color Of Stand Many (Specification)		-	-										

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76 Y Without ICC] 77 P Without ICC] 78 BR Without ICC] 79 BR Without ICC] 79 L Without ICC] 79 L Without ICC] 79 L Without ICC]	- Without ICC]	ПППП	7A F 8A L Connector No.		- Janvi	38 39 41 42 43 45 45	BR BG BG W		ПППП		
	Connector Name			WIRE -CS16-TM4		50 49	+H			ŦĨ	
HS.	ν <u>i</u>	ν <u>i</u>			8 9 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	57	Kg ≻ © ≥		1111	Connector No.	
3 A S		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		62 60	_ 0 8 o			Connector Type	TH80MW-CS1
Terminal Col	Terminal Color Of No. Wire 1 W	Color Of Wire W		ignal Name [9	specification]	98 89	-			vi <del>T</del>	
	w 8	w 8				68	σ I		ו דד		_
BG         -         4         SHIELD         -           P         -         5         G         -	SHIELD	SHIELD				69	R S		T <sub>e</sub>	Terminal Color Of No. Wire	Of Signal Name [Specification]
SHED	ω σ	H	, , ,			77	91 ×			3 SB	- [With automatic drive positioner]
10 R	10 R	œ {				73	88		П	Н	H
11 BK -	BG	BG				74	Н	- [Without ICC]	П	20 ×	
Comector No. M/1 14 R	13 L 14 R	_ R				75	o R	- [Without ICC]		8 B	
ne FUSE BLOCK (J/B)	FUSE BLOCK (J/B) 15	H	د ۵			76	Н		П	H	
NSO6FW-M2 17 3	NS06FW-M2 17 SB	N SB				1	r K	- [With ICC]	<u> </u>	14 15 G	
18 V	18 V	> 8				78	H	- [With ICC]	П	17 W	
21	21 1	2g 7				8 62	r ≥	- [Without ICC]	_ _	+	
29 14	29 14	Н				79	Н	- [With ICC]	П	П	
6A 5A 4A	64 54 44	Ь		1		80	SB		 	φ	OT
11	24 BR	BR ×				£ 8	8 8		_ _	22 ×	
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of Circuit Name (Consideration) 27 G	Simul Mamo (Socoffontion) 27 G	9		,		84	9			H	
officer reame [obscurreation]	Specimental 28	H	9			82	H	•		Ħ	
33	+	+				88	+	-	_ _	30 SHIELD	OT
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P - [For mish hutton] 34 W	- 33	+	m 3			8 8	SHE OF		_ _	32 P	
- [For key slot] 35	r key slot] 35	-	: 2			9 6	>	,		H	
-S 98	36	П	SHIELD			92	Н	•	П	35 P	
	_	_	^			93	H		_	36 L	-

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 Cornector No.         M24         12           Cornector Name         DATA LINK CONNECTOR         13           Cornector Type         BD16FW         144	P   OUTPUT 1   BR   INPUT 5   G   OUTPUT 2	Cornector No.         M94           Cornector Name         OPTICAL SENSOR           Cornector Type         TK03FW
H.S. Common 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4 1/4	Corrector No. M41  Corrector Name WIRE TO WIRE  Corrector Type M03MW-LC	#8. 1123
Terminal Color Of   Signal Name [Specification]   No.   Wire   Signal Name [Specification]   4   B   .	13	
ctor No. M33  Ctor Type TH16FV-NH	Corrector No. M42 Corrector Name WIRE TO WIRE Corrector Type M03FW-LC	Corrector Type Institute IO WINE  Corrector Type Institute IO WINE  H.S.
1 2 3 4 5 6   Term   Term   Term   Term   Signal Name   Specification)   PRWASHER(-)   Signal Name   Specification   PRWASHER(-)   Signal Name   Specification   PRWASHER(-)   Signal Name   Specification   PRWASHER(-)   Signal Name   Specification   PRWASHER(-)   Signal Name   Sig	IS Color Of Signal Name [Specification]  Wire  W  R  R	No.   Wind   Signal Name (Specification)   No.   Wind   No.   Wind
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# **AUTO LIGHT SYSTEM**

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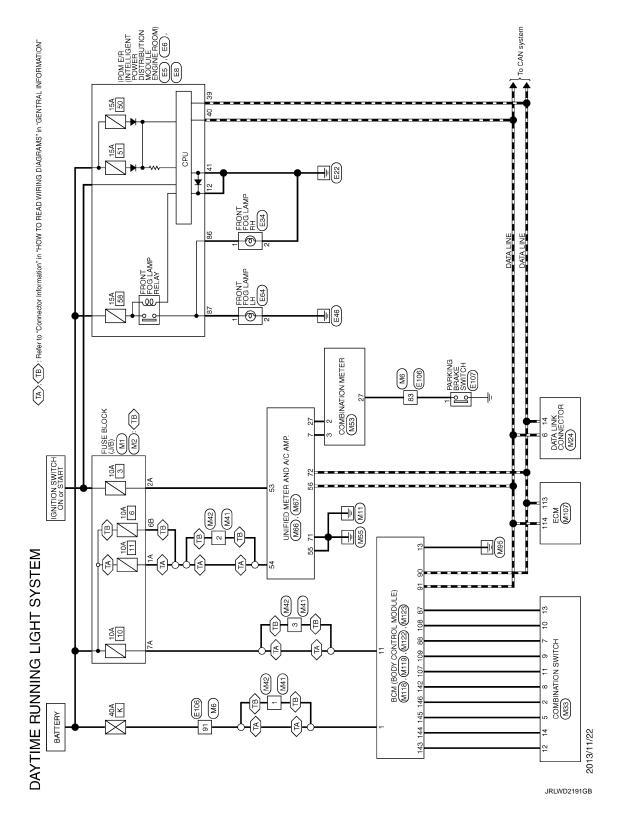
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## DAYTIME RUNNING LIGHT SYSTEM

## Wiring Diagram - DAYTIME LIGHT SYSTEM -

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For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



### **DAYTIME RUNNING LIGHT SYSTEM**

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	7 8	3 8	24	25	56	27	87 2	2	35	33	34	35	36	37	g	8 8	41	42	43	45	49	20	51	24	22	29	09	61	62	63	64	65	99	29	89	69	20	71	72	73	74	74	22	75	9/	9/	77	77
	Connector No. Eb4	Connector Name FRONT FOG LAMP LH	Connector Type FHZ02FB						)			hall Color Of	No. Wire ognika rkanne jobecnicationi	t	2 BAW	┨		Connector No. E106		Connector Name   WIRE TO WIRE	Connector Type TH80FW-CS16-TM4			•		8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8		0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		<u>a</u>	o.	$\dashv$	2 W -	┪	4 GR -	5 GR -	- × 8	9 BR	10 BG -	- 11 SB -	12 BG -	H	14 R	15 P -	16 V -	17 SB -	┝	20 BG
	46 K		Connector No. E8	Connector Name Power Power DISTRBUTION MODULE		Connector Type NS08FW-CS	4	Atty			000000000000000000000000000000000000000	30 88 88 88 88 88 88 88 88 88 88 88 88 88			Terminal Color Of		t	╁	┝		H		H			Connector No. E34		CONTROLL NAME TO CAMPITAL	Connector Type FHZ02FB	ą	国				)			Terminal Color Of Signal Nama (Specification)		1 W -	2 B/W -							
ШΙ	CD	Connector Name   IPDM E/R (INTELL/SENT POWER DISTRIBUTION MODULE   ENGINE ROOM)	Connector Type TH20FW-CS12-M4-1V	ą	[[		12 13 28 28 28 28	8 8 8				al Color Of	No. Wire olgikal realite [opecification]	t	╀	+	12 B/W	13 Y	┝	19 W	⊢	⊢	⊢	⊢	30 GR	⊦	ł		Connector No. E6	Connector Name IPDM E/R (NTELLISENT POWER DISTRIBUTION MODULE	ENGINE HOUM)	Connector Type TH08FW-NH	4		K		41 40 39	CV VV 3V 8V			al Color Of	No. Wire Signal Name [Specification]	39 P	40 L -	Н	⊢	⊢	45 G

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		•	•	•				,	•							1		r		- [With ICC]	- [Without ICC	Olympia ICC	- [With ICC]	- [Without ICC	- [With ICC]	- [With ICC]	- [Without ICC]	- [with ICC]		•	•				-	=					-	
BG	Μ	_	۵	H ;	- U	≥	_	O	SB	U	в ;	≥ 0	Y III	>	. GR	Pl	ΡΠ	٠	SB	æ	٦ (	9 8	<u></u>	Ь	ď	_ 0	< >	>	SB	SB	SB :	> (	, _	۵	Μ	GR	SHIELD	٨	>	BR	Ь	GR
43	42	49	20	5	24	29	09	61	62	83	64	9	90	8	69	20	71	72	73	74	74	76	9/	77	77	8 %	0/	62	80	8	85	8 8	82	98	87	88	06	91	85	93	94	92
M6	Tallet OT Tallet	WIRE 10 WIRE	TH80MW-CS16-TM4		8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	20 25	* *	П	n ×		Signal Name [Specification]					r	-		i	-	1					,				•	•					9						
П	Consister None		Connector Type			ø,					Color Of	wire	≥ α	: a	SHELD	9	٨	BR	œ	æ	- BG	J 02	۵.	>	SB	> 5	2 -	ş	Ь	æ	<b>&gt;</b> :	> (	0		9	В	W	ď	SHELD	>	BG	BR
Connector No.	0	Connec	Connec	Q	季	S I S					Terminal	ġ,	- ^	4 6	4	2	ω	6	9	Ξ	12	5 4	15	16	17	9 2	2 2	22	23	24	25	3 6	58	31	32	33	34	32	36	37	38	39
tor No. M1	Common Moreon City Di OCK (10)		Connector Type NS06FW-M2			3A	8A 7A 6A 5A 4A		]		0	wire	X5 C	) -	P - [For push button]		۸ ا					dor No	SOLUTION TO THE PROPERTY OF TH		Connector Type NS10FW-CS					3c ho h/ ho h6		Color Of			. 9	BG -	٠ .			SB		
Connector No.	Common	Connect	Connecte	4	事	15					Terminal	ġ;	2A A	3 AS	44	44	5A	6A	7A	8A		Connector No		Connect	Connecte	1	手	2				Terminal	9 S	3B	4B	2B	99	7B	8B	9B		
hout ICC]			3																-					HOLIWIS HARB	BINAME SWITTON			Ć	1	Ē	]			Signal Name [Specification]								
78   BR   - [Without ICC]	L - [with ICC]	L - [Without ICC]	Y - [With ICC]		× 85	BG	9		Ь	>	GR	SHELD	» >	. >	. 97	BG	Ь	×	SHIELD	_	Ь		Connector No. E107	HOTING BRAKE SWITCH	Sallie PANNING	Connector Type TB01FW							Terminal Color Of		BG							

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DAYTIME RUNNING LIGHT SYSTEM	Σ		S LI GIN	Connector No	Γ	MR2	Consider No	MASS	
т	+		0 10 10		T	8	COLLECTO NO.	IMIDO	
- A 66	S >		OUIPUI 5	Connector	Name	Connector Name COMBINATION METER	Connector Name	UNIFIED METER AND A/C AMP.	
4	. Ç		INPOL 2	F	т	THE WOLLD'S THE	-	- HA JANDON III	
	+		INPOL 4	Collector	┑.	HOP WEIGH	connector rype		
Connection No.	- 4		O HENT 4	1			q.		
	+	1	10000	至			季		
Connector Name DATA LINK CONNECTOR	+	~	INPUT 5	SI.		[	SI		
	14 G		OUTPUL 2		<u></u>			77	
Connector Type   BD16FW					-   2	2 2 2 2 2 3 3 3 3 3 3 3 4 3 3 3 4 3 3 3 4 3 3 3 4 3 3 3 3 4 3 3 3 3 3 3 3 4 3		23 7 8 8 10 11 H	
<b>E</b>	Connector No	M41			J				
AND	001100	1							
\[ \[ \] \	Connector Name	ne WIRE TO WIRE		Terminal Color Of	John Of		Terminal Color Of		
11 11 14 16	Connector Type	MO3MW-I C		é	Wire	Signal Name [Specification]		Signal Name [Specification]	
3 4 5 6 7 8		1		,	g.	BATTERY POWER SUPPLY	2	MANUAL MODE SHIFT UP SIGNAL	
	1			٥	t	COMMINICATION SIGNAL (METER-AMP)	7 GB	COMMINICATION SIGNAL (AMP. METER)	
	主			ď	t	COMMINICATION SIGNAL (AMPMETER)	- α	VEHICLE SPEED SIGNAL (2-PLILSE)	
Terminal Color Of	S S		•	ı ır	t	GROUND	9 0	SEAT BELLINICKE SWITCH SIGNAL ORDER SIDE	
No. Wire Signal Name [Specification]			<u>-</u>	) (C		AI TERNATOR SIGNAL	ł	MANIAI MODE SIGNAL	
t			2 3	, ,	8	AID BAC SIGNAL	╀	INDIAM IN MAN SON SON SON SON SON SON SON SON SON SO	
t			]	. 0	í	SECTION SIGNAL	Ŧ	COMMINICATION SIGNAL (LCD-AMP)	
╀				, t	,	CEDUIND	╀	IONIONIOE SIGNAL	
+	C I I	30		2 9	ه ۵	Choose of the contract of the	7 OZ	TONIONOLUMBIA	
	<u>ر</u>		Signal Name [Specification]	g.	2	MELEK CONTROL SWITCH GROUND	Z3 Y	AL SNOW SWITCH SIGNAL	
+	No. Wire			19	8	ILL GND	+	MANUAL MODE SHIFT DOWN SIGNAL	
4	1			20	œ	ILL	7	COMMUNICATION SIGNAL (METER-AMP.)	
	2 Y			21	BG	IGNITION SIGNAL	28 R	VEHICLE SPEED SIGNAL (8-PULSE)	
14 P -	3		-	22	В	GROUND	30 ^	PARKING BRAKE SWITCH SIGNAL	
16 Y -				24	BR	COMMUNICATION SIGNAL (LCD-AMP.)	34 Y	COMMUNICATION SIGNAL (AMPLCD)	
				25	≻	COMMUNICATION SIGNAL (AMPLCD)	38 P	BLOWER MOTOR CONTROL SIGNAL	
	Connector No.	M42		56	ď	VEHICLE SPEED SIGNAL (8-PULSE)			
Connector No. M33	omed a second	TOTAL OF TOTAL		27	>	PARKING BRAKE SWITCH SIGNAL			
HOLING MODE COMPINATION SWITCH	COLLINECTOR INGIL	IN NINE IO WINE		28	W	BRAKE FLUID LEVEL SWITCH SIGNAL	Connector No.	M67	
CONTRACTOR NAME CONTRACTOR SWITCH	Connector Type	e M03FW-LC		59	SB	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	Compact Momo	INICION MOTEON AND AZO AND	
Connector Type TH16FW-NH	1			30	9	SEAT BELT BUCKLE SWITCH SIGNAL (PASSENGER SIDE)			
				31	7	WASHER LEVEL SWITCH SIGNAL	Connector Type	TH32FW-NH	
				88	æ	ILLUMINATION CONTROL SIGNAL			
	Ŕ		_	36	97	SELECT SWITCH SIGNAL			
			Ŧ	37	gg	ENTER SWITCH SIGNAL			
1 2 3 4 5 6			3 2	38	-	TRIP A/B RESET SWITCH SIGNAL		7	
7 8 9 10 11 12 13 14				33	۵	ILLUMINATION CONTROL SWITCH SIGNAL (-)		41 42 43 44 45 46 47 53 54 55 56	
7 10 17				40	S.	I I IMINATION CONTROL SWITCH SIGNAL (+)		57 58 59 60 61 62 63 65 65	
	Terminal Color Of		Commence of the second		1	/ / -			
al Color Of Sizeal Name 18.	No. Wire		varire [Specification]						
No. Wire Signal Name [Specification]	1						Terminal Color Of		
1 P FR WASHER(-)	2							Signal Name [Specification]	
2 SB OUTPUT 4	е						41	ACC POWER SUPPLY	
GR							42 Y	FUEL LEVEL SENSOR SIGNAL	
							43 R	INTAKE SENSOR SIGNAL	
╀							ŀ	INLVEHICI E SENSOB SIGNAL	
							+	AMBIENT SENSOR SIGNAL	
20							42 L	AMBIEINI SENSOR SIGIWAL	

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-	œ (	100 G PASSENGER DOOR REQUEST SW	g Sa	2 -	2 0	<u>ي</u> د	108 K COMBI SW INPUT 4	- (	T10 G HAZARD SW		1	Connector No. M123	Connector Name BCM (BODY CONTROL MODULE)		Connector Type TH40FG-NH	₫.	45			22			la C	NO. WIFE	1 S	3 0	119 SB DR DOOR UNLOCK SENSOR	121 BR KEY SLOT SW	W	S S	H :	133 W PUSH-BULLONIGNITION SWILL POWER	Od Od	Y	_	140 GR SHIFT NP	141 G SECURITY IND LAMP CONT	142 BG COMBI SW OUTPUT 5	143 P COMBI SW OUTPUT 1	144 G COMBI SW OUTPUT 2	145 L COMBI SW OUTPUT 3	146 SB COMBI SW OUTPUT 4	PI	151 G REAR WINDOW DEFOGGER RELAY CONT			
	Ferminal Color Of Signal Name [Specification]	+	+	۷,	SIEP CAMP COIN	> (	40 PD PLANE DOOR, FUEL LID UNLOCK CUI PUI	6	χ	٥ :	W PUSHBUTTON	>	M	BG	19 V INT ROOM LAMP CONT		Γ	Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FB-NH	1				0.00 00 00 00 00 00 00 00 00 00 00 00 00			nal	Wire	gg	GR	75 V DRIVER DOOR ANT:	2 >	- 28	GR.	81 W NATS ANT AMP.	82 R IGN RELAY (F/B) CONT	83 Y KEYLESS ENTRY RECEIVER COMM	87 BR COMBI SW INPUT 5	88 V COMBI SW INPUT 3	90 P CAN-L	91 L CAN-H	92 LG KEY SLOT ILL CONT	^	>	95 BG ACC RELAY CONT	
	G PNP signal	110 R ENGINE SPEED OUI PUI SIGNAL	112 V SENSOR GROOMD (EVAP CONTROL SYSTEMPRESS SENSOR) 113 D CAN COMMINICATION LINE		۱ ۲	> .	121 LG EVAP CANISIER VENI CONTROL VALVE	L 6	123 B ECM GROUND	ه د	œ ¦	BK ASCL	8	128 B ECM GROUND		2000		Connector Name BCM (BODY CONTROL MODULE)	O MOSED 1	MOSTB-LC			2.1		3		Terminal Color Of Cincil Manual Constitution		W	≯	3 Y POWER WINDOW POWER SUPPLY(RAP)		Connector No M119		Connector Name   BCM (BODY CONTROL MODULE)	Connector Type NS16FW-CS				4 5 7 8 9 10	11 13 14 15 17 18 10	01 21			_1		
YTIME RUI	Sg c	4/ G EXHAUST GAS YOUTSIDE ODOR DETECTING SENSOR SIGNAL	5 >	- 0	n -	7	5/ W BRAKE FLUID LEVEL SWITCH SIGNAL	OD NATAVE OF	59 GR INIVITION PENSOR GROUND	_ :	H.	+	m !	BG.	۱ ا	R EACHDOOR N	B 1	72 P CAN-L		Connector No. M107	TOTAL MINISTER AND	ECM	Connector Type RH24FGY-RZ8-R-LH-Z		128 524 111 112 108 104 108	30.	114 110	11			Terminal Color Of Signal Name [Specification]	NO. WILE	2 0	ACCEL ERATOR PEDA	G13CONI A TAMEN SHIMON SHOWNESS S	SENSOR POWER SUPPLY (ACCIDED	100 W SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)	101 SB ASCD/ICC STEERING SWITCH	32 LG EVAP CONTROL SYSTEM PRESS SENSOR	103 G какоментика кимплика при некум	103 L вывое ромете выяму уиссецтилися резъм розгиом замаоя зу имъ кос	104 ВВ земное сиссме иссетемитем розгиом земноя группа исс	34 GR явичесе сисцию удельтаните укра, розпуси замеся зу умизми исс	٦	W FUEL TANK TEM	107 BG SENSOR FOWER SUPPLY (REFRICAVAT PRESSURE SENSOR)	

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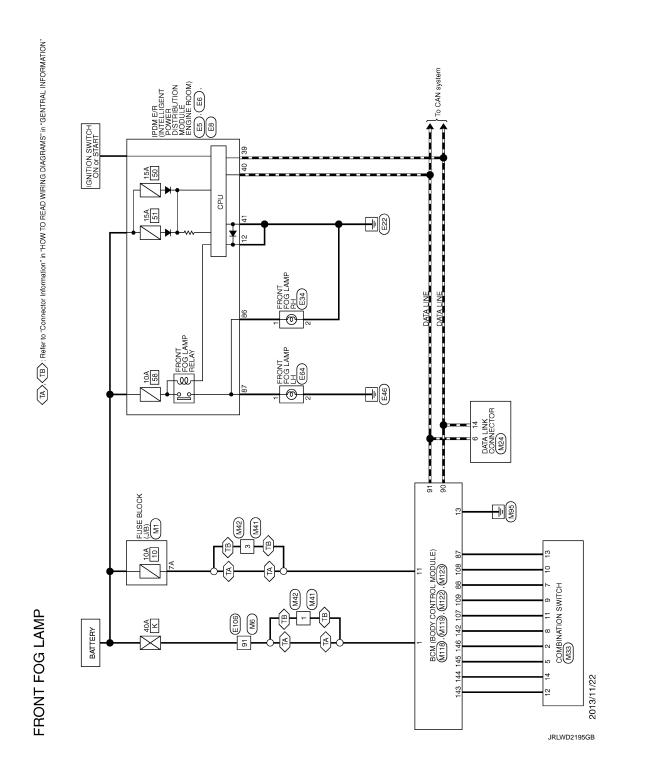
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## FRONT FOG LAMP SYSTEM

## Wiring Diagram - FRONT FOG LAMP -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



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Connector No. E5	46 R -	Connector No. E64	+	
Connector Name   PROMER PROPRIED IN MODULE   ENSINE ROOM!		Connector Name FRONT FOG LAMP LH	22 < 23 G	
Connector Type TH20FW-CS12-M4-1V	Connector No. E8	Connector Type FHZ02FB	Н	
	Connector Name FIR (NTELLIGENT POWER DISTRBUTION MODULE ENGINE ROOM)	4	25 ×	
	Connector Type NS08FW-CS		Н	
12 13 28 28 27	4	The state of the s	+	
8 8	AHT		+	
			32 ×	
			╁	
Terminal Color Of Sonoi Name (Specification)	90 89 88 87 86	la D	П	-
Wire oignal ratile [openition]		No. Wire Olynan Marine Lopecinication i	돐	•
^		+	+	ı
. 7	<u>8</u>	2 B/W -	38 BR	
α :	Wire		+	
B/W	+	2007	41 W	
	^ #8	Corriector No. E106	2 2	
	80 W	Connector Name WIRE TO WIRE	+	
	38 88	Connector Type THR0FW,CS46,TM4	╀	
	88		20 20	
BG .	┝		┞	
- 1		-	54 BG	
GR -			57 BR	-
	Connector No. E34		-	
	Connector Name FRONT FOG LAMP RH		+	
ı			+	U
Connector No. E6	Connector Type FHZ02FB		62 SB	
Connector Name   PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE   ENGINE ROOM)	Œ.	Signal Name [Specification]	+	•
Connector Tuno Tuno Tuno Mila	至于	+	94 9	
٦.	T T	W C	+	
			ó	
			T	1
		GR	97 69	
41 40 39		8	70 W	-
67 77 W	) lat	9 BR -	71 R	
2	No. Wire ogniei wante [opecinication]	10 BG -	72 Y	-
		11 SB -	+	
Terminal Color Of Sinnal Name [Specification]	2 B/W -	12 BG -	74 BR	- [With ICC]
Wire Grant Wire		13 L	74 L	- [Without ICC]
		$\dashv$	$\dashv$	- [With ICC]
- 1		15 P	4	- [Without ICC]
B/W		+	76 W	- [With ICC]
SB -		-	4	- [Without ICC]
BR .		$\dashv$	$\dashv$	- [Without ICC]
- 9		20 BG -	77 R	- [With ICC]

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FRONT FOG LAMP	- [Without ICC]		Connector No.	or No.	M6 WIRE TO WIRE	43	B⊗			8 8	Ø	
ut ICC]		Connector Na	<u>ම</u>	ĕΙ	$\neg$	49	Н			100	g	
- [With ICC] Connector Type		Connector Type	or Typ	ന	TH80MW-CS16-TM4	20	+					
4	1	4	•			51	+					
<b>季</b>	NATA	THE			8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	25	<u>-</u> ر			Some	Connector No.	
H.S.	T. T.	S. T	ző.		3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	99	╀			Conne	Connector Name	DATA LINK CONNECTOR
			ı			09	_			Conne	Connector Type	BD16FW
					5 B	61	9				ŀ	
						62	$\dashv$			ß	_	
	\[ \]			Γ		63	$\dashv$			•	Ę	
- Terminal C	- Terminal Color Of	Terminal Color Of	Color Of	ŏ	Signal Name [Specification]	64				1	ā	11 14 16
. No	+	+	Wire	1		65	+					
+	+	+	≥ (	+		9	†					3 4 5 6 7 8
7 0	+	+	× c	+		9 8						
	Ť	Ť	2 1	+		8 8	$^{+}$			ļ		
LG - 4 SMIELD	T	T	or or	=	1 1	8 8	¥ =			No.	Wire	Signal Name [Specification]
	H	H	>	T		7	⊦			m	SI	
	-	-	R	t	,	72	H			4	В	
SHIELD - 10 R	H	H	~	H		73	S.			5	8	
- =====================================	-	-	BR	H		74	H	- [With ICC	cc]	9	_	
- 12 BG	H	H	88	Н		74	-	- [Without ICC	lool	_	>	
13 1	13 L	13 L	7	Н		75	9			80	9	
14 R	L	L	œ	┢		76	SB	- [Without ICC]	lool	1	g	
M1 15 P	15		۵	Н		2/2	H	- [With ICC	ccl	14	۵	
V 16	16	H	۸	Н	-	77	Ь	- [Without ICC	loo]	16	Υ	*
FUSE BLUCK (J/B)	17	$\vdash$	SB	Н		77	~	- [With ICC	COC			
Connector Type NS06FW-M2 18 V	18		>	Г		78	_	- [With ICC	COO			
1	20	H	BG			78	~	- [Without ICC	loci	Conne	Connector No.	M33
21 F	21		٦			79	Α	- [Without ICC]	loci	į	A Parent	
I_	22	H	≯			79	H		100	900	Connector Name	COMBINATION SWITCH
2A 1A	24 14		۵	ı		80	SB			Conne	Connector Type	TH16FW-NH
50 40	5.0 4.0		BR		-	81	SB	•		ַ	_	
		25 Y	¥			82	SB	•		ß	•	
	26	4	>	П		88	>			+	e	_ _ _
27 G			g			88	g	-		1	į	0 0
Terminal Color Of Signal Name (Specification) 28 G	28	_	O			82	_					C +
Wire Signal rente [Specification] 31 L		31 L	7	Н	•	98	Ь	•				7 8 9 10 11 12 13 14
GR . 32 G	_	_	9	Н		87	M					
	L	L	В	Г		88	GR					
75	L	L	Μ	Г	,	6	S			Termi	Ferminal Color Of	L
╁	32	╁	: 2	Т	,	6	T			2 2	Wire	Signal Name [Specification]
18.	36	T	SHE P	10		8	╀			_	٩	FR WASHER(-)
37	37	T	>			8	╀				. g	OITBIE 4
) G	+	+	> 6			8 8	+			1	9 8	# IOJIOO
+	ł	ł	3 8			š 8	Ť			2	5 0	LON ION
╀	╁	╁	\$			98	╁			. 6	) _	OUTPUT 3
$\vdash$	H	H	BG			6	╀			9	a0	GROUND
┨	┨	┨	3			3	-			,	J	2500

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SONT FO	FRONT FOG LAMP	Connector No.		M118	Connector No.			Connec	Connector No.	
2 ≻	INPUT 2	Connector Name		BCM (BODY CONTROL MODULE)	Connector Name	ne BCM (BODY CONTROL MODULE)	. MODULE)	Connec	Connector Name	BCM (BODY CONTROL MODULE)
ď	INPUT 4	Connector Type		M03FB-LC	Connector Type	ie TH40FB-NH		Connec	Connector Type	TH40FG-NH
97 C	INPUT 1	Q.			Q.			Ą		
- H	INPUT 5	李			李		ſĭ	<b>F</b>	_	
O	OUTPUT 2	Z.	_	12 1 3 1	Ž.	20 10 10 10 10 10 10 10 10 10 10 10 10 10	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		ń	(S)
Connector No.	M41			]						
or Name	Connector Name WIRE TO WIRE	20	Color Of	Signal Nama [Spacification]	Terminal Color Of	r Of Sinnal Nama [Snavification]	lacification	Terminal		Sinnal Nama (Snavification)
Connector Type	M03MW-LC	ė.	Wire	orginal Ivaline [obecombation]	7		pecificationi	Š	>	ogna ranie lobecincation
		۰ -	M %	BAI (F/L)	74 SB	SB PASSENGER DOOR ANI-	OOR ANI-	113	J G	OPLICAL SENSOR
		<sub>1</sub> ه	Т	POWER WINDOW POWER SUPPLY(RAP)	╁	L	OR ANT-	118	╀	STOP LAMP SW 2
76	_				H	LG DRIVER DOOR ANT+	DR ANT+	119	SB	DR DOOR UNLOCK SENSOR
					78 7	ROOM ANT1-	NT1-	121	BR	KEY SLOT SW
	2 3	Connector No.		M119	79 B	BR ROOM ANT1+	NT1+	123	۸	IGN F/B
		Complete Monte		G III IOOM TOGENOO AGOO! WOO	80	GR NATS ANT AMP.	AMP.	124	PT	PASSENGER DOOR SW
		COLLECTOR		OM (BODY CONTROL MODULE)	81	W NATS ANT AMP	AMP.	132	æ	POWER WINDOW SW COMM
Terminal Color Of	Circuit Name (Consideration)	Connector Type		NS16FW-CS	82 F	R IGN RELAY (F/B) CONT	/B) CONT	133	Μ	PUSH-BUTTON IGNITION SW ILL POWER
Wire	ognal varie [opecification]	٥	_		83 Y	KEYLESS ENTRY RECEIVER COMM	ECEIVER COMM	134	GR	LOCK IND
Μ	-	[B			87 B	BR COMBI SW INPUT 5	INPUT 5	137	BG	RECEIVER/SENSOR GND
<b>\</b>		¥			88	COMBI SW INPUT 3	INPUT 3	138	<b>\</b>	RECEIVER/SENSOR POWER SUPPLY
ď	-	Ş		4 5 / 8 9 10	90	P CAN-L		139	٦	TIRE PRESSURE RECEIVER COMM
				11 13 14 15 17 18 19	91 L	CAN-H	I	140	GR	SHIFT N/P
				2: ::	Н	LG KEY SLOT ILL CONT	L CONT	141		SECURITY IND LAMP CONT
Connector No.	M42				93	ON IND	D	142	BG	COMBI SW OUTPUT 5
Momo	Supplementation of a supplemen				94	PUDDLE LAMP CONT	IP CONT	143	Ь	COMBI SW OUTPUT 1
	WINE IO WINE	Terminal (	Color Of	Constitution (Constitution)	95 BG		CONT	144	9	COMBI SW OUTPUT 2
Connector Type	M03FW-LC	No.	Wire	orginal realite [opecification]	96	GR AT SHIFT SELECTOR POWER SUPPLY	POWER SUPPLY	145	٦	COMBI SW OUTPUT 3
		4	97	INTERIOR ROOM LAMP POWER SUPPLY	66	R SHIFT P	Ь	146	SB	COMBI SW OUTPUT 4
		2	7	PASSENGER DOOR UNLOCK OUTPUT	H	G PASSENGER DOOR REQUEST SW	REQUEST SW	150	PT	DRIVER DOOR SW
		7	>	STEP LAMP CONT	101 S	SB DRIVER DOOR REQUEST SW	EQUEST SW	151	g	REAR WINDOW DEFOGGER RELAY CONT
		8	>	ALL DOOR, FUEL LID LOCK OUTPUT	102 B	BG BLOWER FAN MOTOR RELAY CONT	OR RELAY CONT			
		o	9	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	103	LG KEYLESS ENTRY RECEIVER POWER SUPPL	ER POWER SUPPLY			
	3 2	10	BR	REAR DOOR UNLOCK OUTPUT	107 LI	LG COMBI SW INPUT 1	INPUT 1			
		-	œ	BAT (FUSE)	108	R COMBI SW INPUT 4	INPUT 4			
		13	В	GROUND	109	COMBI SW INPUT 2	INPUT 2			
Terminal Color Of	Circul Namo [Cocoffication]	14	W	PUSH-BUTTON IGNITION SW ILL GND	110	G HAZARD SW	SW			
Wire	orginal varie [openication]	15	Υ	ACC IND						
≥	,	17	*	TURN SIGNAL RH (FRONT)						
>		18	BG	TURN SIGNAL LH (FRONT)						
œ		19	>	INT ROOM LAMP CONT						

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[XENON TYPE]

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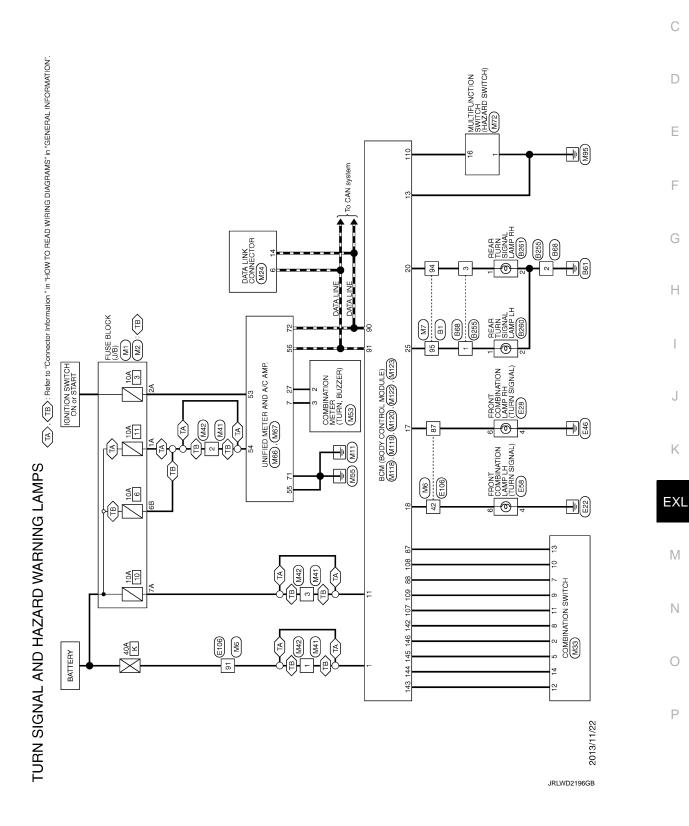
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#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

#### Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



TUR	N SIG	TURN SIGNAL AND HAZARD WARNING LAMPS	NING	LAMF	Sc		
Connecto	or No.	B1	09	۵		Connector No. B68	Connector No. B260
Connecto	or Name	Connector Name WIRE TO WIRE	6	٦ ا		Connector Name WIRE TO WIRE	Connector Name REAR TURN SIGNAL LAMP LH
Connector Type	Т	TH80FW-CS16-TM4	88	ď		Connector Type RH08MB	Connector Type HS02FG-W
			64	ŋ		4	4
厚		22 2	65	SHIELD	-		修
SH			9 2	≥ >			(S)
		7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	89	88		_	(1 2)
		2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	69	SHIELD		(2 6 7 8)	
			70	Μ			
			73	SB			
Terminal	Terminal Color Of	Signal Name [Specification]	74	٦		<u>a</u>	E E
ġ Z	Wire		72	≥		0	
ကျ	۰ س		92	뚭 6		+	- 0
n			>	¥		+	. B 2
9	SB		28	۵		3 SB -	
7	>		79	GR		4 R	
8	٦		83	BG		6 B	Connector No. B261
12	SB	•	82	^	-	- M Z	LIGHT I VIVOIS INC. I DE VE TI IDN SICNIVI I ANNO DE
13	97	-	98	PI			
14	GR	-	87	<b>\</b>			Connector Type HS02FG-W
15	97		88	ч		Connector No. B255	ď
17	W		88	В		Connector Name MIRE TO WIRE	
18	SB	,	96	BG		מתופסום ואפוופ	
19	re		91	G		Connector Type RH08FB	
20	BR		92	BR			((1 2))
21	SHIELD	-	93	9	-		
22	>		98	SB	-		
24	Ь		32	9		2	
27	В		96	>		7 ( 4)	Ē
28	ď		86	W			
29	Μ		66	GR	-		
30	SHIELD	-					2 B -
31	SHIELD	-				al Color Of	
32	W	•				No. Wire ogneri varie pecindation	
33	SB					1 6	
34	_					2 B -	
32	۵					> <	
36	-					W 4	
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42	¥ :						
g !	9 8						
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64	တ :						
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#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

	97 R	- 1 66	100 P -		Connector No. M1	Connector Name   FI ISE BLOCK ( I/B)		Connector Type NS06FW-M2	¢		•	1 24 14 1 14 14 14	A A A A A A A A A A A A A A A A A A A	Lt. Lo Lo Li M8				No. Wire Signal Name [Specification]	1A GR	┞	╀	1 0	ł	: >	· > >	╀	Vo	1		M3	Т	Connector Name FUSE BLOCK (J/B)	Commonder Time NIC40FIM CO	Connector Lype INSTURW-US	d)	CHAT)	٥			anha hy ha ha			Terminal Color Of Signal Nama (Specification)	Wire	ı	4B G		1	- 0																	
	43 BR -	Н	50 P	+	57 BR -	Н	-	Н	$\dashv$	63 W	$\vdash$	. es c	L	67 SHELD	· × 89	5T 69	- M 02	71 R	H	8	BB	á –	75 G - With ICCI	> >	* *	+		- a	+	á -	1	- [Without Icc.]	- 8	+	$^{+}$	82 SB -	+		+		_	_	S		L	> > 88	Ļ	╀	+	_																
SAMPS	Connector No. E106	0	Connector Type TH80FW-CS16-TM4			2 1 2 2 3 3	2 2 3 4				la Is	No. Wire Ogrian reame [Specimeation]		2 W	8	4 GR	5 GB	× 8	H	10 BG -	H	12 BG	ł	1 0	╀		ľ	+	ľ	+	7 7 7	_ ^ 77	53 62	+	+	26 V	+	4		32 W -				ŝ	Г	38 BR	H	╀	+	4																
TURN SIGNAL AND HAZARD WARNING LAMPS	Connector No. E28		Connector Type RS08FB-PR			C C C C C C C C C C C C C C C C C C C	۲ ۲	(5 6 7 8	)		Terminal Color Of Sirray Name (Specification)		2 B -	3 B/Y	4 B/W	5 BG	t	7 BR -	d 8			Connector No F58	ı	Connector Name FRONT COMBINATION LAMP LH	Connector Tyrus RS/08EB-PR	7	₫.			_	6 2 0				Signal Name [Specification]		2 B -	3 B/Y -		- ·	_	7 P	8 BG -																							
																																																						J	RL	w	D2	23	149	GE	3					

**EXL-111** Revision: 2013 December 2013 EX

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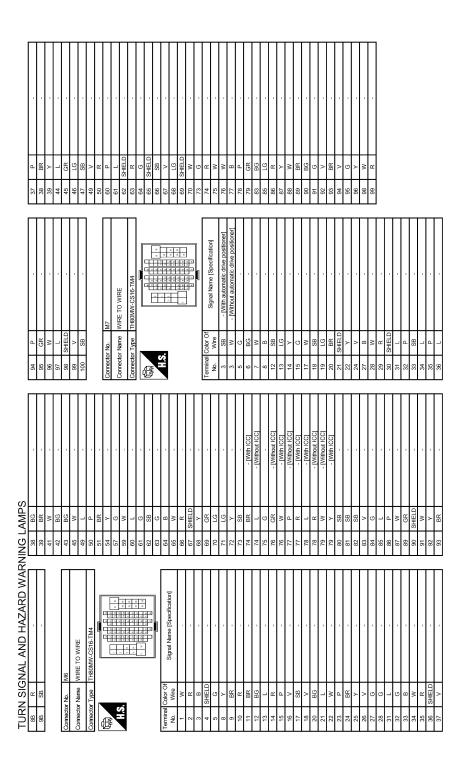
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Connector No. M66	иe	Connector Type TH40FW-NH	Œ	S:	S	Tarminal Color Of	Wire	П	GR .	8 L VEHICLE SPEED SIGNAL (2-PULSE)	3 >	11 G NON-MANUAL MODE SIGNAL	BR COMMU	: ب	> :	T	2/ EG COMMONICATION SIGNAL (METER-AMP.)	< >	34 Y COMMUNICATION SIGNAL (AMPLCD)	38 P BLOWER MOTOR CONTROL SIGNAL		ſ	Connector No. M67	Connector Name UNIFIED METER AND A/C AMP.	Connector Type TH32EW-NH	7				42 43 44 45 46 47 53	57 58 59 60 61 62 63 65 89 70 71 72		Terminal Color Of		41 V ACC POWER SUPPLY	Y	43 R INTAKE SENSOR SIGNAL	2 a	
Connector No. M53	g.	Connector Type TH40FW-NH	Œ	S.	1770 のの7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Terminal Color Of	No. Wire Sgnal Name [Specification]	GR	9 8	5 GR COMMUNICATION SIGNAL (AMP.:METER)	P ALTER	7 BR AIR BAG SIGNAL	10 G SECURITY SIGNAL	æ	B METER CONT	19 B ILL GND	+	2 8	24 BR COMMUNICATION SIGNAL (LCD-AMP.)	25 Y COMMUNICATION SIGNAL (AMPLCD)	α	>	> 8	30 G SEAT DELINIONE SWITCH SIGNAL (DRINER SUE)	) _	1 60	36 LG SELECT SWITCH SIGNAL	37 SB ENTER SWITCH SIGNAL	38 L TRIP A/B RESET SWITCH SIGNAL	39 P ILLUMINATION CONTROL SWITCH SIGNAL (-)	40 BG ILLUMINATION CONTROL SWITCH SIGNAL (+)								
NING LAMPS Ourpur 1	13 BR INPUT 5	,		Connector Name WIRE TO WIRE	Connector Type M03MW-LC	vi ±		2 3		Terminal Color Of		1 W	2 Y -	3 R		Commonder No.	COLLINSCION INO. 19142	Connector Name WIRE TO WIRE	Connector Type M03FW-LC	4		Ī		3 2	]		Jal	No. Wire organication	1 W -	2 Y -	3 R								
TURN SIGNAL AND HAZARD WARNING LAMPS	Connector Name DATA LINK CONNECTOR	Connector Type BD16FW	Œ	H.S.	3 4 5 6 7 8	Terminal Color Of	No. Wire Signal Name [Specification]	Н	+	A -	7 > 7		Н	14 P -	16 Y -		Commeter No.	CONTRACTOR INC.	Connector Name   COMBINATION SWITCH	Connector Type TH16FW-NH	ą.	厚		1 2 3 4 5 6	7 8 0 10 11 12 13	0 0		ā	No. Wire Ognan wante Lopecingation	1 P FR WASHER(-)		GR FRV	4 G IGN	4 B		BG	9 Y INPUT 2	۷ 9 <u>-</u>	

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**EXL-113** Revision: 2013 December 2013 EX

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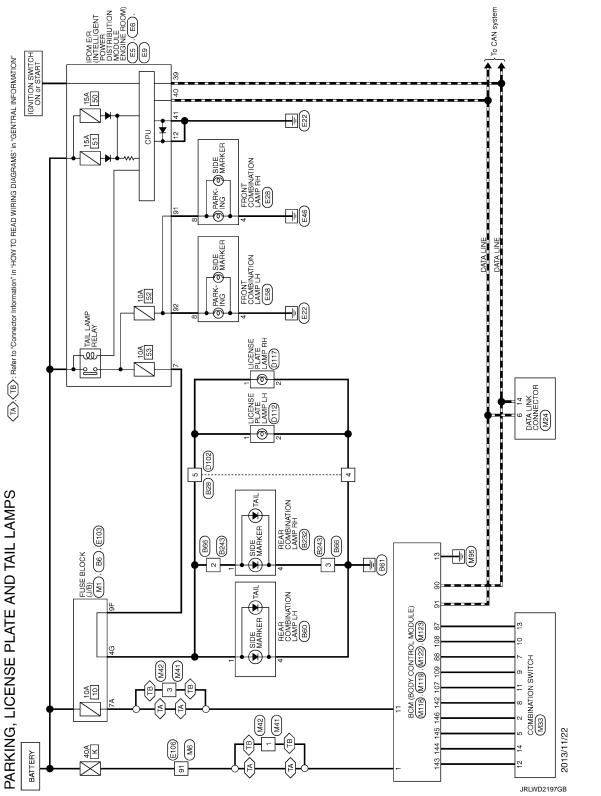
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#### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram - PARKING, LICENSE PLATE AND TAIL LAMPS -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



PARKIN Connector No	KING	PARKING, LICENSE PLATE AND TAIL LAMPS Comedor No.   16   19   16	AIL LAMPS	18 P .	Connector No.	D102	_
Connecto	Connector Name	FUSE BLOCK (J/B)	20 BG .		Connector Name	WIRE TO WIRE	
Connecto	for Type	Connector Type NS12FBR-CS	Н	Connector No. B232	Connector Type TH24FW-NH	TH24FW-NH	_
<b>€</b>			23 BR	Connector Name REAR COMBINATION LAMP RH	Œ		
U E				Connector Type TH04MW-NH	0 =		
4	5	99 40	Connector No. B60		i.	6 5 4 3 1	
		12q 1fq 10p		H.S.		24 23 22 21 20 19 18 17 16 15 14 13	
	10		Connector Type TH04MW-NH	1 2 4	-		_
lermina No.	No. Wire	Signal Name [Specification]			No. Wire	Signal Name [Specification]	
10G	W				1 GR	-	_
11G	W		Z: -	la	3 W	,	_
12G	GR		4 6 1	0	+		
4G	2 9			+	+		
2	5			2 LG	2 c	1	_
			Terminal Color Of	1	+	- DWith around view monitor	_
Connector No	П	828	No. Wire Signal Name [Specification]		14 SHIFLD	ľ	_
000	2		t	Connector No. B243	T		_
Connect	Connector Name	WIRE TO WIRE	2 LG	Γ	16 G	- [With around view monitor]	_
Connecto	or Type	Connector Type TH24MW-NH	4 B	Connector Name   WIRE TO WIRE	-	- [Without around view moritor]	
				Connector Type TH24FW-NH	17 G	- [Without around view monitor]	_
B	_			4	17 W	- [With around view monitor]	
ŧ	,		Connector No. B66		18 SHIELD	-	
2 E	ล		Competer Name WIDE TO WIDE		19 LG	-	
		1 3 4 5 6			20 0		
		13 14 15 16 17 18 19 20 21 22 23 24	Connector Type TH24MW-NH	3 7 1	21 V		
			4	18 17 16 15 14 13	22 P		
Terminal	Terminal Color Of	L	ANTA CANADA		23 BK		
No	Wire	Signal Name [Specification]	S	Terminal Color Of Signal Name (Specification)	1		_
-	GR		_	No. Wire Signan Name [Specimeation]			
က	≥		13 14 15 16 17 18	1 LG .			
4	В			+			
2	2			3 B			
9	BG		<u>a</u>	+			
13	æ		No. Wire	+			
14	~		7	+			
14	SHELD		+	+			
12	В	<ul> <li>[Without around view monitor]</li> </ul>	3 B	17 LG -			
15	>	<ul> <li>[With around view monitor]</li> </ul>	+	18 L			
16	≥		+				
17		<ul> <li>[With around view monitor]</li> </ul>	+				
17	œ	<ul> <li>[Without around view monitor]</li> </ul>	16 BR -				
18	SHELD		17 BG -				

JRLWD2360GB

#### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

[XENON TYPE] < DTC/CIRCUIT DIAGNOSIS >

		A
LAMP LH	96 8F	В
ESS FRONT COMBINATION LAMP LH RSOSFE.PR  \$\frac{2}{5} \frac{3}{6} \frac{7}{1} \frac{8}{3} \frac{1}{6} \frac{1}{1} \frac{1}{6} \frac{1}{6} \frac{1}{1} \frac{1}{6}	E108  NS16FW-CS  Signel Name (Specification)	С
cctor No.	3   8   8   8   8   8   8   8   8   8	D
NACOULE 191		Е
E9  E9  THEFTWAH  THISTMAN  Signal Name (Specification)	FRONT COMBINATION LAMP RH RS06FB-PR Signal Name [Specification]	F
No. E9 POMER PROME PROME COOP OF THE POMER	No.   E28   P.CO   P.	G
Corrector No. Corrector Name Corrector Type    Corrector Type   Corrector	104   105   104   105	Н
E5 POW ER NYELLUGEN POWER DES TREUTCH WICHLIE THEOFW.CS12.M4-1V  THEOFW.CS12.M4-1V  THEOFW.CS12.M4-1V  Signal Name [Specification]	E6 FOW ER (NELLIGENT POWER DESTREUTEN MODULE THOSEWANH THOSEWANH Signal Name (Specification)	I
E5 INDEPENDENT FOURER INDEPENDENT FOURER INDEPENDENT I	E6 Signal	J
	12   BW   13   W   14   W   15   W	К
E AND	No.	EXI
PARKING, LICENSE PLATE A Corrector Name LICENSE PLATE LAMP LH Corrector Type TK02FBR	D117 LICENSE PLATE LAMP RH TKOZEBR Signal Name (Specification)	М
PARKING. Connector No. D Connector Name Li Connector Type III Terminal Color Of No. Wire III III	Corrector No. D Corrector Name LI Corrector Type TI No. Wire 1 R 2 B 2	N
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**EXL-117** Revision: 2013 December 2013 EX

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#### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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MODULE)  eerification]  1. Lier Supply(RAD)  ER Supply(RAD)  RODULE)  MODULE)  MODUL	В
MOSFELC  MOSFELC  Signal Name (Specification)  BAT (FIL)  POWER WINDOW POWER SUPPLY(EAX)  POWER WINDOW POWER SUPPLY(EAX)  POWER WINDOW POWER SUPPLY(EAX)  MITS  BAT (FIL)  Signal Name (Specification)  WITERIOR ROOM LANP POWER SUPPLY (FIASP)  Signal Name (Specification)  WITERIOR ROOM LANP POWER SUPPLY (FIASP)  REAR DOOR UNLOCK OUTPUT  REAR DOOR UNLOCK OUTPUT  REAR DOOR LICE LID LID COK OUTPUT  REAR DOOR FILE LID LID COK OUTPUT  REAR DOOR LICE LID LID COK OUTPUT  REAR DOOR LILE LID LID COK OUTPUT  REAR DOOR LILE LID LID COK OUTPUT  REAR DOOR LILE LID LID COK OUTPUT  ACC IND  TURN SIGNAL LIH (FRONT)  TURN SIGNAL LIH (FRONT)  TURN SIGNAL LIH (FRONT)  INTROOM LAMP CONT	С
Connector No.	D
[reation]	Е
MA1  WIRE TO WIRE  MOSHWLLC  MOSHWLLC  MOSHWLLC  MOSHWLLC  Signal Name [Specification]  Signal Name [Specification]	F
P   P   BR   BR   BR   BR   BR   BR	G
Corrector Correc	Н
M33   M34   M35   M34   M35   M35   M35   M35   M36	I
MA33 COMBIN	J
TE AND TAIL LAMPS   Corrector No.   Corrector No.   Wire   No.   No.   Wire   No.	К
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M123 BCM (BODY CONTROL MODULE) TH40FG:NH		of Signal Name [Specification]	OPLICAL SENSOR	STOP LAMP SW 1	DR DOOR LINI OCK SENSOR	KEY SLOT SW	IGN F/B	PASSENGER DOOR SW	POWER WINDOW SW COMM	PUSHBUTTON IGNITION SW ILL POWER	LOCK IND	RECEIVER/SENSOR GND	RECEIVER/SENSOR POWER SUPPLY	TIRE PRESSURE RECEIVER COMM	SHIFT NP	SECURITY IND LAMP CONT	COMBI SW OUTPUT 5	COMBI SW OUTPUT 1	COMBI SW OUTPUT 2	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	DRIVER DOOR SW	REAR WINDOW DEFOGGER RELAY CONT						
APS Type		Color Of Wire	۵	SB	٦ %	8 8	>	PT PT	H	Μ	GR	BG	Υ	٦	GR	9	BG	Ь	9	٦	SB	PT P	9						
L LAMPS Connector No. Connector Name Connector Type	€ ES.	Terminal No.	113	116	118	121	123	124	132	133	134	137	138	139	140	141	142	143	144	145	146	150	151						
PARKING, LICENSE PLATE AND TAIL LAMPS Corrector No. 1872 Corrector Type	U	Signal Name [Specification]	PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT-	ROOM ANT1-	ROOM ANT1+	NATS ANT AMP.	NATS ANT AMP.	IGN RELAY (F/B) CONT	KEYLESS ENTRY RECEIVER COMM	COMBI SW INPUT 5	COMBI SW INPUT 3	CAN-L	CAN-H	KEY SLOT ILL CONT	ONIND	PUDDLE LAMP CONT	ACC RELAY CONT	AVT SHIFT SELECTOR POWER SUPPLY	SHIFT P	PASSENGER DOOR REQUEST SW	DRIVER DOOR REQUEST SW	BLOWER FAN MOTOR RELAY CONT	KEYLESS ENTRY RECEIVER POWER SUPPLY	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INPUT 2	HAZARD SW
KING I Name		Color Of Wire	SB	S.	> 5	}	BR	GR	>	Я	Υ	BR	۸	Ь	٦	PIC	>	٨	98	GR	¥	9	SB	BG	PI	PT.	Ж	>	ڻ
PARKING Connector No. Connector Name Connector Type	语 H.S.	Terminal No.	74	75	77	78	62	80	81	82	83	87	88	90	91	92	93	94	96	96	66	100	101	102	103	107	108	109	110

JRLWD2364GB

# STOP LAMP

Wiring Diagram - STOP LAMP -

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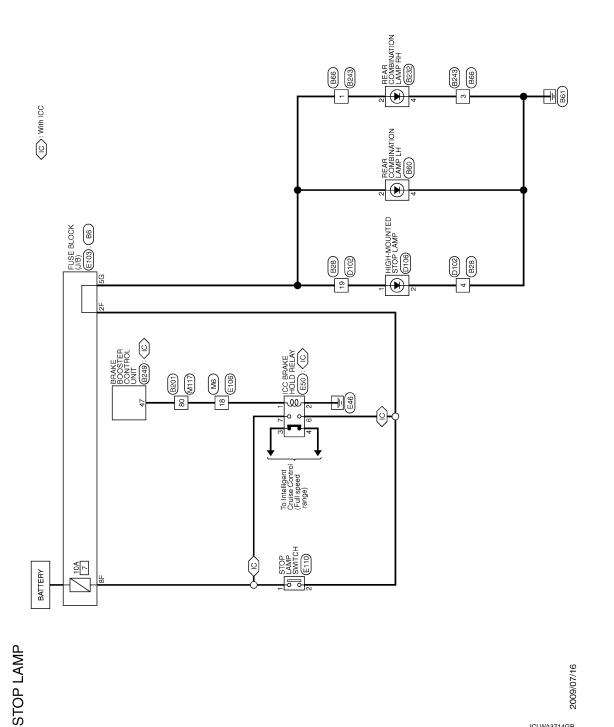
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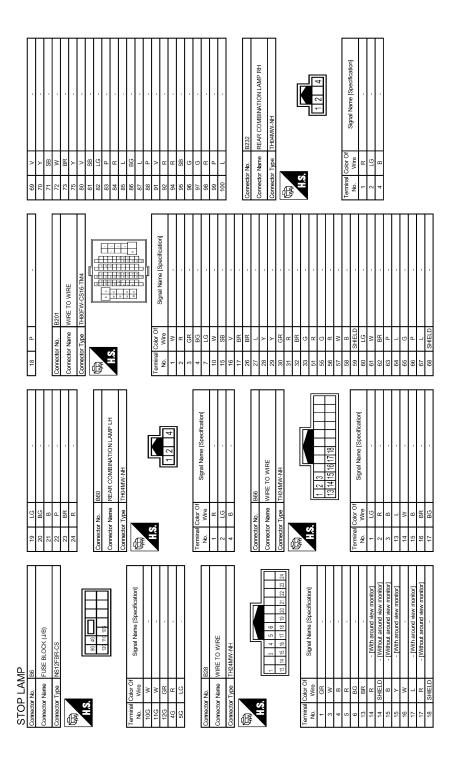
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Corrector No. E103  Corrector Name FLSE BLOCK (J/B)  Corrector Type NS16FW.CS  LAS  ENGINEER CORRECTOR (J/B)	Terminal Color Of   Signal Name   Specification     1
Corrector No. D106  Corrector Name HIGH-MOUNTED STOP LAMP  Corrector Type ITB02MW  H.S.	Terminal Color Off Signal Name (Specification)  2
Corrector No. D102  Corrector Name WIRE TO WIRE  Corrector Type TH24FW-N4H  H.S.  R. Z.	Terminal Coder Of No. Wire   Signal Name [Specification]   No. Wire   3 W
STOP LAMP  Corrector No. R243  Corrector Name WIRE TO WIRE  Corrector Type TH24PW.N41  H.S. 11 18 17 16 13 14 13	Terminal Color Of   Signal Name   Specification   1   1.0

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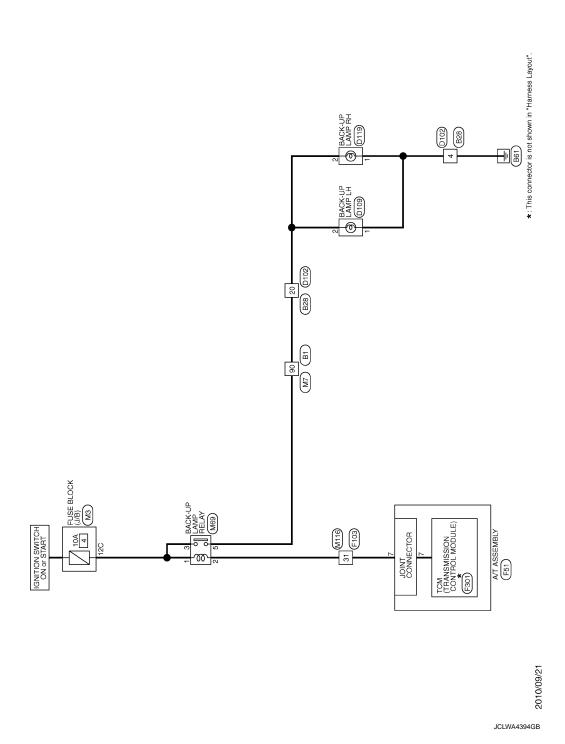
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# **BACK-UP LAMP**

Wiring Diagram - BACK-UP LAMP -

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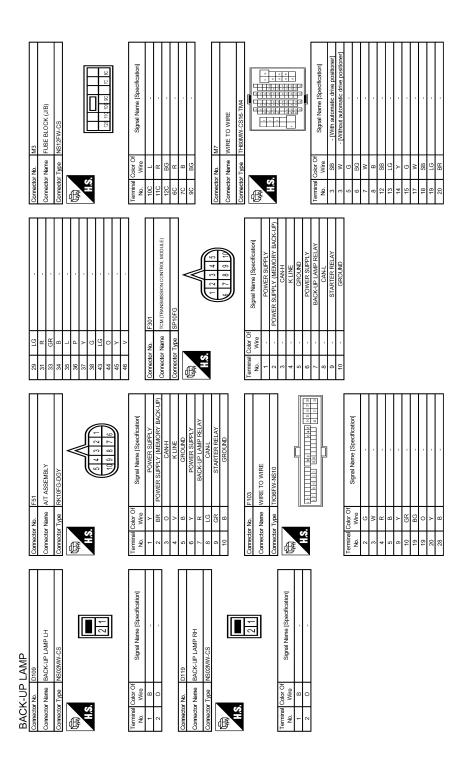
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Corrector No.   D102	
Corrector No.   B28	
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Convector No.   Bit	
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33	g		Connect	r Name	Connector Name BACK-UP LAMP RELAY	44	-		
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[XENON TYPE]

# **ECU DIAGNOSIS INFORMATION**

# BCM (BODY CONTROL MODULE)

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

#### CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
I IX WIF LIX I II	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
FR WIFER LOW	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
TIX WASHEN SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
FR WIFER INT	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
RR WIPER ON	Other than rear wiper switch ON	Off
KK WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
DD WACHED CW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
DD WIDED CTOD	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
TUDNI CIONAL D	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TUDNI CIONALI	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL LAMD CVV	Other than lighting switch 1ST and 2ND	Off
TAIL LAMP SW	Lighting switch 1ST or 2ND	On
LI DEAM CW	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
LIEAD LAND CVV	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
LIEAD LAMB CWO	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
DA COINO CIAI	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
ALITO LIGHT C'A'	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On

#### < ECU DIAGNOSIS INFORMATION >

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Monitor Item	Condition	Value/Status
FR FOG SW	Front fog lamp switch OFF	Off
R FOG SW	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
DOOK SW-DK	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
JOOK SW-AS	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
JOOK SW-KK	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
JOOR SW-RL	Rear LH door opened	On
OOD CW DK	Back door closed	Off
OOOR SW-BK	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
PDF FOCK 200	Power door lock switch LOCK	On
SDL TINII OCK OW	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
VEV OVI 11/ OW	Other than driver door key cylinder LOCK position	Off
(EY CYL LK-SW	Driver door key cylinder LOCK position	On
(E) ( O) (( 1 I) I) O) ((	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
IAZADD CIN	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
FR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
ED/DD ODEN OW	Back door opener switch OFF	Off
TR/BD OPEN SW	While the back door opener switch is turned ON	On
FRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
REVERSE SW	NOTE: The item is indicated, but not monitored.	Off
RKE-LOCK	LOCK button of the key is not pressed	Off
NNL-LOOK	LOCK button of the key is pressed	On
DIVE LINI OCK	UNLOCK button of the key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
DIVE DANIC	PANIC button of the key is not pressed	Off
RKE-PANIC	PANIC button of the key is pressed	On
	UNLOCK button of the key is not pressed	Off
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On

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#### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of the key is pressed and held simultaneously	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V
DEO SW. DD	Driver door request switch is not pressed	Off
REQ SW -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
NEQ 3W -A3	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
REQ SW -BD/TR	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
FUSH SW	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	NOTE: The item is indicated, but not monitored.	Off
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
DDAKE CM 2	The brake pedal is not depressed	Off
BRAKE SW 2	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
DETE/CANCE SW	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
SI I FIN/IN SW	Selector lever in P or N position	On
S/L -LOCK	NOTE: The item is indicated, but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off
UNLK SEN -DR	Driver door is unlocked	Off
OIALIX OLIA -DIX	Driver door is locked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
. CON OWN II DIWI	Push-button ignition switch (push-switch) is pressed	On
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
DETECTION II DIVI	Selector lever in P position	On
SFT PN -IPDM	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status
YET D. MET	Selector lever in any position other than P	Off
FT P -MET	Selector lever in P position	On
PET NI MET	Selector lever in any position other than N	Off
SFT N -MET	Selector lever in N position	On
	Engine stopped	Stop
NOINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
/EH SPEED 1	While driving	Equivalent to speed- ometer reading
/EH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
OOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
OOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
O OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset
	Ignition switch ON	Set
RMT ENG STRT	The engine start is prohibited	Reset
RIVIT ENG STRT	The engine start is permitted	Set
RMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
EY SW -SLOT	The key is not inserted into key slot	Off
L 1 3W -3LO1	The key is inserted into key slot	On
KE OPE COUN1	During the operation of the key	Operation frequency o the key
KE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet
ON INVIDALE	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet
ZON INWIDA	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
DOM INWI IDO	The key ID that the key slot receives accords with the third key ID registered to BCM.	Done

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# < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet
CONFIRMIDI	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done
TD 4	The ID of fourth key is not registered to BCM	Yet
TP 4	The ID of fourth key is registered to BCM	Done
TP 3	The ID of third key is not registered to BCM	Yet
16.3	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
IP Z	The ID of second key is registered to BCM	Done
TP 1	The ID of first key is not registered to BCM	Yet
IF I	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
ID REGOT PLT	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID REGST FRT	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
ID REGST KKT	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
ID NEGOT NET	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
VVAINING LAWIP	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
DULLEN	Tire pressure warning alarm is sounding	On

[XENON TYPE]

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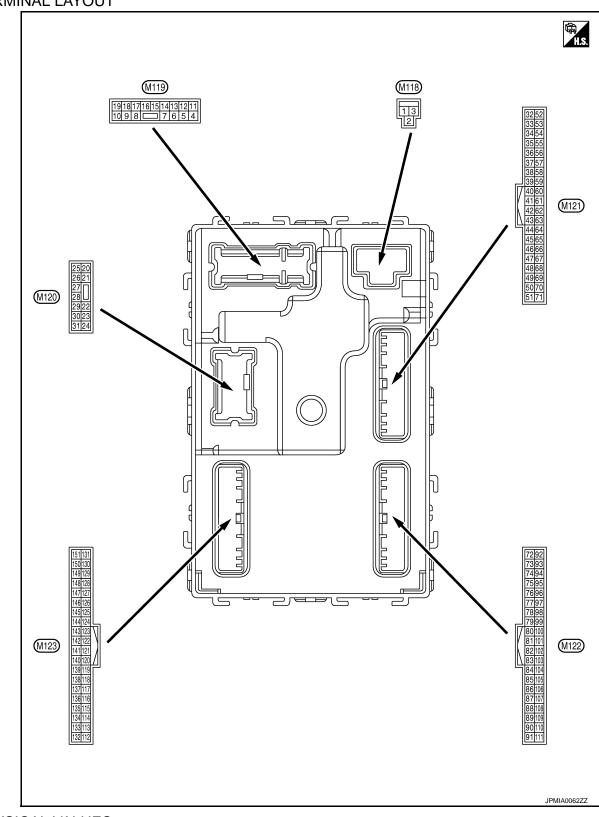
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TERMINAL LAYOUT



PHYSICAL VALUES

Revision: 2013 December EXL-135 2013 EX

#### < ECU DIAGNOSIS INFORMATION >

Term	inal No.	Description				
	e color)	-	Input/		Condition	Value
+	_	Signal name	Output			(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
		Interior room lamp			battery saver is activated. oom lamp power supply)	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	ed.	battery saver is not activat- or room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(L)	Orouna	LOCK	Output	1 asseriger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Ground	Step lamp	Output	Otep lamp	OFF	Battery voltage
8	Ground	All doors, fuel lid	Output	All doors	LOCK (Actuator is activated)	Battery voltage
(V)		LOCK			Other than LOCK (Actuator is not activated)	0 V
9	Ground	Driver door, fuel lid	Output	Driver door	UNLOCK (Actuator is activated)	Battery voltage
(G)		UNLOCK			Other than UNLOCK (Actuator is not activated)	0 V
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Ordana	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0 V
					OFF	0 V
14	0	Push-button ignition		T-ill-		NOTE: When the illumination brightening/dimming level is in the neutral position
(W)	Ground	switch illumination ground	Output	Tail lamp	ON	10 0 2 ms JSNIA0010GB
15	Ground	ACC indicator lamp	Outout	Ignition switch	OFF or ON	Battery voltage
(Y)	Ground	ACC indicator lamp	Output	Ignition switch	ACC	0 V

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch OFF  Turn signal switch RH	0 V  (V) 15 10 5 0 PKID0926E
					Turn signal switch OFF	6.5 V 0 V
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
19 (V)	Ground	Room lamp timer control	Output	Interior room lamp	OFF ON	Battery voltage 0 V
					Turn signal switch OFF	0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
23	0	David de la constant	0.1	Double Levi	OPEN (Back door opener actuator is activated)	Battery voltage
(G)	Ground	Back door open	Output	Back door	Other than OPEN (Back door opener actuator is not activated)	0 V
					Turn signal switch OFF	0 V
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 11 1 s PKID0926E
26	_	_	_		OFF (Stopped)	6.5 V 0 V
(G)	Ground	Rear wiper	Output	Rear wiper	ON (Operated)	Battery voltage

	inal No. e color)	Description	lmm.it/		Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(SB)	Glound	na (–)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(V)	Glodina	na (+)		OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
38	Ground	Back door antenna (–	Output	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(B)	Giouna	)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color) –	Signal name	Input/ Output		Condition	(Approx.)
39		Back door antenna		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
47	Craund	Ignition relay (IPDM	Outerut	Ignition switch	OFF or ACC	Battery voltage
(Y)	Ground	E/R) control	Output	iginuon switch	ON	0 V
52	Ground	Starter relay control	Outout	Ignition switch	When selector lever is in P or N position	Battery voltage
(SB)	Ground	Starter relay CONTROL	Output	ŎN	When selector lever is not in P or N position	0 V
60		Push-button ignition	_	Push-button igni-	Pressed	0 V
(BR)	Ground	switch (Push switch)	Input	tion switch (push switch)	Not pressed	Battery voltage
					ON (Pressed)	0 V
61 (W)	Ground	Back door opener request switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
C4		Intelligent Key warn-		Intelligent Key	Sounding	1.0 V 0 V
64 (V)	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	Battery voltage
65 (BG)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	(V) 15 10 5 10 ms  JPMIA0016GB
						1.0 V
					Not in stop position	0 V

# < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
66 (R)	Ground	Back door switch	Input	Back door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB	
					ON (Door open)	0 V	
·					Pressed	0 V	
67 (GR)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0011GB	
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB	
					ON (Door open)	0 V	
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB	
					ON (Door open)	0 V	

# < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

2013 EX

Terminal No.		Description				Value	
(Wire color)		Signal name	Input/ Output	Condition		(Approx.)	
74 (SB)	Ground	Passenger door antenna (-)	Output	When the passenger door request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	
75 (GR) Gro	Committee	Passenger door antenna (+)	Output	When the passenger door request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB	
	Ground				When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	
76 (V)	Ground	Driver door antenna (-)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB	
					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	

# < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description		Condition		Value	
+	-	Signal name	Input/ Output	Contanton		(Approx.)	
77	Ground	Driver door antenna (+)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s  JMKIA0062GB	
(LG)					When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	
78	Ground	Room antenna 1 (–) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
(Y)					When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB	
79	Ground	Room antenna 1 (+) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	
(BR)					When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB	

# < ECU DIAGNOSIS INFORMATION >

#### [XENON TYPE]

Terminal No.		Description				Value	А
	e color)	Signal name	nal name Input/		Condition	(Approx.)	
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	В
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting  Ignition switch is pressed while inserting the key into the key slot.		Just after pressing ignition switch. Pointer of tester should move.	С
82	Ground	Ignition relay [Fuse block (J/B)] control	Output	Ignition switch	OFF or ACC	0 V	
(R)	Giouria				ON	Battery voltage	D
83	Ground	Remote keyless entry receiver communication  Input/Output		During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB	E
(Y)			When operating e	ither button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB	G H	

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#### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
+ (VVire	e color)	Signal name	Input/ Output	Condition		(Approx.)	
	Ground	Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB	
87					Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB	
(BR)					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB	
					Any of the conditions below with all switches OFF  Wiper intermittent dial 1  Wiper intermittent dial 2  Wiper intermittent dial 6  Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB	

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
90 (P)	Ground	CAN-L	Input/ Output	_		_
91 (L)	Ground	CAN-H	Input/ Output	_		_

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					OFF	Battery voltage
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 1 s JPMIA0015GB
					ON	0 V
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage 0 V
					OFF	Battery voltage
94 (Y)	Ground	Puddle lamp control	Output	Puddle lamp	ON	0 V
95					OFF	0 V
(BG)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	Battery voltage
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output	_		Battery voltage
99	Cround	Selector lever P posi-	Innut	Selector lever	P position	0 V
(R)	Ground	tion switch	Input	Selector level	Any position other than P	Battery voltage
					ON (Pressed)	0 V
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
					ON (Pressed)	0 V
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(BG)	Ground	lay control	Output	iginuon switch	ON	Battery voltage
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	F	Battery voltage

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Λ
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	А
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	ВС
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB	E
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	G H I
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V	J K
					Front washer switch ON	(V) 15 10 5 0 2 ms	M
						ЈРМІА0039GB 1.3 V	0

## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	ı			Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 0 2 ms JPMIA0038GB 1.3 V
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB
					Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0040GB
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Δ.
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	Α
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	B C D
					Lighting switch PASS	(V) 15 10 2 ms JPMIA0037GB	E F
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	G H
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB	J K
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB	M N
					ON	0 V	0
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms JPMIA0012GB	Р

# < ECU DIAGNOSIS INFORMATION >

Term	inal No.	Description				
(Wire	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
113 (P)	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle  When dark outside of the	Close to 5 V
116 (SB)	Ground	Stop lamp switch 1	Input	_	vehicle	Close to 0 V  Battery voltage
		Stop lamp switch 2 (Without ICC)		Stop lamp switch	OFF (Brake pedal is not depressed) ON (Brake pedal is de-	0 V
118 (P)	Ground		Input	Stop lamp switch (	pressed)  OFF (Brake pedal is not de-	Battery voltage
		Stop lamp switch 2 (With ICC)		pressed) and ICC	brake hold relay OFF ON (Brake pedal is de-	0 V
		,			rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 JPMIA0012GB 1.1 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121	Ground	Key slot switch	Input	When the key is in	serted into key slot	Battery voltage
(BR)	Orodria	itey siot switch	прис	When the key is no	ot inserted into key slot	0 V
123 (W)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V  Battery voltage
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8 V
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		0 V  (V) 15 10 5 0 JPMIA0013GB 10.2 V  Battery voltage

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
			-		ON (Tail lamps OFF)	9.5 V
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination brightening/dimming level.  (V) 15 10 5 0  JPMIA0159GB
					OFF	0 V
134	Ground	LOCK indicator lamp	Output	LOCK indicator	OFF	Battery voltage
(GR)			•	lamp	ON	0 V
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
138	Ground	Receiver and sensor	Output	Ignition switch	OFF	0 V
(Y)	2.00110	power supply		g2 c	ACC or ON	5.0 V
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 → 0.2s OCC3881D
(L)		er communication	Output	ON	When receiving the signal from the transmitter	(V) 6 4 2 0 • 0.2s
140 (GR)	Ground	Selector lever P/N position	Input	Selector lever	P or N position	Battery voltage
(310)		ροσιαστι			Except P and N positions	0 V
					ON	0 V
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 10 5 0 1 s 1 s JPMIA0014GB
					055	11.3 V
					OFF	Battery voltage

# < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
·					All switches OFF	0 V
					Lighting switch 1ST	
				Combination	Lighting switch HI	(V)
142	Ground	Combination switch	Output	switch	Lighting switch 2ND	10
(BG)	Ground	OUTPUT 5	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	0 2 ms JPMIA0031GB 10.7 V
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	
143	Ground	Combination switch	Outout	Combination	Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5
(P)	Ground	OUTPUT 1	Output	switch	Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3  • Wiper intermittent dial 6  • Wiper intermittent dial 7	5 0 2 ms 10.7 V
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	
144		Combination switch	_	Combination	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper intermittent dial 4)	10 5 0
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	2 ms JPMIA0033GB
					All switches OFF	0 V
					Front wiper switch INT	00
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch LO  Lighting switch AUTO	(V) 15 10 5 0 2 ms
						10.7 V

## < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

	inal No.	Description				Value	Δ.
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	F
					All switches OFF	0 V	
					Front fog lamp switch ON		Е
				Combination	Lighting switch 2ND	(V)	
146	Ground	Combination switch	Output	switch	Lighting switch PASS	10	
(SB)	Ground	OUTPUT 4	Output	(Wiper intermit- tent dial 4)	Turn signal switch LH	0	
						(10)	Е
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 10 5 0	F
						JPMIA0011GB 11.8 V	C
					ON (Door open)	0 V	
151	Crour d	Rear window defog-	Outros	Rear window de-	Active	0 V	H
(G)	Ground	ger relay control	Output	fogger	Not activated	Battery voltage	

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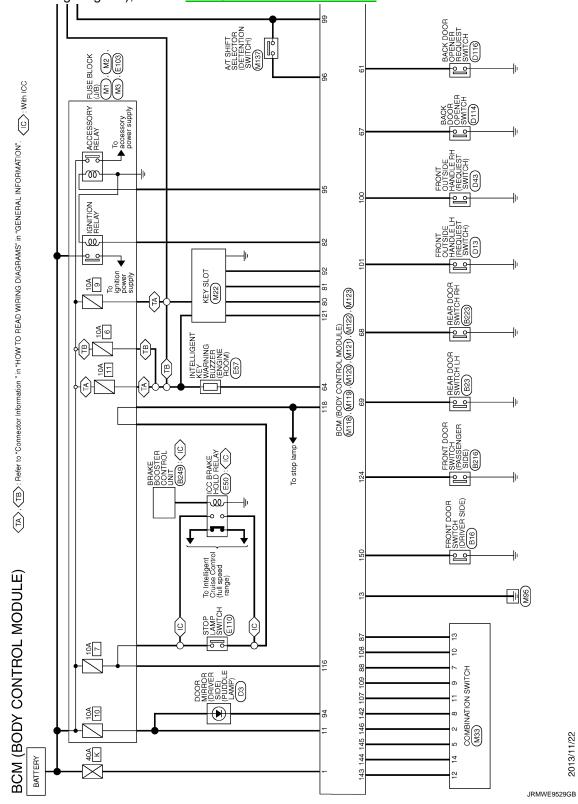
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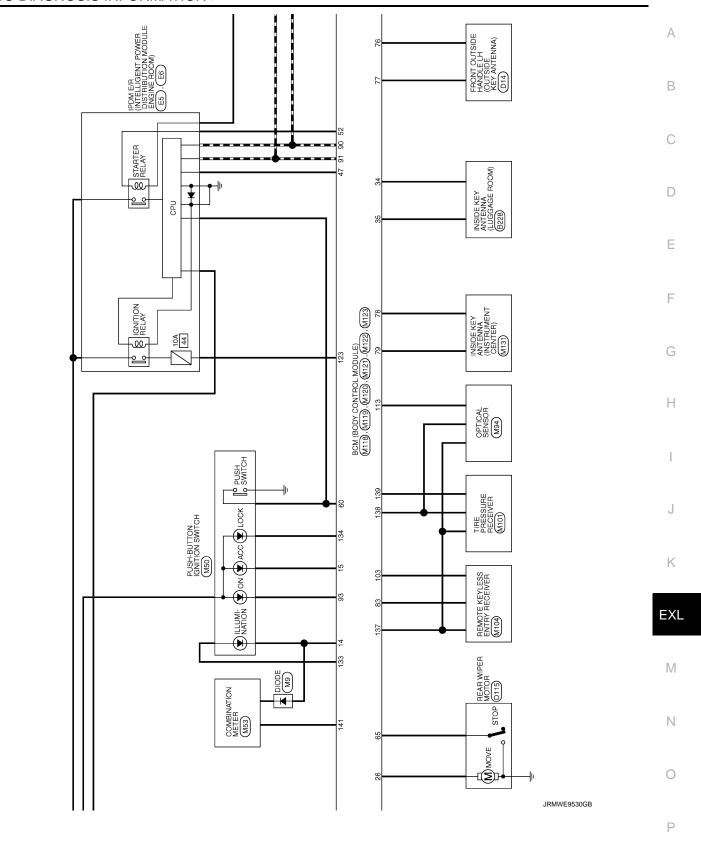
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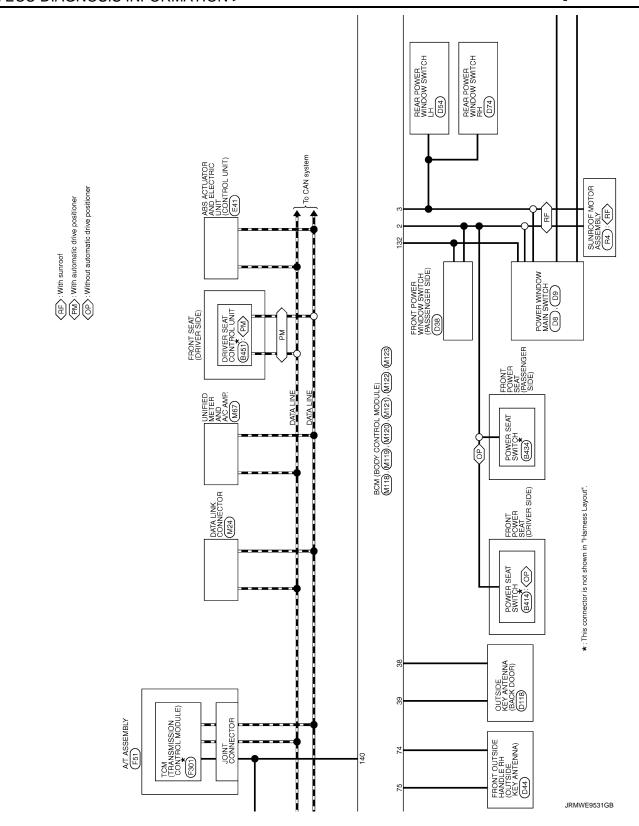
## Wiring Diagram - BCM -

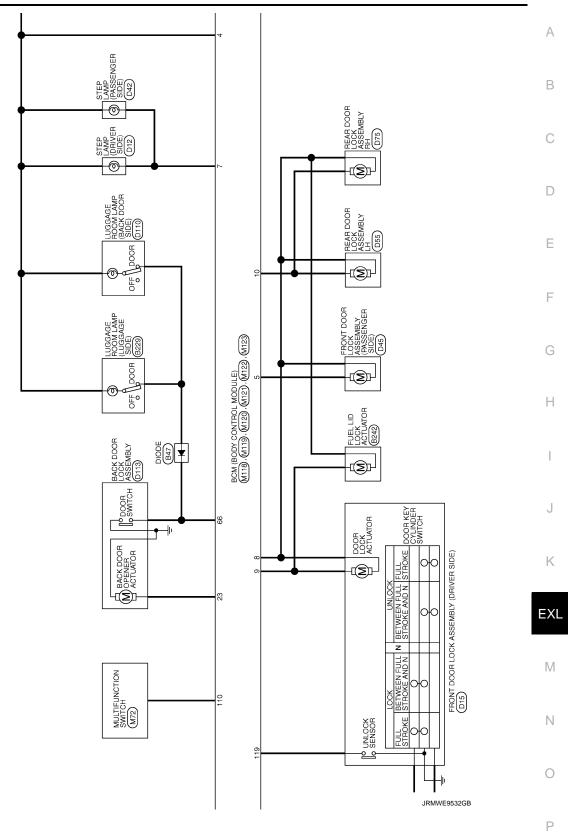
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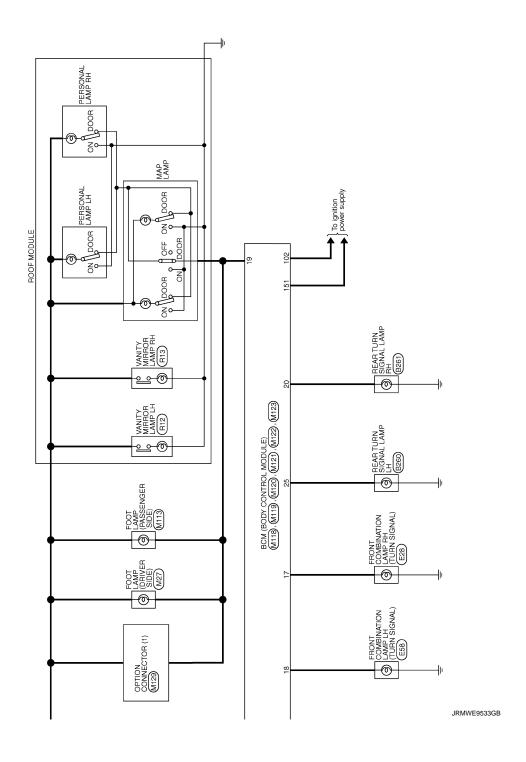
For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".











Corrector No.   B242   Corrector Name   FLEL LID LOCK ACTUATOR   Corrector Name   FLEL LID LOCK ACTUATOR   Corrector Name   Corrector Name	
Corrector No. B228  Corrector Name Issue REY ANTENAN (LUGGAGE ROOM)  Corrector Type RROOZ-CY  Terminal Color Of Signal Name (Specification)  Corrector Name (LUGGAGE SDE)	
Terminal Color Of Nores Sugnal Name (Specification)  1 B	
BCM (BODY CONTROL MODULE)   Corrector Name   FRONT DOOR SWITCH (DRIVER SIDE)   Corrector Type   A035W   Corrector Name   REAR DOOR SWITCH LH   Corrector Name   Signal Name (Specificator)     2	₹. 125

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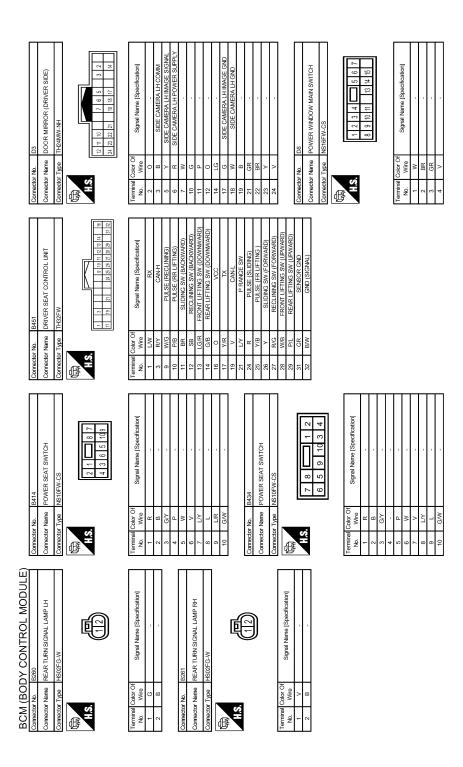
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Corrector No. DA2 Corrector Name STEP LAMP (PASSENGER SIDE) Corrector Type TB02FW  H.S.	Terrninal Color Of Signal Name (Specification)  1	
Corrector No. D15 Corrector Name FROM DOOR LOOK ASSEMBLY (DRIVER SIDE) Corrector Type EDBF CY-RS  H.S.	Terminal Color Of   Signal Name [Specification]   No.   Wire   1   1   1   1   1   1   1   1   1	
Corrector No. D13 Corrector Name IRROM OUTSIDE HANDLE DH (RECOLEST SWITCH) Corrector Type IRROSFL  H.S.	Terminal Color Of Signal Name [Specification]  1	
BCM (BODY CONTROL MODULE)  6 0 7 BR 7 BR 10 Y 11 G 13 P 14 V 15 B	Corrector No. D9 Corrector Name POWER WINDOW MAIN SWITCH Corrector Type NSIGHW.CS  Terminal Color Of Signal Name (Specification) 17 B Signal Name (Specification) Corrector Name STEP LAMP (DRIVER SIDE)	
		JRMWE9718GB

BCM (BODY CONTROL MODULE)				
Connector No. D44	Connector No. D54	Connector No.	D74	Connector No. D110
Connector Name FRONT OUTSIDE HANDLE RH (OUTSIDE KEY ANTENNA)	Connector Name REAR POWER WINDOW SWITCH LH	Connector Name	REAR POWER WINDOW SWITCH RH	Connector Name LUGGAGE ROOM LAMP (BACK DOOR SIDE)
Connector Type RK02MGY	Connector Type NS08FW-CS	Connector Type	NS08FW-CS	Connector Type TK03FW
1	4	q.		4
Children Children	MANTA	THE T		AMA
₩.	H.S.	E.S.		H.S.
	23451		23451	21
Terminal Color Of	Terminal Color Of	Terminal Color Of	To Company Property of the Control o	Terminal Color Of Signal Name (Seconding)
No. Wire Signan Name Lopecinication if	No. Wire oignal value [opecincation]	No. Wire		No. Wire Signal Name [Specification]
1 P -	1 Y -	1 W		1 V
2 V	2 V	2 ^		2 P
	3 6	3	,	
	4 L	4 P		
Connector No. D45		5		Connector No. D113
Compector Name FRONT DOOR LOCK ASSENBLY (PASSENGER SIDE)	7 B -	7 B		Connector Name BACK DOOR LOCK ASSEMBLY
Connector Type E06FGY-RS	ſ			Connector Type NS04FW-CS
ą	Connector No. D55	Connector No.	D75	ą
性	Connector Name REAR DOOR LOCK ASSEMBLY LH	Connector Name	REAR DOOR LOCK ASSEMBLY RH	
	Т	F	т	
ᇵ	Comrector Lype Euth-Gir-KS	Connector Type	EUDFG7-KS	<u>L</u>
		<b>€</b>		4 3 2 1
		0 =	ļ	
		Ż		
Terminal Color Of Signal Name [Specification]	(12   156)		(5 6   2 1)	Terminal Color Of Signal Name [Specification]
+				┿
2 LG -				2 B
	) lea	nal	Of Signal Name [Specification]	3 \
	Ф	No. Wire		4 B -
	> -	- O		
	+	+	-	
	$\dashv$	$\dashv$		
	9 9	9		

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Corrector No. E28 Corrector Name RROWT COMBINATION LAMP RH Corrector Type RS08FB-PR  H.S.	Corrector Name   Color Of   Signal Name   Specification   No.   Signal Name   Specification   Signal Name   Specification   Signal Name   Specification   Signal Name   Specification   No.   Signal Name   No.   Signal Name   Specification   No.   Signal Name   Specification   No.   Signal Name   Specification   No.   Signal Name   Specification   No.   Signal Name   Signal Name   No.   Signal Name   No.   Signal Name   No.   Signal Name   Signal Name   No.   Signal Name   No.   Signal Name	
Corrector No. E5  Corrector Name Passe scool Corrector Name Passe scool  Corrector Type TH20FW/CS12-M4-1V  H.S. E5  L. B. D. E5  E4  E5  E6  E6  E7  E7  E7  E7  E7  E7  E7  E7	Terminell Coder Off Signal Name [Specification]  4	
Corrector No. D116  Corrector Name SWITCH Corrector Type TK02NBR-P  H.S.	Terminal Codor Off Signal Name (Specification)  1 W	
BCM (BODY CONTROL MODULE) Corrector No. D114 Corrector None BACK DOOR OPENER SWITCH Corrector Type Tr(COMBR-P)  H.S.	Terminal Color Of Signal Name (Specification)  1 GR	
		JRMWE9720GB

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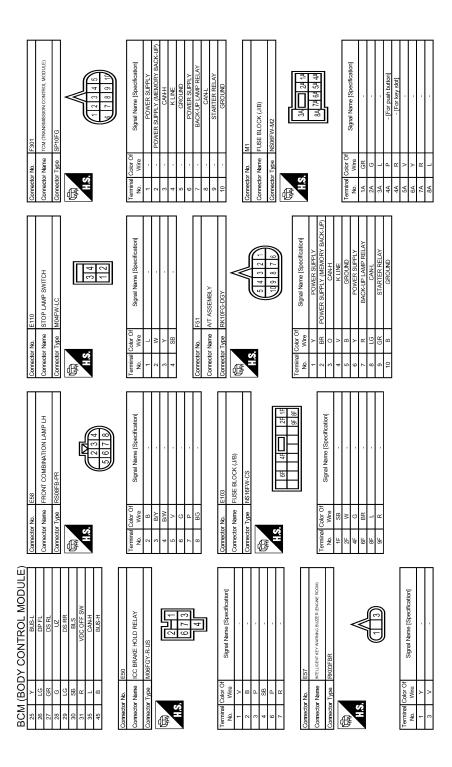
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Corrector No. M33  Corrector Name COMBINATION SWITCH  Corrector Type THISFW-NH  1 2 3 4 5 6 7 8 9 10 11 12 13 14	Terminal Color Of No.   Signal Nane (Specification)   No.   Wire   FR WASSHER(+)   2   SSB   FR WASSHER(+)   4   4   G   IGN   SSI   SSB   SSB
Corrector No. M/24  Corrector Name DATA LINK CONNECTOR.  Corrector Type BD16FW  LLS.  LLS.  R. S.	Terminal Color Of   Signal Name   Specification   3   1.0   1.0     1.0
Corrector No. M9 Corrector Name DIODE Corrector Type 24335, C9900  H.S.	Terminal Color Of   Signal Name   Specification   No.   Wire   No.
BCM (BODY CONTROL MODULE)  Corrector Neme FUSE BLOCK (J/B)  Corrector Type NSTOFW-CS  AB 38 78 68 98  AB 38 78 68 98	Terminal Color Of Nurse   Signal Name   Specification   188   18

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≍┌┌	BCM (BODY CONTROL MODULE)  7	Connector No.	Connector No.		Connector No.	Corrector No. M72  Corrector Name MULTIFUNCTION SWITCH	
Connector No. M53 Connector Name COMBINATION METER	4 METER	Connector Type	r Type	TH32FW-NH	Connector Type	TH16FW-NH	Connector Type TK04FW
Connector Type TH40FW-NH		S E		41   42   42   42   42   42   42   42	H.S.	4 6 8 8 9 9 14 16	H3.
1 2 3 5 6	7	Terminal No. 41	Color Of Wire V	Signal Name [Specification] ACC POWER SUPPLY	Terminal Color Of No. Wire	Signal Nam	Terminal Color Of Signal Name [Specification] No. Wire 1 BG GROUND
Terminal Color Of Signal	Signal Name [Specification]	43	> @ 9	INTAKE SENSOR SIGNAL	ε 4 ι > α :	ACC	2 L SIGNAL 4 Y BATTERY
BATTE	BATTERY POWER SUPPLY	45	2 4	AMBIENT SENSOR SIGNAL	- SB	AV COMM (H)	
COMMUNICA	COMMUNICATION SIGNAL (METER-AMP.)	46	BG	SUNLOAD SENSOR SIGNAL	H	AV COMM (L)	Connector No. M104
COMMONICA	GROUND GROUND	53	9 0	EXMUST GAS COUTSDE ODOR DETECTING SENSOR SIGNAL IGNITION POWER SUPPLY	v 4 n ≻	DISK EJECT SIGNAL	Connector Name REMOTE KEYLESS ENTRY RECEIVER
ALT	ALTERNATOR SIGNAL	54	⋆	BATTERY POWER SUPPLY	16 G	HAZARD ON	Connector Type JAB04FB
₹ 8	AIR BAG SIGNAL	55	В.	GROUND			1
ŏ	GROUND	27	W	BRAKE FLUID LEVEL SWITCH SIGNAL	Connector No.	M94	A TATO
METER CONTROL	NTROL SWITCH GROUND	28	BR	FUEL LEVEL SENSOR GROUND	Connector Name	OPTICAL SENSOR	
	ILL GND	29	GR	INTAKE SENSOR GROUND	Odliector realing	OF FIGHT SERSON	1 2 4
2	ILL CMITION SICNAL	9	٦	IN-VEHICLE SENSOR GROUND	Connector Type	TK03FW	
	GROUND	629	88	SUNLOAD SENSOR GROUND	4		
COMMUNICATION	ATION SIGNAL (LCD-AMP.)	63	۳		HT.		Terminal Color Of
COMMUNICATION	ATION SIGNAL (AMPLCD)	65	BG	ECV SIGNAL	Ż		No. Wire Signal Name Specincation)
VEHICLE SPEED		69	٦	A/C LAN SIGNAL		1 2 3	1 BG GROUND
PARKING BRAKE	BRAKE SWITCH SIGNAL	70	ĸ	EACH DOOR MOTOR POWER SUPPLY		2	SIC
BRAKE FLUID LEV	IID LEVEL SWITCH SIGNAL	71	В	GROUND			4 LG BATTERY
SEAT BELT BU	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	72	۵	CAN-L		-	
SEAT BELT BUCK	SEAT BELT BLOKLE SWITCH SIGNAL (PASSENGER SIDE) MARCHIED LEVEL CAMPACITOR COLONAL				Terminal Color Of	Signal Name [Specification]	
WASHER LEVEL					+	POWFR	
SFIRE					- 0	OUTPUT	
ENT	ENTER SWITCH SIGNAL				3 8	GROUND	
TRIP A/B RESET	RESET SWITCH SIGNAL						
ILLUMINATION	ILLUMNATION CONTROL SWITCH SIGNAL (-)						
ILLUMINATION	ILLUMINATION CONTROL SWITCH SIGNAL (+)						

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BOINI (BOD I COINTROL INICIDOLE)	Γ						
Connector No. M113	Connector No. M119		Connector No.	M121	80	GR.	NATS ANT AMP.
COORTING OF THE PROPERTY OF TH	VOOD Sandy retrogram	Callinow Logarion Vidoa Mod	Connoctor Momo	BCM (BODY CONTROL MODILE)	81	٨	NATS ANT AMP.
יוויים וייים ו		CONTINUE MODOLE)	COLLECTO I VAILLE		82	Я	IGN RELAY (F/B) CONT
Connector Type A02FW	Connector Type NS16FW-CS	(6)	Connector Type	TH40FGY-NH	83	Å	KEYLESS ENTRY RECEIVER COMM
	4		4		87	BR	COMBI SW INPUT 5
	Œ				88	۸	COMBI SW INPUT 3
					06	Д	CAN-L
2	1.5	7 8 9 10	\$2 \		91	٦	CANH
2	3	.,		38 88	6	2	KEY SLOT II L CONT
1 7		13 14 15 17 18 19		88 66 18 66 64 66	8	}	GNINC
]					94	٨	PUDDI E LAMP CONT
					95	BG	ACC RELAY CONT
Commissal Color Of	Torminal Color Of		Torminol Color Of	L	8	9	VIET SELECTOR BOWER SING
No. Wire Signal Name [Specification]	Wire	Signal Name [Specification]	No. Wire	Signal Name [Specification]	96	5 2	SHELECTON FOWER SOFTER
~	4 LG INTERIOR	INTERIOR ROOM LAMP POWER SUPPLY	34 SB	LUGGAGE ROOM ANT-	100	9	PASSENGER DOOR REQUEST SW
2 BR -	5 L PASSENG	PASSENGER DOOR UNLOCK OUTPUT	32 ^	LUGGAGE ROOM ANT+	101	SB	DRIVER DOOR REQUEST SW
	>-	STEP LAMP CONT	38 88	BACK DOOR ANT-	102	BG	BLOWER FAN MOTOR RELAY CONT
	8 V ALL DOO	ALL DOOR, FUEL LID LOCK OUTPUT	39 W	BACK DOOR ANT+	103	97	KEYLESS ENTRY RECEIVER POWER SUPPLY
Connector No. M118	0	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	┞	IGN RELAY (IPDM E/R) CONT	107	97	COMBI SW INPUT 1
100000000000000000000000000000000000000	L	REAR DOOR UNLOCK OUTPUT	52 SB	STARTER RELAY CONT	108	ď	COMBI SW INPUT 4
Connector Name   BCM (BODY CONTROL MODULE)	ď	BAT (FUSE)	H	PUSHSW	109	<b>X</b>	COMBI SW INPUT 2
Connector Type M03FB-LC	13 B	GROUND	╀	RACK DOOR OPENER REQUEST SW	110	ď	HAZARD SW
	*	PUSH-BUTTON IGNITION SW ILL GND	H	I-KEY WARN BUZZER (ENG ROOM)			
	>	ACC IND	65 BG	REAR WIPER STOP POSITION			
	W	TURN SIGNAL RH (FRONT)	H	BACK DOOR SW	Connector No.	l	M123
.S.	BG	TURN SIGNAL LH (FRONT)	Ĕ	BAC		L	i i i i i i i i i i i i i i i i i i i
	>	INT ROOM LAMP CONT	H		Connecto	Connector Name	BCM (BODY CONTROL MODULE)
33			H	REAR LH DOOR SW	Connector Type	r Type	TH40FG-NH
						,	
9	Connector No. M120				修		
l erminal Color Of Signal Name [Specification]	Connector Name BCM (BOD)	BCM (BODY CONTROL MODULE)	Connector No.	M122	Ě		[
wire	Т		Connector Name	BCM (BODY CONTROL MODULE)			
BAT (	Connector Type NS12FW-CS		F			1-	20 20 20 20 20 20 20 20 20 20 20 20 20 2
W POWER WINDOW POWER SUPPLY(BAT)	4		Connector Type	I THOTES-NT		1]	
7	A ST						
	H.S.		=		Terminal	erminal Color Of	9
	ÿ <u>l</u>	]-	ξ. Y		Š	Wire	Signal Name [Specification]
	2.	26		25 SE	113	Ы	OPLICAL SENSOR
	J			10 10 10 10 11 11 11 11 11 11 11 11 11 1	116	SB	STOP LAMP SW 1
					118	Ь	STOP LAMP SW 2
	Terminal Color Of				119	SB	DR DOOR UNLOCK SENSOR
	Wire	Signal Name [Specification]	Terminal Color Of	L	121	BR	KEY SLOT SW
	>	TURN SIGNAL RH (REAR)		Signal Name [Specification]	123	Μ	IGNE/B
	. (5	BACK DOOR OPEN OUTPUT	74 SB	PASSENGER DOOR ANT-	124	91	PASSENGER DOOR SW
	0	TURN SIGNAL LH (REAR)	H		132	BR	POWER WINDOW SW COMM
	g	REAR WIPER OUTPUT	┞	DRIVER DOOR ANT-	133	۸	PUSH-BUTTON IGNITION SW ILL POWER
			27 16	DRIVER DOOR ANT+	134	GR	LOCK IND
			H	BOOM ANT1-	137	BG	RECEIVER/SENSOR GND
			+		2 6	3 >	PECENCENSOR SHORT X
			4		130	-	RECEIVER/SENSOR POWER SOFFL

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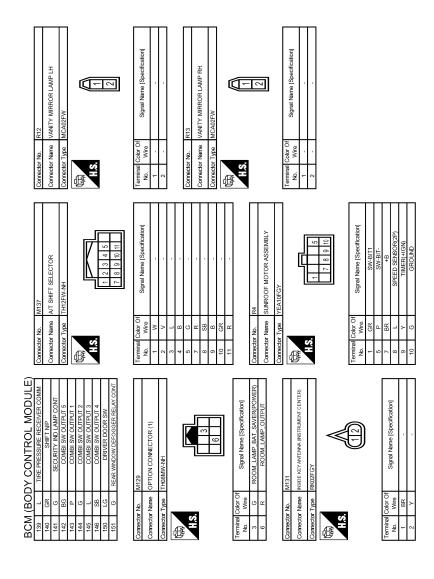
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Fail-safe

#### FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

#### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent  • Starter control relay signal  • Starter relay status signal
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent  • Starter motor relay control signal  • Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilled  • Power position changes to ACC  • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization

#### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

1. More than 1 minute is passed after the rear wiper stops.

- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

## DTC Inspection Priority Chart

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If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC	
1	B2562: LOW VOLTAGE	N
2	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	0
3	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING	O

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< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Priority	DTC
4	<ul> <li>B2553: IGNITION RELAY</li> <li>B2555: STOP LAMP</li> <li>B2556: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: PNP SW</li> <li>B2605: PNP SW</li> <li>B2605: PNP SW</li> <li>B2606: STARTER RELAY</li> <li>B2607: ENG STATE RIGLAY</li> <li>B2607: ENG STATE SIG LOST</li> <li>B2614: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM</li> <li>B261A: PUSH-BTN IGN SW</li> <li>B261A: PUSH-BTN IGN SW</li> <li>B261E: VEHICLE TYPE</li> <li>B2626A: KEY REGISTRATION</li> <li>C1729: VHCL SPEED SIG ERR</li> <li>U0415: VEHICLE SPEED SIG</li> </ul>
5	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1734: CONTROL UNIT</li> </ul>
6	B2621: INSIDE ANTENNA     B2623: INSIDE ANTENNA

DTC Index

#### NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <a href="INL-15">INL-15</a>, "COM-MON ITEM: CONSULT Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	_	BCS-41
U1010: CONTROL UNIT (CAN)	_	_	_	_	BCS-42
U0415: VEHICLE SPEED SIG	_	_	_	_	BCS-43
B2190: NATS ANTENNA AMP	×	_	_	_	<u>SEC-40</u>

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
2191: DIFFERENCE OF KEY	×	_	_	_	SEC-43
2192: ID DISCORD BCM-ECM	×	_	_	_	SEC-44
2193: CHAIN OF BCM-ECM	×	_	_	_	SEC-45
2195: ANTI SCANNING	×	_	_	_	SEC-46
2553: IGNITION RELAY	_	×	_	_	PCS-50
2555: STOP LAMP	_	×	_	_	SEC-47
2556: PUSH-BTN IGN SW	_	×	×	_	SEC-49
2557: VEHICLE SPEED	×	×	×	_	SEC-51
2560: STARTER CONT RELAY	×	×	×	_	SEC-52
2562: LOW VOLTAGE	_	×	_	_	BCS-44
2601: SHIFT POSITION	×	×	×	_	<u>SEC-53</u>
2602: SHIFT POSITION	×	×	×	_	<u>SEC-56</u>
2603: SHIFT POSI STATUS	×	×	×	_	SEC-59
2604: PNP SW	×	×	×	_	<u>SEC-62</u>
2605: PNP SW	×	×	×	_	<u>SEC-64</u>
2608: STARTER RELAY	×	×	×	_	SEC-66
260A: IGNITION RELAY	×	×	×	_	PCS-52
260F: ENG STATE SIG LOST	×	×	×	_	SEC-68
2614: ACC RELAY CIRC	_	×	×	_	PCS-54
2615: BLOWER RELAY CIRC	_	×	×	_	PCS-57
2616: IGN RELAY CIRC	_	×	×	_	PCS-60
2617: STARTER RELAY CIRC	×	×	×	_	SEC-71
2618: BCM	×	×	×	_	PCS-63
261A: PUSH-BTN IGN SW	_	×	×	_	SEC-73
261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	SEC-76
2621: INSIDE ANTENNA	<u> </u>	×	_		DLK-58
2623: INSIDE ANTENNA	_	×	_	_	DLK-60
26E1: ENG STATE NO RES	×	×	×	_	SEC-69
26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	SEC-70
:1704: LOW PRESSURE FL	_	_	_	×	
:1705: LOW PRESSURE FR	_	_	_	×	\//T. 22
:1706: LOW PRESSURE RR	_	_	_	×	<u>WT-23</u>
:1707: LOW PRESSURE RL	_	_	_	×	
:1708: [NO DATA] FL	_	_	_	×	
:1709: [NO DATA] FR	_	_	_	×	\\/T 2F
:1710: [NO DATA] RR	_	_	_	×	<u>WT-25</u>
:1711: [NO DATA] RL	_	_	_	×	

## < ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	_	_	_	×	
C1717: [PRESSDATA ERR] FR	_	_	_	×	WT-28
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u>VV 1-20</u>
C1719: [PRESSDATA ERR] RL	_	_	_	×	
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-30</u>
C1734: CONTROL UNIT	_	_	_	×	<u>WT-32</u>

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< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000008772692

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

Monitor Item		Condition	Value/Status	
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %	
		A/C switch OFF	Off	
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On	
TAIL SOLD DEO	Lighting switch OFF		Off	
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On	
III 10 DEO	Lighting switch OFF		Off	
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On	
	Lighting switch OFF		Off	
HL HI REQ	Lighting switch HI	witch HI		
		Front fog lamp switch OFF	Off	
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	On	
		Front wiper switch OFF	Stop	
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW	
		Front wiper switch LO	Low	
		Front wiper switch HI	Hi	
		Front wiper stop position	STOP P	
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P	
		Front wiper operates normally	Off	
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK	
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off	
IGN RLTT-REQ	Ignition switch ON		On	
ICN DI V	Ignition switch OFF or ACC		Off	
IGN RLY	Ignition switch ON		On	
DITCH C/V	Release the push-button ignition switch		Off	
PUSH SW	Press the push-button ignition s	witch	On	
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off	
		Selector lever in P or N position	On	
ST DLV CONT	Ignition switch ON		Off	
ST RLY CONT	At engine cranking		On	

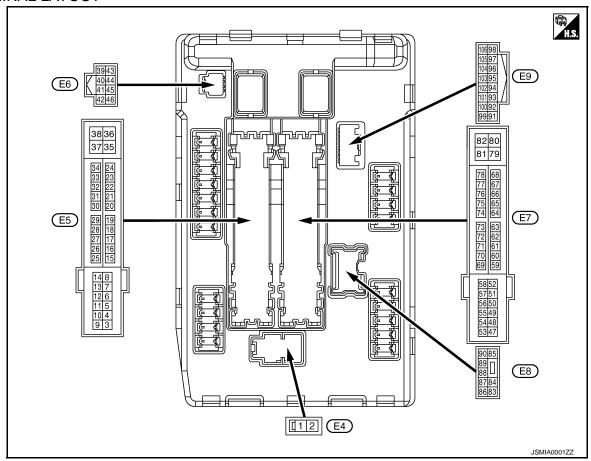
**EXL-173** Revision: 2013 December 2013 EX

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Cor	ndition	Value/Status	
ILIDT DLV DEO	Ignition switch ON	Off		
IHBT RLY -REQ	At engine cranking	On		
	Ignition switch ON	Off		
	At engine cranking		INHI ON $\rightarrow$ ST ON	
ST/INHI RLY		The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF		
DETENT SW	Ignition switch ON	<ul> <li>Press the selector button with selector lever in P position</li> <li>Selector lever in any position other than P</li> </ul>	Off	
	Release the selector button with selector lever in P position		On	
S/L RLY -REQ	NOTE: The item is indicated, but not monit	NOTE: The item is indicated, but not monitored.		
S/L STATE	NOTE: The item is indicated, but not monit	NOTE: The item is indicated, but not monitored.		
DTRL REQ	NOTE: The item is indicated, but not monit	NOTE: The item is indicated, but not monitored.		
OIL D CW	Ignition switch OFF, ACC or engine running		Open	
OIL P SW	Ignition switch ON		Close	
LICOD CW	Close the hood		Off	
HOOD SW	Open the hood		On	
HL WASHER REQ	NOTE: The item is indicated, but not monitored.		Off	
	Not operation		Off	
THFT HRN REQ	Panic alarm is activated     Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM		On	
LIODAL OLUDD	Not operating		Off	
HORN CHIRP	Door locking with Intelligent Key (ho	orn chirp mode)	On	
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	ored.	Off	

< ECU DIAGNOSIS INFORMATION >

### TERMINAL LAYOUT



#### PHYSICAL VALUES

Terminal No. (Wire color)		Description				Value
		Signal name	Input/ Output	Condition		(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4	Cround	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
(V) Grou	Ground				Front wiper switch LO	Battery voltage
5	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
(L)	Giodila				Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Output	Ignition switch ON	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output		Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	_	Ignition switch ON		0 V
40	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
13 (Y)				<ul> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		Battery voltage
16		Front wiper auto stop	Input	Ignition	Front wiper stop position	0 V
(LG)	Ground			switch ON	Any position other than front wiper stop position	Battery voltage

**EXL-175** Revision: 2013 December 2013 EX

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< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value
+ (Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
19	Ground	lanition roley newer supply	Output	Ignition switch OFF Ignition switch ON		0 V
(W)	Ground	Ignition relay power supply	Output			Battery voltage
25	Ground	Ignition relay power supply	Output	Ignition sw	tch OFF	0 V
(G)	Giodila	ignition relay power supply	Output	Ignition sw	tch ON	Battery voltage
26*	Ground	Ignition relay power supply	Output	Ignition sw	tch OFF	0 V
(R)	Ground	igilition relay power supply	Output	Ignition sw	tch ON	Battery voltage
27	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
(BG)	Glodila	ignition relay monitor	при	Ignition sw	tch ON	0 V
28	Ground	Push-button ignition	Input	Press the push-button ignition switch		0 V
(L)	Ground	switch	прис	Release th	e push-button ignition switch	Battery voltage
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
(0.1)					Selector lever P or N	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition sw	itch OFF	Battery voltage
39 (P)	_	CAN-L	Input/ Output		_	_
40 (L)	_	CAN-H	Input/ Output	_		_
41 (B/W)	Ground	Ground	_	Ignition sw	itch ON	0 V
42	Ground	Cooling fan relay control	Input	Ignition switch OFF or ACC		0 V
(Y)	Ciodila	Cooling lan relay control	при	Ignition sw	tch ON	0.7 V
43 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	Press the selector button (Selector lever P)     Selector lever in any position other than P	Battery voltage
` ,					Release the selector but- ton (selector lever P)	0 V
44	0	Hama malass a antiral	lt	The horn is	deactivated	Battery voltage
(BR)	Ground	Horn relay control	Input	The horn is	activated	0 V
45	0	A 4: 4b 44 b	la a cat	The horn is	deactivated	Battery voltage
(G)	Ground	Anti theft horn relay control	Input	The horn is	activated	0 V
46	Ground	Starter relay control	Input	Ignition	Selector lever in any position other than P or N	0 V
(R)		·	'	switch ON	Selector lever P or N	Battery voltage
					A/C switch OFF	0 V
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage
40	Ground	d ECM relay power supply	Output	Ignition swi (More than ignition swi	a few seconds after turning	0 V
49 (BG)				Ignition s	w seconds after turning igni-	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal No. Description (Wire color)				Value	
+	- COIOT)	Signal name	Input/ Output	Condition	(Approx.)
51 (Y) Ground	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
	Ground			Ignition switch ON	Battery voltage
53		d ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V
(W) Groun	Ground			Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)	Battery voltage
5.4				Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V
54 (P) Ground	Throttle control motor re- lay power supply	Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)	Battery voltage	
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF	Battery voltage
56	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
(LG)	Cround			Ignition switch ON	Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
(G)	Cround			Ignition switch ON	Battery voltage
58	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
(V)	Oroana	igiliadii folay powor oappiy	Carpar	Ignition switch ON	Battery voltage
69		ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	Battery voltage
(BR)	Ground			Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)	0 – 1.5 V
		Throttle control motor re- lay control	Output		0 – 1.0 V
70 (BG)	Ground			Ignition switch ON $ ightarrow$ OFF	Battery voltage ↓
					0 V
				Ignition switch ON	0 – 1.0 V
74	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
(P)	Siddild	.gon power oupply	Julpul	Ignition switch ON	Battery voltage
75 (SB) Gro	Ground	Oil pressure switch	Input	Ignition Engine stopped	0 V
			i	switch ON Engine running	Battery voltage

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output	Condition		(Approx.)
	Ground	Power generation command signal	Output	Ignition switch ON		(V) 6 4 2 0 2ms JPMIA0001GB
76 (Y)				40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2ms JPMIA0002GB 3.8 V
				80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2ms JPMIA0003GB 1.4 V
77 (R)	Ground	Fuel pump relay control	Output	the ignition the Engine re	nately 1 second after turning on switch ON unning tely 1 second or more after	0 – 1.0 V
				turning the ignition switch ON		Battery voltage
80 (W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(BG)	0.00		- Carpar	switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
(V)			-	SWILCH ON	Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	<ul> <li>Front fog lamp switch OFF</li> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	0 V  Battery voltage
					Front fog lamp switch OFF	0 V
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	Battery voltage
88 (GR)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
		Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
89 (BR)	Ground				<ul><li>Lighting switch HI</li><li>Lighting switch PASS</li></ul>	Battery voltage
00	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
90 (P)					<ul><li>Lighting switch HI</li><li>Lighting switch PASS</li></ul>	Battery voltage
91	Cround	Darking Jamp (DU)	Output	Ignition switch ON	Lighting switch OFF	0 V
(P)	Ground	Parking lamp (RH)	Output		Lighting switch 1ST	Battery voltage
92	Cround	Darking Jamp (LH)	Output	Ignition	Lighting switch OFF	0 V
(BG)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V
104	Ground	Hood switch	Input	Close the hood		Battery voltage
(LG)				Open the hood		0 V

<sup>\*:</sup> Only for the models with ICC system

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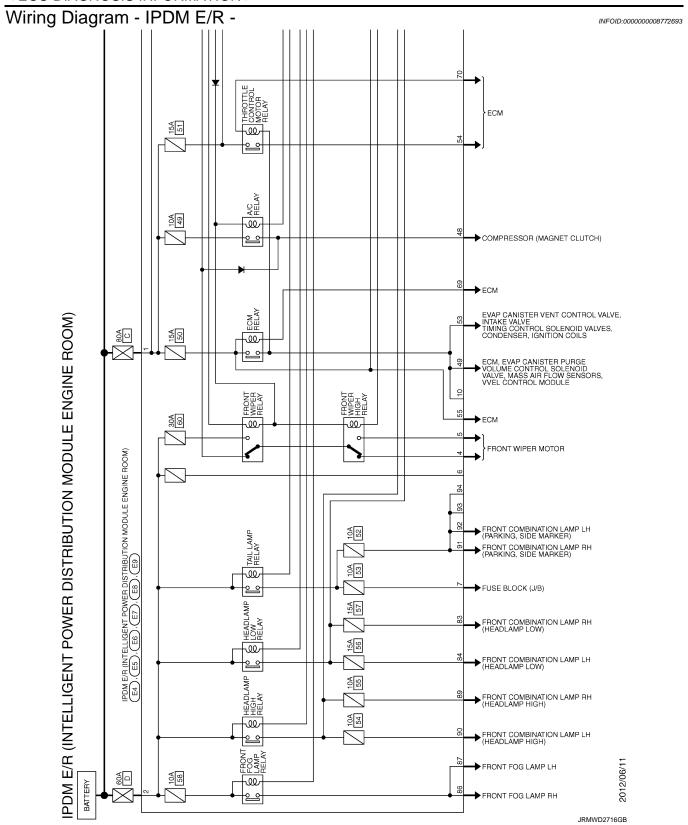
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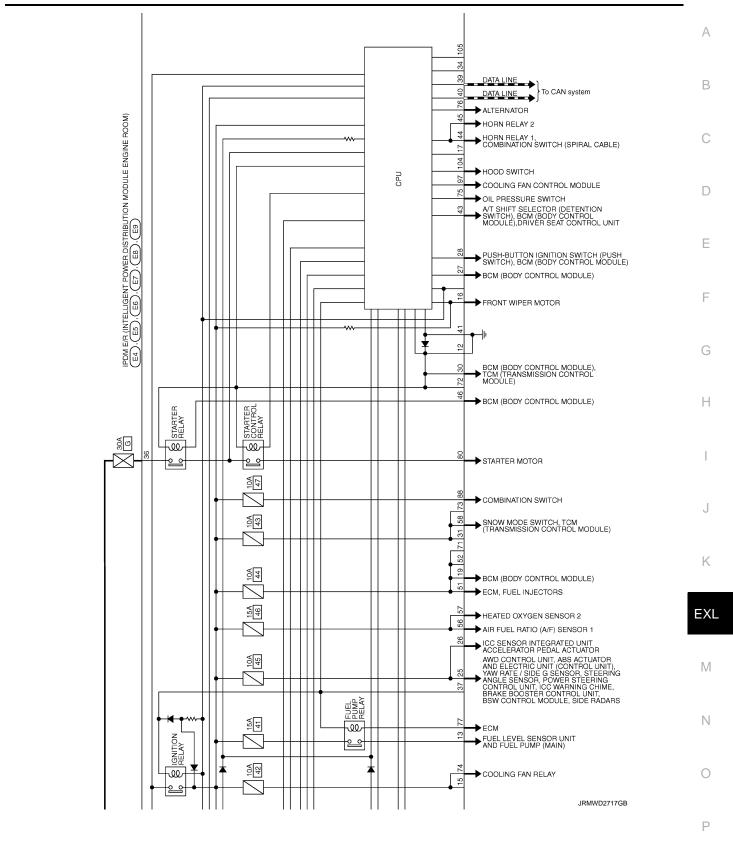
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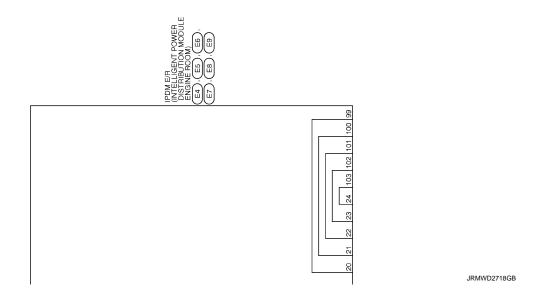
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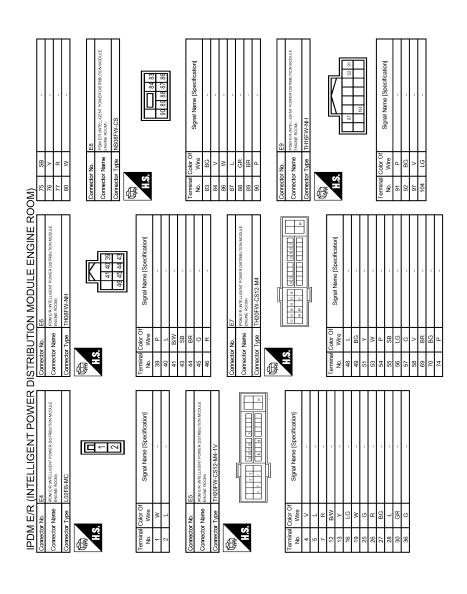


### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [XENON TYPE]

< ECU DIAGNOSIS INFORMATION >







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INFOID:0000000008772694

# CAN COMMUNICATION CONTROL

Fail-safe

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

If No CAN Communication Is Available With ECM

### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [XENON TYPE]

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	<ul> <li>Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON</li> <li>Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF</li> </ul>
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

#### If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>
<ul><li>Parking lamps</li><li>License plate lamps</li><li>Side maker lamps</li><li>Illuminations</li><li>Tail lamps</li></ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>
Front wiper	<ul> <li>The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul>
Front fog lamps	Front fog lamp relay OFF
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

#### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Voltage	judgment		
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation
ON	ON	Ignition relay ON normal	_
OFF	OFF	Ignition relay OFF normal	_
ON	OFF	Ignition relay ON stuck	Detects DTC "B2098: IGN RELAY ON"     Turns ON the tail lamp relay for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

#### FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper stop position signal.

When a front wiper stop position signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

Ignition switch	Front wiper switch	Front wiper stop position signal
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.
ON	ON	The front wiper stop position signal does not change for 10 seconds.

### IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [XENON TYPE]

< ECU DIAGNOSIS INFORMATION >

#### NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

#### STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000008772695

#### NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 ightarrow 2  $\cdots$  38 ightarrow 39 after returning to the normal condition whenever IGN OFF ightarrow
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-14
B2098: IGN RELAY ON CIRC	×	PCS-15
B2099: IGN RELAY OFF CIRC	_	PCS-17
B210B: STR CONT RLY ON CIRC	_	<u>SEC-77</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-78</u>
B210D: STARTER RLY ON CIRC	_	<u>SEC-80</u>
B210E: STARTER RLY OFF CIRC	_	<u>SEC-82</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-84</u>
B2110: INTRLCK/PNP SW OFF	_	SEC-86

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Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

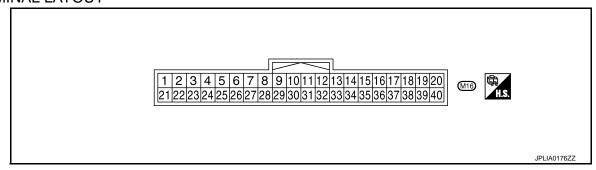
#### NOTE:

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

#### **CONSULT MONITOR ITEM**

Monitor Item	Condition	on	Value/Status
STR ANGLE SIG	Stanting	Straight-forward	Approx. 0°
STR ANGLE SIG	Steering	Steering	Approx900° - +900°
VHCL SPD	Driving at 40 km/h (25 MPH)		40 km/h
SLCT LVR POSI	Selector lever operation		P - 1
HEAD LAMP	Light quitab	2ND	On
HEAD LAIVIP	Light switch	Other than 2ND	Off
AFS SW	NOTE: The item is indicated, but not monitored	d.	On
		Unloaded vehicle condition	Approx. 2.5 V
HI SEN OTP RR	Vehicle rear height	Low (Leveling operation downward edge)	Approx. 1.6 V
		Unloaded vehicle condition	Approx. 70.0%
LEV ACTR VLTG	Headlamp leveling	Low (Leveling operation	Approx. 35.4% (With 17-inch wheel)
		downward edge)	Approx. 32.1% (With 18-inch wheel)
SWVL SEN RH	Dight headlams quivel activation	Standard position	Approx. 0°
SWAL SEIV KLI	Right headlamp swivel activation	Activation	Positive degree (+°)
SWVL SEN LH	Left headlemp out all activation	Standard position	Approx. 0°
SVV VL SEIN LM	Left headlamp swivel activation	Activation	Positive degree (+°)
SWVL ANGLE RH	Right headlamp swivel activation	Standard position	Approx. 0°
SVV VL AINGLE NH	Night headiamp swiver activation	Activation	Positive degree (+°)
SWVL ANGLE LH	Left headlamp swivel activation	Standard position	Approx. 0°
SVV VL AINGLE LIT	Leit Headiamp Swiver activation	Activation	Positive degree (+°)

### **TERMINAL LAYOUT**



PHYSICAL VALUES

[XENON TYPE]

	nal No. e color)	Description		Conditi		Value
+	_	Signal name	Input/ output	Condition	on	(Approx.)
1 (Y)	Ground	Ignition power supply	Input	The ignition switch Of	N	Battery voltage
2 (LG)	Ground	Right swivel position sensor ground	Input	The ignition switch Of	N	0 V
4 (Y)	Ground	Right swivel position sensor power supply	Output	The ignition switch Of	N	5 V
6 (W)	Ground	Height sensor power supply	Output	The ignition switch Of	N	5 V
7 (P)	Ground	CAN-L	Input/ output	_		<del>_</del>
8 (B)	Ground	Height sensor ground	Input	The ignition switch Of	N	0 V
9 (GR)	Ground	Right swivel position sensor signal	Output	Right headlamp swivel angle	0°	0.7 V
(OIV)		Signal		Swiver arigie	15°	2.8 V  Reference waveform
11 (R)	Ground	Right swivel motor 1-phase (–)	Output	Right headlamp swivel	Activation	(V) 15 10 5 0100µs SKIB2408J 8 - 12 V
13 (B)	Ground	Right swivel motor 2-phase (-)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
15 (G)	Ground	Left swivel motor 1-phase (+)	Output	Left headlamp swivel	Activation	Reference waveform  (V) 15 0  +-100µs SKIB2408J 8 - 12 V
17 (W)	Ground	Left swivel motor 2-phase (+)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
					Unloaded ve- hicle condition	8.8 V
19 (SB)	Ground	Right levelizer signal	Output	Right headlamp lev- eling	Leveling oper- ation down-	4.4 V (With 17-inch wheel)
					ward edge	4.0 V (With 18-inch wheel)
24 (V)	Ground	Left swivel position sensor power supply	Output	The ignition switch Of	N	5 V
25 (B)	Ground	Ground	_	The ignition switch Of	N	0 V
27 (BR)	Ground	Left swivel position sensor ground	Input	The ignition switch Of	N	0 V

### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

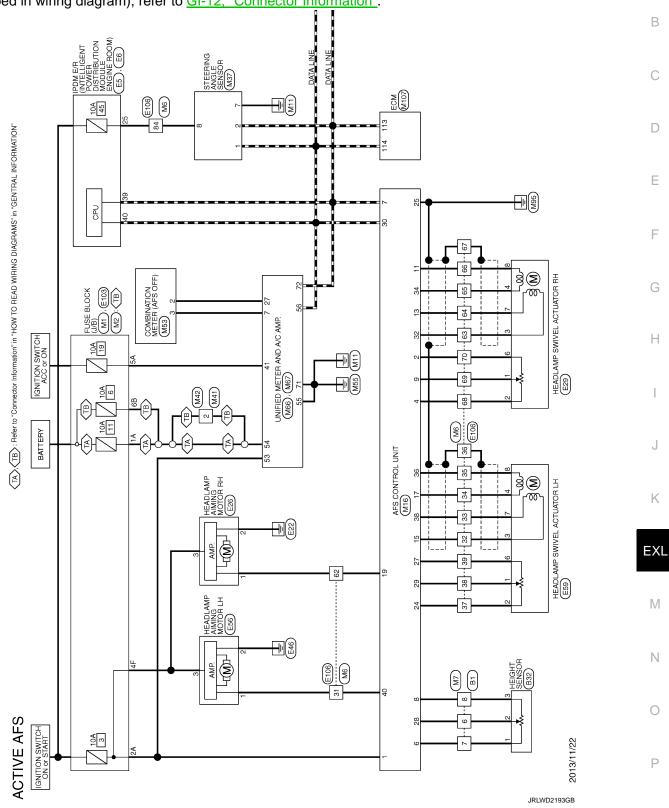
	inal No. e color)	Description		Condition	20	Value
+	_	Signal name	Input/ output	Condition	on	(Approx.)
					Unloaded vehicle condition	2.5 V
28 (SB) Ground Height sensor signal  29 (O) Ground Left swivel position sensor signal  30 Ground CAN-H			Output	Vehicle rear height	Low (Leveling operation downward edge)	1.6 V
	Ground	-	Output	Left headlamp swivel	0°	0.7 V
		nal		angle	17°	3.0 V
	Ground	CAN-H	Input/ output	_		_
32 (G)	Ground	Right swivel motor 2-phase (+)	Output	Right headlamp swivel	Activation	Reference waveform  (V) 15 10 5 0 SKIB2408J 8 - 12 V
34 (W)	Ground	Right swivel motor 1-phase (+)	Output	Right headlamp swivel	Stopped	9.5 - 11.5 V
36 (R)	Ground	Left swivel motor 2-phase (-)	Output	Left headlamp swivel	Activation	Reference waveform  (V) 15 0
38 (B)	Ground	Left swivel motor 1-phase (-)	Output	Left headlamp swivel	Stopped	9.5 - 11.5 V
					Unloaded vehicle condition	8.8 V
40 (L)	Ground	Left levelizer signal	Output	Right headlamp lev- eling	Leveling operation down-	4.4 V (With 17-inch wheel)
					ward edge	4.0 V (With 18-inch wheel)

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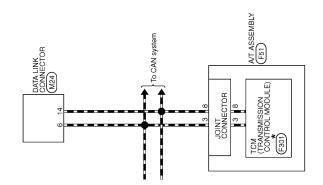
Α

## Wiring Diagram - ACTIVE AFS -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



★: This connector is not shown in "Harness Layout



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ı	COMPECTOR NO. EB PRIME LIGENT POWER DISTRINE TICKN MODILE		Connector Type TH08FW-NH	<b>E</b>				46 45 44 43		Terminal Color Of Signal Name (Specification)		38 - 4	╀	43 SB -		_	4		Connector No F26	Т.	CONTRECTOR NAME OF THE ALL AND ALMING MICHOR KH	Connector Type HS03FGY			HS.			)		Signal Name [Specification]	88	2 B .	3 G -																	
- [	Connector No. B32		Connector Type RH03FB		K	J	((123))			Terminal Color Of Signal Name [Specification]		\ 88 \ C	2 6			Connector No. E5	Connector Name FROM ER (INTELLIGENT POWER DISTRIBUTION MODULE FROM ER BOOM)	Consociate Time THOOPIN CO10 M4 4V	Consider the construction of the construction			2 13 23 23 28 29 29 29 29 29 29 29 29 29 29 29 29 29	8 8			Terminal Color Of Signal Namo (Spanification)		+	- 2	7 K	╁	Ĺ	Н	+	26 R	+	Ľ	Н												
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ΖΓ		. 1	Connector Type   TH80FW-CS16-TM4			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				Terminal Color Of Signal Name [Specification]		m 4	7 8	7 V	- 1 8	+	13 LG -	+	╀	18 SB	Н	_	7	+	╀	28 R	П	Т	7	32 W	34	35 P	Н	37 P	+	- × +4	ŀ	Н	+	49 G	4									

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Revision: 2013 December EXL-191 2013 EX

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| o. E59                |   | _  |  |  | [   |                     | (4 3 2 1)  | ŀ                                     | /    |                                       |                     | L  |  
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| Connector No. E29 Con | HEADLAMP SWIVEL ACTUATOR BH                           |  | RS08FGY-PR   |  | [   |                     | (4 3 2 1)  | 1                                     | /    |                                       |                     |  | Signal Name [Specification]  
  |   |  |  |  |  |  |   
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   |   | )  |  | Signal Name [Specification]  | Wire  | BG .   
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  |  |  |
|                       | E29   Connector No.   E59   Connector No.   E106   43 | E29 Connector No. E59 Connector No. E59 Connector No. E106 43 FEADI AMP SWINFI ACTILATOR BH Connector Name IMEAD AMP SWINFI ACTILATOR B H CONNECTOR SWINFI ACTI | E29         Corrector No.         E19         Corrector No.         E106         43           HEADLAMP SWIVEL ACTUATOR RH         Corrector Name         WIRE TO WIRE         45 | E29         Corrector No.         E106         43           HEADLAMP SWIVEL ACTUATOR RH         Corrector Name         HEADLAMP SWIVEL ACTUATOR LH         Corrector Name         WIRE TO WIRE         45           RS08FGY-PR         Corrector Type         RS08FGY-PR         Corrector Type         TH90RM-CS16-TM4         50 | Corrector No.   229   Corrector No.   259   Corrector No.   250   Corrector No.   250 | E229                | Corrector Name   Corrector Name   HEADLAMP SWIVEL ACTUATOR LH   Corrector Name   MEADLAMP SWIVEL ACTUATOR LH   CORRECTOR LH   CORREC | Corrector No.   E39                   | E299 | Corrector No.   E-39                  | Corrector No.   E39 | Corrector No.   E-10   E-10   Corrector No.   E-10   E-10 | Corrector No.   E106   Corrector No.   E106   Corrector No.   E106   E402AMP SWIVEL ACTUATOR LH   Corrector Name   WIRE TO WIRE   E402AMP SWIVEL ACTUATOR LH   Corrector Type   RS08FGY-PR   E402AMP SWIVEL ACTUATOR LH   Corrector Type   Teoretor Type   E402AMP SWIVEL ACTUATOR LH   E402AMP SWIVEL ACTUATOR | Commodicity   Commodicity | Corrector Name   Corrector Name   MEADLAMP SWIVEL ACTUATOR LH   MEADLAMP S | EADLAMP SWIVEL ACTUATOR RH   EADLAMP SWIVEL ACTUATOR LH   Connector Name   FEADLAMP SWIVEL ACTUATOR LH   CONNECTOR LH   CONNECT | ESIGNET OF PRESENCE ACTUATOR RH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   45   45   45   45   45   45   45   4 | EADJAMP SWIVEL ACTUATOR RH   EADJAMP SWIVEL ACTUATOR LH   Corrector Name   FEADJAMP SWIVEL ACTUATOR LH   Corrector Name   FEADJAMP SWIVEL ACTUATOR LH   Corrector Type   RSIGNE CY-PR   Corrector Type   THEOFW.CS16-TM4   45   50   60   60   60   60   60   60   6 | EXADAMP SWIVEL ACTUATOR RH   EADLAMP SWIVEL ACTUATOR LH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   WINTER TO WIRE   Signal Name   Specification   No.   Wire   Signal Name   Specification   Corrector Name   No.   Wire   Signal Name   Specification   Corrector Name   Corrector Name | EXDITION   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   Name   Signal Name   Specification   Name   Specification   Name   Signal Name   Specification   Name   Signal Name   Specification   Name   Signal Name   Specification   Signal Name   Specification   Signal Name   Signal Name   Specification   Specification   Specification   Specification   Specification   Specification   Specification   Specification   Specification   Specification | EADLAMP SWIVEL ACTUATOR RH   EADLAMP SWIVEL ACTUATOR LH | ESIGNET OF PRESENTE ACTUATOR RH   EADLAMP SWIVEL ACTUATOR LH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   Victor of Part   Corrector Name   Corr | Corrector Name   Facultation   Corrector Name   Corrector Name   Corrector Name   Name   Corrector Name   Name   Corrector Name   Name   Corrector Name   Name   Name   Corrector Name   Name   Corrector Name   Name   Corrector Name   Name | Corrector Name   Fab. Lamp   Swivel ACTUATOR LH   Corrector Name   Fab. Lamp   Swivel ACTUATOR LH     RSOBECY PR   Corrector Name   Fab. Lamp   Swivel ACTUATOR LH     RSOBETIVE Name   Fab. Lamp   Swivel ACTUATOR LH     RSOBETIVE Name   Fab. Lamp   Swivel ACTUATOR LH | EXDITION OF HEADLAMP SWIVEL ACTUATOR LH   Corrector Name   Name   Specification   Name   Name   Specification   Name   Name   Specification   Name   Name | Corrector No.   E-19   Corrector No.   E-10   Corrector No.   E-10 | Corrector No.   E-99   Corrector No.   E-105   Corre | Corrector No.   E-99   Corrector No.   E-106   Corre | Corrector No.   E198   Corrector No.   E198 | ESGREGY PRINCE ACTUATOR RH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   FUSE BLOCK (UB)   Corrector Name   FUSE BLOC | Facility of Part   Corrector Name   Essay   Corrector Name   Essay   Corrector Name   Corrector Name   Essay   Correcto | FEADLAMP SWIVEL ACTUATOR RH   Convector Name   FEADLAMP SWIVEL ACTUATOR LH   Convector Name   FEADLAMP SWIPE   Convector Name   FEADLAMP | FEADLAMP SWIVEL ACTUATOR RH   Corrector Name   FEADLAMP SWIVEL ACTUATOR LH   Corrector Name   FEADLAMP SWIVEL ACTUATOR RH   FEADLAMP SWING SWIP SWIP SWIP SWIP SWIP SWIP SWIP SWIP | Convector No.   E-550   Conv | ESSIVE CYLPTOR RH   Corrector Name   ESSIVE CYLPTOR LH   ESSIVE C | FEDLAMP SWIVEL ACTUATOR RH   Connector No. 1594   FEDLAMP SWIVEL ACTUATOR LH   Connector No. 1594   FEDLAMP SWIMP SWIP Swifted No. 1594   FEDLAMP SWIMP Swimp Swimp Swimp Swimp Swimp Swimp Swimp No. 1594   FEDLAMP Swimp Swimp Swimp Swimp Swimp No. 1594   FEDLAMP | FEADLAND SWIVEL ACTUATOR RH   Corrector Name   ESAGRICATOR RH   Corrector Name   Signat Name   Specification    Name   Name   Name   Specification    Name   Na | ESGRETATION RH | FEAD AMP SWIVEL ACTUATOR RH   Convector Name   FEAD AMP SWIVEL ACTUATOR LH   Convector Name   C | Signat Name   Sportfeatory   Terminal Connector Name   Face of Connec | Commont Name   Comm | Signat Name   Societation   Terminal Concent Name   Concent Name | Signat Name   Specification    Convector Name   Excitation   Convector Name   Excitation   Convector Name   Excitation   Convector Name   Excitation   Convector Name   Convec | Signat Name   Sparit Name | Signat Name   Societicated   Signat Name | Signate Activation R H   Corrector Name   Scoring Cot P   Signature   Signat | Signat Name   Societation   Societation | Corrector Name   Source ACTUANOR RH   Corrector Name   Source ACTUANOR RH   Source ACTUANOR | Signed Name   Sportfactored   Marie   Sportfactored Name   Sportfactor |

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GROUND	POWER SLIPPLY	BACK-UP LAMP RELAY	CAN-L	STARTER RELAY				9)			F	<b>□</b> 24 14	7A 6A 5A 4A	]			scircation				[wo												[[		1 9	90 190	]		Contraction of the Contraction o	orginal reame [opecification]		-
- 9			. 8	9 - 8TA		Γ	Commector No.	Connector Name FUSE BLOCK (J/B)	Connector Type NS06FW-M2	Q	<u>.</u>	H.S.	84 746			Terminal Color Of	No. Wire Signal Name [Specification]	1A GR -	2A G	-	4A P - (For push button)	< >	ŀ	В	8A L		Γ	CONTRACTOR INC.	Connector Name FUSE BLOCK (J/B)	Connector Type NS10FW-CS	4	B		13.5		1 BB BB 1			Terminal Color Of	Wire	$\dashv$	48 G
97 R   5   1		20 2				Γ	Connector Type RK10FG-DGY	Connector Name	Connector Type NS06FW-M2						Signal Name [Specification]	POWER SUPPLY Terminal Color Of	EMORY BACK-UP) No. Wire	CAN-H 1A	K LINE 2A	GROUND 3A L	<u> </u>	CANE NELY I	STARTER RELAY 6A Y	GROUND 7A R	8A L			1	Connector Type SP10FG Connector Name FUSE BLOCK (J/B)		<b>■</b>		1 2 3 4 5 C	, L	01 6 8 2 9			F Cionel Money	Signal Name [Specification]  Terminal Color Of	No. Wire	38	+

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[ ]	ACTIVE AFS	VFS						
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93	BR	-	36	٦		Compositor N	AFO CONTIDOL LIMIT	Company Name DATA LINK CONNECTOR
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Connector No.	TOL INO.	IM	00	١.		T	30	T
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Connect	Connector Type	TH80MW-CS16-TM4	63	ď		-	W IGN	3 LG -
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		8 ×	99	SB		9	W HSV-R	1 9
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	1	-	5 8	> !				+
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		2 0	69	SHELD		<b>Б</b>	GR PS-R	4
		9 H	20	۸	•	11	R SMR-1 (-)	14 P -
			73	9		13	B SMR-2 (-)	16 Y
Termina	Terminal Color Of	L	74	œ	,	15	G SML-1(+)	
ė	Wire	Signal Name [Specification]	75	*		17		
6	g	- DMith automatic drive positionari	76	3	1	H		Competer No M37
0	3 3	- [Without automatic drive positioned]	2 12	<u> </u>		+		т
2		- [without automatic unive positioner]	- 1	٥		10		Connector Name   STEERING ANGLE SENSOR
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٥	200		2	5		+	PSG-L	Connector Type THUSH W-INH
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∞	B		82	P	T	+	BG PS-L	
12	SB		98	œ		30	L CAN-H	K
13	PC	-	87	>	•	32		<u> </u>
14	Υ	-	88	۸	-	34	W SMR-1 (+)	7 2 8
15	9		88	BR	1	36	R SML-2 (-)	
17	W	•	90	BG		38	B SML-1 (-)	
18	SB		91	9		40	T-SUMPS-L	
19	97	-	92	>	-			Terminal Color Of Signal Normal Control of Signal Normal Color Of Si
20	BR		93	BR				No. Wire Sgrainvanie (Specincation)
21	SHIELD	-	94	>	1			1 L CAN-H
22	Υ		96	9				2 P CAN-L
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Connector Name Connector Type	Corrector Typ	Corrector Name COMBINATION METER Corrector National Corrector National Corrector Type TH40FW-NH
H.S.		
Terminal Color Of Wire 5 L 5 C	Terminal No.	
9 SB VM	8 6 0	COMMUNICATION SIGNAL (AMPMETER)  GROUND  ALTERNATOR SIGNAL  10
11 14 BR	11 14 6	SECURITY SIGNAL 14
23 20	11 11	METER CONTROL SWITCH GROUND
25 27 C C S S S S S S S S S S S S S S S S S	38 28 27 38 38 38 38 38 38 38 38 38 38 38 38 38	25 27 27 28 30 30 AL (LCD-AMP.) 34
38 S		COMMUNICATION SIGNAL (AMP-LCD) VEHICLE SPEED SIGNAL (B-PULSE) PARKING BRARES SWITCH SIGNAL BRAKE ELIIDI EVEL SWITCH SIGNAL
		SEAT BELT BLOCKLE SWITCH SIGNAL SEAT BELT BLOCKLE SWITCH SIGNAL (PARSENGER SIDE) SEAT BELT BLOCKLE SWITCH SIGNAL (PASSENGER SIDE) WASHER I FURE SWITCH SIGNAL
匮		
<b>!</b>	<b>!</b>	L TRIP AB RESET SWITCH SIGNAL P ILLUMINATION CONTROL SWITCH SIGNAL (+) BG ILLUMINATION CONTROL SWITCH SIGNAL (+)
Terminal Color Of		
No. Wire	+	+
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45	45	44 45

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Fail-safe

DTC	Fail-safe	AFS OFF indica- tor lamp	Cancellation
CAN COMM CIRCUIT [U1000]	<ul> <li>Right and left swivel motors stop at the position when DTC is detected.</li> <li>Right and left aiming motors stop at the position when DTC is detected.</li> </ul>	Blinks 1 second each.	Ignition switch OFF
CONTROL UNIT (CAN) [U1010]	<ul> <li>Right and left swivel motors stop at the position when DTC is detected.</li> <li>Right and left aiming motors stop at the position when DTC is detected.</li> </ul>	Blinks 1 second each.	Ignition switch OFF
SWIVEL ACTUATOR [RH, LH] [B2503, B2504]	<ul> <li>Right and left swivel motors stop at the position when DTC is detected.</li> <li>The signal, approximately 2 V decreased from the levelizer signal when DTC detected, is output.</li> </ul>	Blinks 1 second each.	Ignition switch OFF
HI SEN UNUSUAL [RR] [B2514]	Right and left aiming motors stop at the position when DTC is detected.	_	Ignition switch OFF
ST ANG SEN SIG [C0126]	Right and left swivel motor swivel angle returns to 0° and fixed.	Blinks 1 second each.	Ignition switch OFF
SHIFT SIG [P, R] [B2516]	Right and left swivel motor swivel angle returns to 0° and fixed.	Blinks 1 second each.	Ignition switch OFF
VEHICLE SPEED SIG [B2517]	<ul> <li>Right and left swivel motor swivel angle returns to 0° and fixed.</li> <li>Right and left aiming motors stop at the position when DTC is detected.</li> </ul>	Blinks 1 second each.	Ignition switch OFF
LEVELIZER CALIB [B2519]	Right and left aiming motors stop at the position when DTC is detected.	_	When the levelizer adjustment is completed.
ST ANGLE SEN CALIB [C0428]	Right and left swivel motor swivel angle returns to 0° and fixed.	Blinks 1 second each.	When the steering angle sensor neutral position registration is competed
ECU CIRC [B2521]	<ul> <li>Right and left swivel motors stop at the position when DTC is detected.</li> <li>Right and left aiming motors stop at the position when DTC is detected.</li> </ul>	Blinks 1 second each.	Ignition switch OFF

# **DTC Inspection Priority Chart**

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

#### NOTE:

- If DTC U1000 is displayed with other DTC, first perform the trouble diagnosis for DTC U1000.
- If DTC U1010 is displayed with other DTC, first perform the trouble diagnosis for DTC U1010.

Priority	Detected items (DTC)	
1	U1000 CAN COMM CIRCUIT     U1010 CONTROL UNIT (CAN)	
2	B2519 LEVELIZER CALIB     B2521 ECU CIRC     C0428 ST ANG SEN CALIB	
3	B2503 SWIVEL ACTUATOR [RH] B2504 SWIVEL ACTUATOR [LH] B2514 HI SEN UNUSUAL [RR] B2516 SHIFT SIG [P, R] B2517 VEHICLE SPEED SIG C0126 ST ANG SEN SIG	

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### < ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

DTC Index

### ×: Applicable

CONSULT indication	Fail-safe	AFS OFF indicator lamp	Reference
U1000: CAN COMM CIRCUIT	×	×	EXL-62, "Description"
U1010: CONTROL UNIT (CAN)	×	×	EXL-63, "DTC Logic"
B2503, B2504: SWIVEL ACTUATOR [RH, LH]	×	×	EXL-45, "Description"
B2514: HI SEN UNUSUAL [RR]	×		EXL-51, "Description"
B2516: SHIFT SIG [P, R]	×	×	EXL-54, "Description"
B2517: VEHICLE SPEED SIG	×	×	EXL-55, "Description"
B2519: LEVELIZER CALIB	×		EXL-56, "Description"
B2521: ECU CIRC	×	×	EXL-57, "Description"
C0126: ST ANG SEN SIG	×	×	EXL-60, "Description"
C0428: ST ANGLE SEN CALIB	×	×	EXL-61, "Description"

### **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

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# SYMPTOM DIAGNOSIS

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

Symptom Table

#### **CAUTION:**

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

Syr	mptom	Possible cause	Inspection item
Headlamp (HI) is not turned ON.		Fuse     Halogen bulb (HI)     Harness between IPDM E/R and the headlamp high     IPDM E/R	Headlamp (HI) circuit Refer to EXL-67.
	Both sides	Symptom diagnosis	
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to EXL-202.	RE NOT TURNED ON"
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
High beam indicator lam [The headlamp (HI) is tu		Combination meter	Combination meter     Data monitor "HI-BEAM IND"     BCM (HEAD LAMP)     Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	Fuse     Xenon bulb (LO)     Harness between IPDM E/R and the headlamp low     IPDM E/R	Headlamp (LO) circuit Refer to EXL-69.
	Both sides	Symptom diagnosis	I
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) A Refer to EXL-203.	ARE NOT TURNED ON"
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned ON/OFF with the lighting switch AUTO.		Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to BCS-93.
		Optical sensor     Harness between the optical sensor and BCM     BCM	Optical sensor Refer to <u>EXL-80</u> .
Front fog lamp is not turned ON.	One side	Front fog lamp bulb     Harness between IPDM E/R and the front combination lamp     Front combination lamp     IPDM E/R	Front fog lamp circuit Refer to EXL-74.
	Both side	Symptom diagnosis	A DE MOT TUDNED ON
Front fog lamp is not turn	ned ON.	"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-205</u> .	S ARE NOT TURNED ON"
Parking lamp is not turned ON.		Fuse     Parking lamp bulb     Harness between IPDM E/R and the front combination lamp     Front combination lamp     IPDM E/R	Parking lamp circuit Refer to EXL-76.

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[XENON TYPE]

Symp	otom	Possible cause	Inspection item
Tail lamp is not turned ON.		Harness between IPDM E/R and the rear combination lamp     Rear combination lamp	Tail lamp circuit Refer to EXL-85.
License plate lamp is not to	urned ON.	Harness between IPDM E/R and the license plate lamp     License plate lamp	License plate lamp circuit Refer to EXL-87.
Tail lamp and the license p ON.	late lamp are not turned	Fuse     Harness between IPDM E/R and the rear combination lamp     IPDM E/R	Tail lamp circuit Refer to EXL-85.
<ul> <li>Parking lamp, the tail lan lamp are not turned ON.</li> <li>Parking lamp, the tail lan lamp are not turned OFF (Each illumination is turned)</li> </ul>	np and the license plate	Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to EXL-204.	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation.)	Harness between BCM and each turn signal lamp     Turn signal lamp bulb	Turn signal lamp circuit Refer to EXL-78.
	Indicator lamp is included	Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to BCS-93.
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>Unified meter and A/C amp.</li> <li>BCM</li> <li>Combination meter</li> </ul>	Unified meter and A/C amp. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
lamp is normal.)	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuit Combination meter	Combination meter Power supply and the ground circuit Refer to MWI-55.
Hazard warning lamp does not activate.     Hazard warning lamp continues activating. (Turn signal is normal.)		Hazard switch     Harness between the hazard switch and BCM     BCM	Hazard switch Refer to EXL-83.
Headlamp auto aiming does not activate. (AFS is normal.)		Harness between AFS control unit and aiming motor     Front combination lamp (Aiming motor)     AFS control unit	Headlamp levelizer circuit Refer to EXL-72.
AFS OFF indicator lamp is not turned ON.		<ul> <li>AFS OFF indicator lamp signal</li> <li>Unified meter and A/C amp.</li> <li>AFS control unit</li> <li>Combination meter</li> </ul>	Unified meter and A/C amp. Data monitor "AFS OFF IND"

#### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS > [XENON TYPE]

### NORMAL OPERATING CONDITION

Description INFOID:0000000008289070

#### XENON HEADLAMP

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

#### **AUTO LIGHT SYSTEM**

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

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

< SYMPTOM DIAGNOSIS > [XENON TYPE]

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description INFOID:0000000008289071

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

### Diagnosis Procedure

INFOID:0000000008289072

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# 1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-93, "Symptom Table".

#### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

## 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

### (E) CONSULT DATA MONITOR

- 1. Select "HL HI REQ" of IPDM E/R data monitor item.
- 2. With operating the lighting switch, check the monitor status.

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

#### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-96, "Exploded View".

### 3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-67, "Component Function Check".

#### Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

**BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON** [XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON Α Description INFOID:0000000008289073 The headlamps (both sides) are not turned ON in any condition. В Diagnosis Procedure INFOID:0000000008289074 CHECK COMBINATION SWITCH Check the combination switch. Refer to BCS-93, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT Е **©CONSULT DATA MONITOR** Select "HL LO REQ" of IPDM E/R data monitor item. With operating the lighting switch, check the monitor status. F Monitor item Condition Monitor status 2ND On **HL LO REQ** Lighting switch OFF Off Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM. 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-69, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

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

Description INFOID:0000000008289075

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

### Diagnosis Procedure

INFOID:0000000008289076

# 1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-93, "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

### PCONSULT DATA MONITOR

- 1. Select "TAIL & CLR REQ" of IPDM E/R data monitor item.
- 2. With operating the lighting switch, check the monitor status.

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

#### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

# 3. TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-85, "Component Function Check".

#### Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON [XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON Α Description INFOID:0000000008289077 The front fog lamps are not turned ON in any condition. В Diagnosis Procedure INFOID:0000000008289078 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-93, "Symptom Table". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT Е (P)CONSULT DATA MONITOR Select "FR FOG REQ" of IPDM E/R data monitor item. With operating the front fog lamp switch, check the monitor status. F Monitor item Condition Monitor status ON On Front fog lamp switch FR FOG REQ (Lighting switch 2ND) OFF Off Is the item status normal? Н YES >> GO TO 3.

NO >> Replace BCM.

### 3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-74, "Component Function Check".

#### Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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#### **PRECAUTIONS**

< PRECAUTION > [XENON TYPE]

# **PRECAUTION**

### **PRECAUTIONS**

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

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

#### WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, 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 "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

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

INFOID:0000000008289080

Precautions For Xenon Headlamp Service

#### **WARNING:**

Comply with the following warnings to prevent any serious accident.

- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector. (Turning it ON outside the lamp case may cause fire or visual impairments.)
- Never touch the bulb glass immediately after turning it OFF. It is extremely hot.

#### **CAUTION:**

Comply with the following cautions to prevent any error and malfunction.

- Install the xenon bulb securely. (Insufficient bulb socket installation may melt the bulb, the connector, the housing, etc. by high-voltage leakage or corona discharge.)
- Never perform HID circuit inspection with a tester.
- Never touch the xenon bulb glass with hands. Never put oil and grease on it.
- Dispose of the used xenon bulb after packing it in thick vinyl without breaking it.
- Never wipe out dirt and contamination with organic solvent (thinner, gasoline, etc.).

[XENON TYPE]

# PERIODIC MAINTENANCE

### HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000008289081

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

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

Before performing aiming adjustment, check the following.

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

#### NOTE:

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

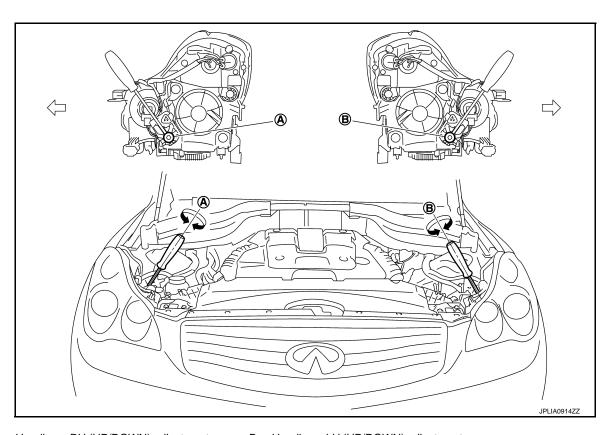
Wipe out dirt on the headlamp.

#### **CAUTION:**

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

Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW



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

#### NOTE:

The figure is the vehicle without AFS. Each adjustment screw is applied to the vehicle with AFS.

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	Adjustment screw	Screw driver rotation	Facing direction
Α	Headlamp RH (UP/DOWN)	Clockwise	UP
A	neadiamp Kn (0F/DOWN)	Counterclockwise	DOWN
В	Headlems I H (LID/DOM/M)	Clockwise	UP
Ь	Headlamp LH (UP/DOWN)	Counterclockwise	DOWN

### Aiming Adjustment Procedure

INFOID:0000000008289082

Place the screen.

#### NOTE:

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

#### NOTE:

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

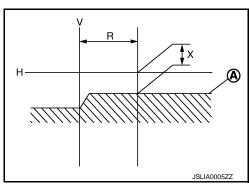
#### **CAUTION:**

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

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

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

Low beam distribution on the screen

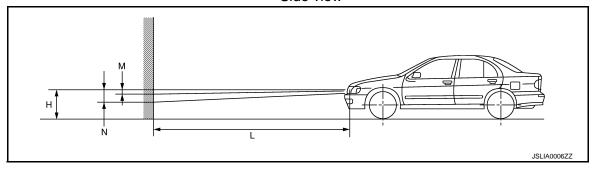


 Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

unit: mm (in)

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

#### Side view



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

#### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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### FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:0000000008289083

#### PREPARATION BEFORE ADJUSTING

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

Before performing aiming adjustment, check the following.

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

#### NOTE:

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

Wipe out dirt on the headlamp.

#### **CAUTION:**

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

Turn the aiming adjusting screw for adjustment.

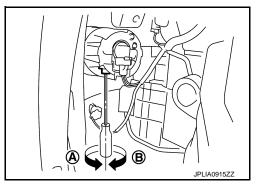
A: UP

**B: DOWN** 

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

#### NOTE:

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



INFOID:0000000008289084

### Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

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

#### NOTE:

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

Never 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 200 mm (7.87 in).

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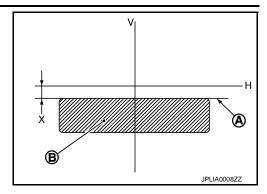
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### FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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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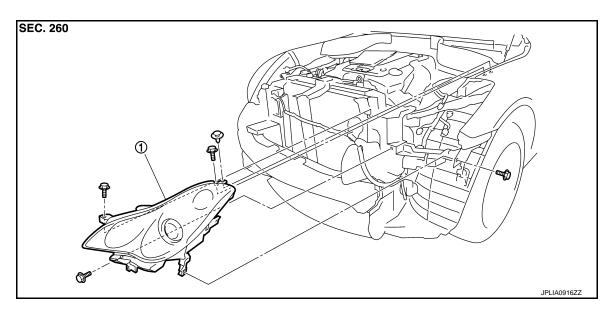
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# REMOVAL AND INSTALLATION

### FRONT COMBINATION LAMP

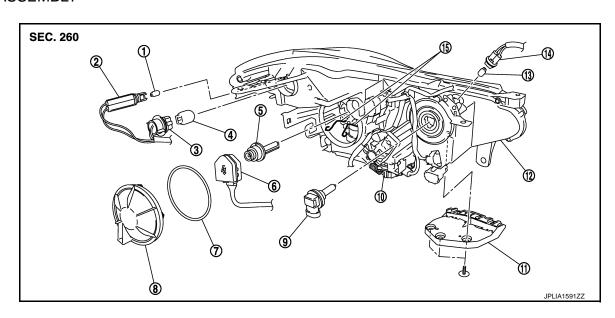
Exploded View

**REMOVAL** 



1. Front combination lamp

#### **DISASSEMBLY**



- Front side marker lamp bulb
- 4. Front turn signal lamp bulb
- 7. Seal packing
- 10. HID control unit
- 13. Parking lamp bulb

- 2. Front side marker lamp bulb socket
- 5. Xenon bulb
- 8. Resin cap
- 11. Bumper bracket
- 14. Parking lamp bulb socket
- 3. Front turn signal lamp bulb socket
- 6. Xenon bulb socket
- 9. Headlamp (HI) bulb
- 12. Headlamp housing assembly
- 15. Retaining spring

### **CAUTION:**

HID control unit and xenon bulb socket cannot be disassembled.

#### Removal and Installation

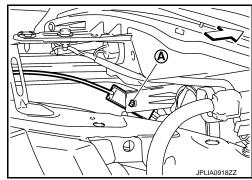
INFOID:0000000008289086

#### **REMOVAL**

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

- Remove the front bumper fascia. Refer to EXT-12, "Exploded View".
- 2. Remove the headlamp mounting bolts and clips.
- Remove the harness clip and the holding clip (A)\*.
   \*: Left side only.
  - : Vehicle front
- 4. Pull out the headlamp assembly forward the vehicle.
- 5. Disconnect the connector before removing the headlamp assembly.



#### **INSTALLATION**

Install in the reverse order of removal.

#### NOTE:

After installation, perform aiming adjustment. Refer to EXL-207, "Description".

Replacement

#### **CAUTION:**

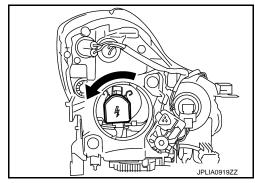
- · Disconnect the battery negative terminal or remove the fuse.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is 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.

#### **HEADLAMP BULB (LO)**

- 1. Remove the fender rubber protector in the engine room. Keep a service area.
- 2. Rotate the resin cap counterclockwise and unlock it.
- Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the retaining spring lock. And then remove the bulb from the headlamp housing assembly.

#### CAUTION:

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



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

- Remove the washer tank inlet<sup>\*</sup>. Refer to <u>WW-112, "Exploded View"</u>.
   \*:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- 4. Remove the bulb socket from the headlamp housing assembly.

#### PARKING LAMP BULB

Rotate the bulb socket counterclockwise and unlock it.

### FRONT COMBINATION LAMP [XENON TYPE] < REMOVAL AND INSTALLATION > Remove the bulb from the bulb socket. Α FRONT TURN SIGNAL LAMP BULB 1. Remove the fender rubber protector in the engine room. Keep a service area. Rotate the bulb socket counterclockwise and unlock it. В Remove the bulb from the bulb socket. FRONT SIDE MARKER LAMP BULB 1. Remove the fender rubber protector in the engine room. Keep a service area. 2. Rotate the bulb socket counterclockwise and unlock it. Remove the bulb from the bulb socket. D Disassembly and Assembly INFOID:0000000008289088 **CAUTION:** Е HID control unit and xenon bulb socket cannot be disassembled. DISASSEMBLY F 1. Rotate the resin cap counterclockwise and unlock it. 2. Rotate the xenon bulb socket counterclockwise and unlock it. 3. Remove the retaining spring lock. Remove the xenon bulb. Remove the bumper bracket. 5. Rotate the parking lamp bulb socket counterclockwise and unlock it. 6. Remove the bulb from the parking lamp bulb socket. Н Rotate the front turn signal lamp bulb socket counterclockwise and unlock it. 8. Remove the bulb from the front turn signal lamp bulb socket. 9. Rotate the front side marker lamp bulb socket counterclockwise and unlock it. 10. Remove the bulb from the front side marker lamp bulb socket. 11. Rotate the headlamp (HI) bulb socket counterclockwise and unlock it. 12. Remove the bulb socket from the headlamp housing assembly. **ASSEMBLY** Assemble in the reverse order of disassembly. K CAUTION: After installing the bulb, install the resin cap and the bulb socket securely for watertightness.

EXL

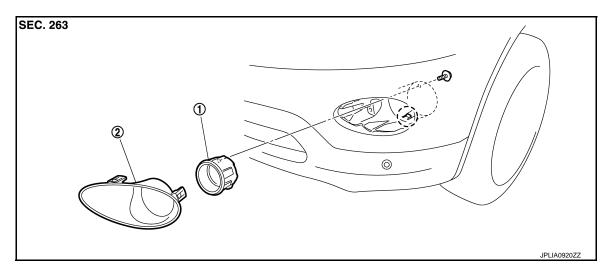
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**EXL-213** Revision: 2013 December 2013 EX

### FRONT FOG LAMP

Exploded View



- Front fog lamp
- (^) : Pawl

Front fog lamp finisher

#### Removal and Installation

INFOID:0000000008289090

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### **REMOVAL**

- Remove the front fender protector. Keep a service area. Refer to <u>EXT-25</u>, "<u>FENDER PROTECTOR</u>: Exploded View".
- 2. Remove the front fog lamp finisher.
- 3. Remove the front fog lamp connector.
- 4. Remove the screw.
- 5. Disengage the pawl. And then remove the front fog lamp.

#### **INSTALLATION**

Installation is the reverse order of removal.

### NOTE:

After installation, perform aiming adjustment. Refer to EXL-209. "Description"

Replacement

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
   Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### FRONT FOG LAMP BULB

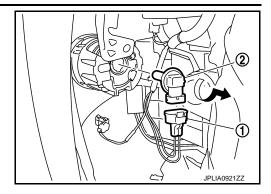
Remove the front fender protector. Keep the service area. Refer to <u>EXT-25</u>, "<u>FENDER PROTECTOR</u>: <u>Exploded View</u>".

### **FRONT FOG LAMP**

# < REMOVAL AND INSTALLATION >

[XENON TYPE]

- 2. Remove the front fog lamp bulb connector (1).
- 3. Rotate the bulb (2) counterclockwise and unlock it.



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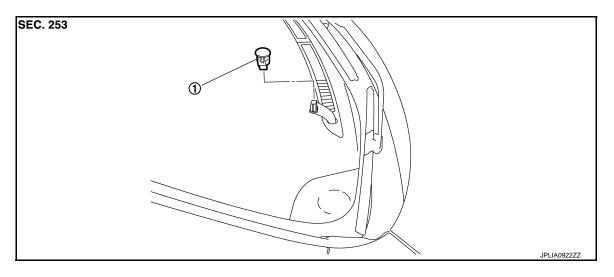
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# **OPTICAL SENSOR**

Exploded View



1. Optical sensor

#### Removal and Installation

INFOID:0000000008289093

#### **REMOVAL**

- Insert an appropriate tool between the optical sensor and the instrument upper panel. Pull out the optical sensor upward.
- 2. Disconnect the optical sensor connector. And then remove the optical sensor.

#### **INSTALLATION**

Install in the reverse order of removal.

## LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## **LIGHTING AND TURN SIGNAL SWITCH**

Exploded View

Lighting and turn signal switch is integrated in the combination switch. <u>BCS-97</u>, "Exploded View".

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## **HAZARD SWITCH**

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-138, "Exploded View".

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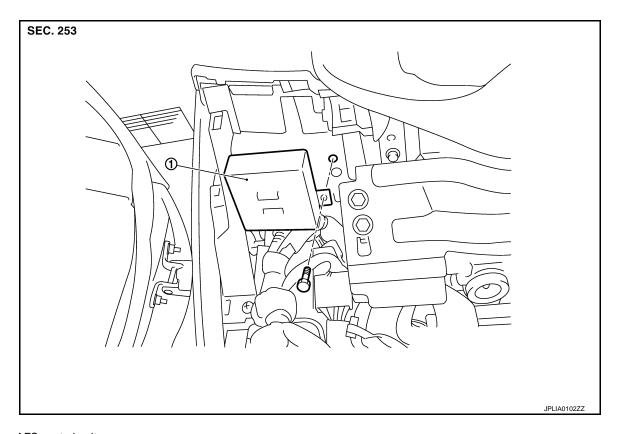
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INFOID:0000000008289097

## AFS CONTROL UNIT

Exploded View



1. AFS control unit

## Removal and Installation

#### **REMOVAL**

- 1. Remove the instrument lower panel LH. Refer to IP-12, "Exploded View".
- 2. Remove the AFS control unit mounting bolt.
- 3. Disconnect the AFS control unit connector.
- Remove the AFS control unit.

#### **INSTALLATION**

Install in the reverse order of removal.

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## STEERING ANGLE SENSOR

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## STEERING ANGLE SENSOR

Removal and Installation

INFOID:0000000008289098

Refer to SR-14, "Removal and Installation".

[XENON TYPE]

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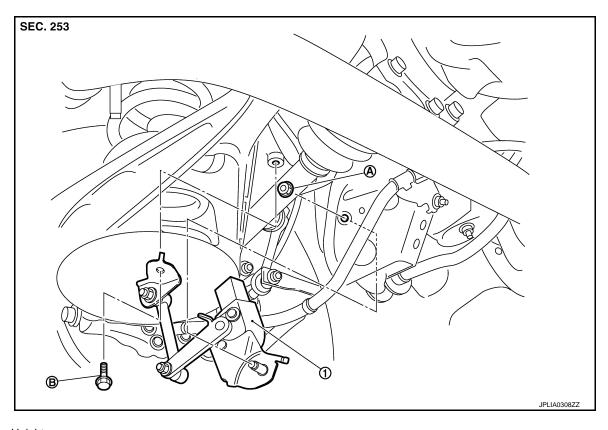
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## **HEIGHT SENSOR**

Exploded View



- 1. Height sensor
- A Height sensor mounting nut
- Height sensor lever link bracket mounting bolt

### Removal and Installation

INFOID:0000000008289100

#### **REMOVAL**

1. Remove the height sensor mounting nut.

- 2. Remove the height sensor lever link bracket mounting bolt.
- 3. Disconnect the height sensor connector.
- 4. Remove the height sensor.

### **INSTALLATION**

Install in the reverse order of removal.

#### **CAUTION:**

Perform the levelizer adjustment when removing the height sensor. Refer to <u>EXL-10</u>, "<u>LEVELIZER ADJUSTMENT</u>: Special Repair Requirement".

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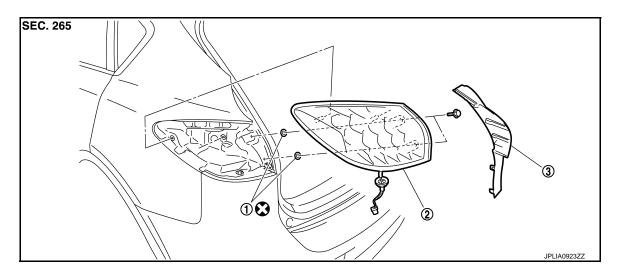
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## REAR COMBINATION LAMP

Exploded View



Seal packing

- 2. Rear combination lamp
- 3. Rear combination lamp finisher

Refer to GI-4, "Components" for symbols in the figure.

#### Removal and Installation

INFOID:0000000008289102

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### **REMOVAL**

- 1. Remove the luggage side finisher lower. Refer to <a href="INT-36">INT-36</a>, "Exploded View".
- Remove the rear combination lamp finisher.
- 3. Remove the rear combination lamp mounting bolts.
- 4. Disconnect the rear combination lamp connector.
- 5. Pull the rear combination lamp toward outside of the vehicle. Remove the rear combination lamp.

#### **INSTALLATION**

Install in the reverse order of removal.

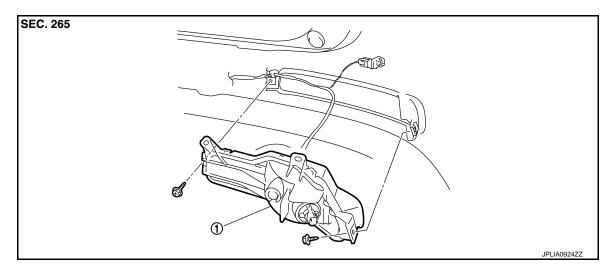
#### **CAUTION:**

Seal packing cannot be reused.

[XENON TYPE]

## **REAR TURN SIGNAL LAMP**

Exploded View



Rear turn signal lamp

#### Removal and Installation

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

**CAUTION:** 

- 1. Remove the rear bumper fascia. Refer to EXT-16, "Exploded View".
- 2. Remove the rear turn signal lamp.

#### INSTALLATION

Install in the reverse order of removal.

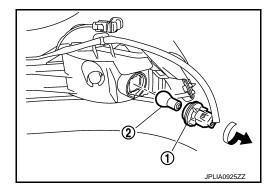
Replacement

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- 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.

#### REAR TURN SIGNAL LAMP BULB

- 1. Turn the bulb socket (1) counterclockwise and unlock it.
- 2. Remove the bulb (2) from the socket.



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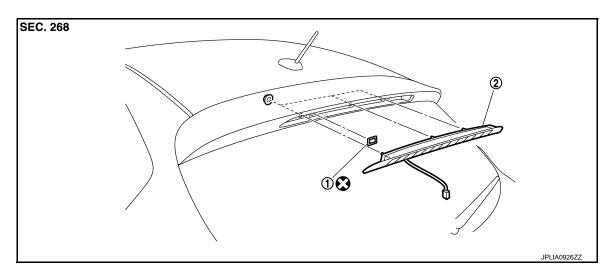
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## HIGH-MOUNTED STOP LAMP

Exploded View



1. Seal packing

2. High-mounted stop lamp

Refer to GI-4, "Components" for symbols in the figure.

#### Removal and Installation

INFOID:0000000008289107

#### **REMOVAL**

- 1. Remove the back door finisher inner. Refer to INT-40, "Exploded View".
- 2. Remove the high-mounted stop lamp mounting nuts.
- 3. Disconnect the high-mounted stop lamp connector. And then remove the rear washer tube.
- 4. Pull the high-mounted stop lamp toward rear of the vehicle.
- 5. Remove the high-mounted stop lamp.

#### **INSTALLATION**

Install in the reverse order of removal.

#### **CAUTION:**

Seal packing cannot be reused.

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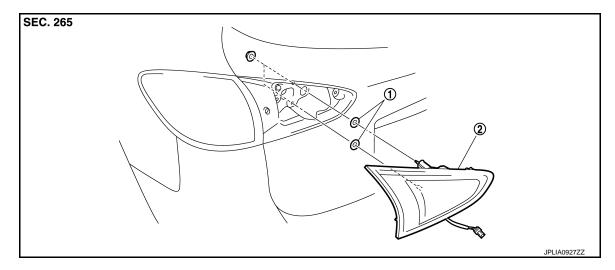
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## **BACK-UP LAMP**

**Exploded View** 



Seal packing

Back-up lamp

### Removal and Installation

**CAUTION:** 

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

- Remove the back door finisher inner. Refer to INT-40, "Exploded View".
- Remove the back-up lamp mounting nuts. 2.
- Disconnect the back-up lamp connector. And then remove the back-up lamp.

#### INSTALLATION

Install in the reverse order of removal.

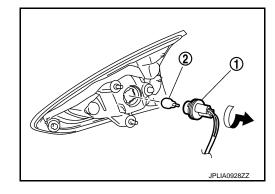
Replacement INFOID:0000000008289110

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- 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.

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

- Remove the back-up lamp. Refer to EXL-225, "Exploded View".
- Turn the bulb socket (1) counterclockwise and unlock it. 2.
- Remove the bulb (2) from the socket.



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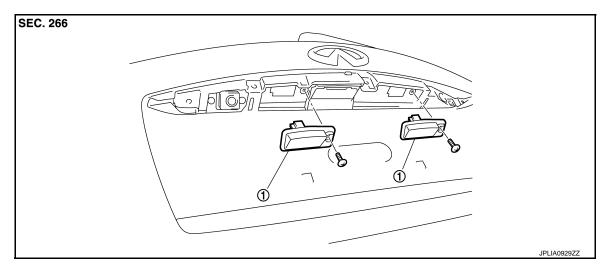
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### LICENSE PLATE LAMP

Exploded View



1. License plate lamp

#### Removal and Installation

INFOID:0000000008289112

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### **REMOVAL**

- 1. Remove the door handle cover. Refer to EXT-48, "Exploded View".
- Remove the screw. And then remove the license plate lamp.
- 3. Disconnect the license plate lamp connector.

#### INSTALLATION

Install in the reverse order of removal.

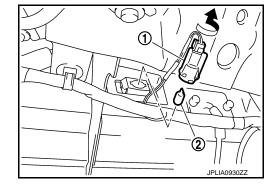
Replacement INFOID:0000000008289113

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
   Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### LICENSE PLATE LAMP BULB

- 1. Remove the back door finisher inner. Refer to <a href="INT-40">INT-40</a>, "Exploded View".
- Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



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

< SERVICE DATA AND SPECIFICATIONS (SDS)

[XENON TYPE]

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# SERVICE DATA AND SPECIFICATIONS (SDS)

## SERVICE DATA AND SPECIFICATIONS (SDS)

**Bulb Specifications** 

Item		Туре	Wattage (W)
	Headlamp (HI)	H9 (Halogen)	65
	Headlamp (LO)	D2S (XENON)	35
Front combination lamp	Front turn signal lamp	W21W	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp	,	H8	35
Door combination lamp	Stop lamp/Tail lamp	LED	_
Rear combination lamp	Rear side marker lamp	LED	_
Rear turn signal lamp		PY21W (Amber)	21
Back-up lamp		W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_

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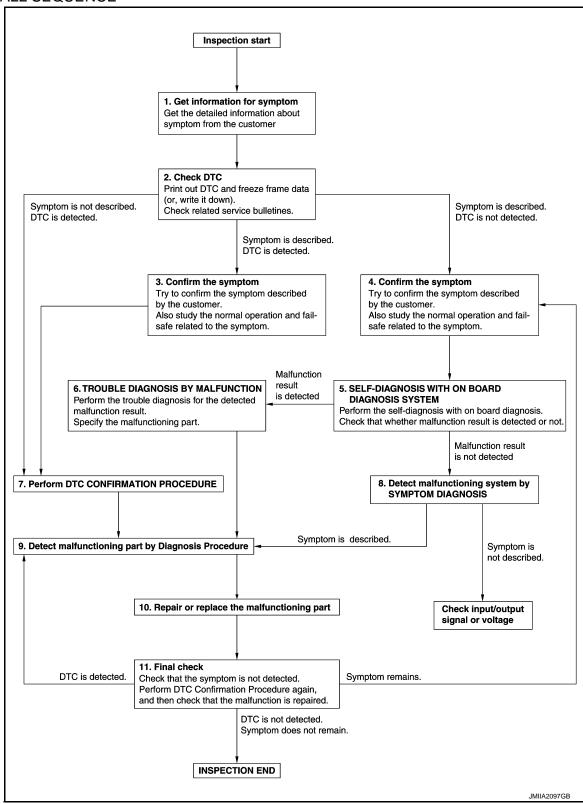
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## **BASIC INSPECTION**

## DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

#### **OVERALL SEQUENCE**



#### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION > [HALOGEN TYPE]

## 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 7.

### 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 7.

### 4.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.

## 5. SELF-DIAGNOSIS WITH ON BOARD DIAGNOSIS SYSTEM

Perform the self-diagnosis with on board diagnosis. Check that whether malfunction result is detected or not. <u>Is malfunction result detected?</u>

YES >> GO TO 6.

NO >> GO TO 8.

#### **O.**TROUBLE DIAGNOSIS BY MALFUNCTION

Perform the trouble diagnosis for the detected malfunction result. Specify the malfunctioning part.

>> GO TO 9.

## 7. PERFORM DTC CONFIRMATION PROCEDURE

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

#### NOTE:

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

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

#### Is DTC detected?

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Revision: 2013 December EXL-229 2013 EX

### **DIAGNOSIS AND REPAIR WORK FLOW**

## < BASIC INSPECTION > [HALOGEN TYPE]

YES >> GO TO 9.

NO >> Check according to GI-42, "Intermittent Incident".

## f 8.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 9.

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

## 9. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

#### Is malfunctioning part detected?

YES >> GO TO 10.

NO >> Check according to GI-42, "Intermittent Incident".

## 10. REPAIR OR REPLACE THE MALFUNCTIONING PART

- 1. Repair or replace the malfunctioning part.
- 2. Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
- 3. Check DTC. If DTC is detected, erase it.

>> GO TO 11.

## 11. 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 9.

YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

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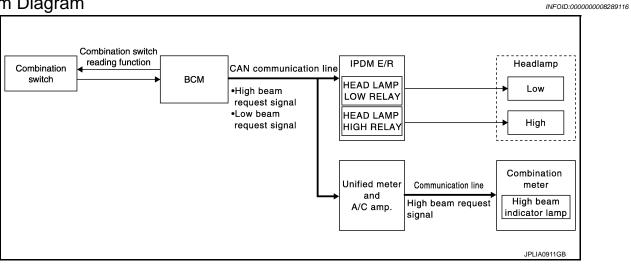
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## SYSTEM DESCRIPTION

### **HEADLAMP SYSTEM**

System Diagram



## System Description

INFOID:0000000008289117

#### **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
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low beam request signal.

#### **HEADLAMP (HI) OPERATION**

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

#### Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

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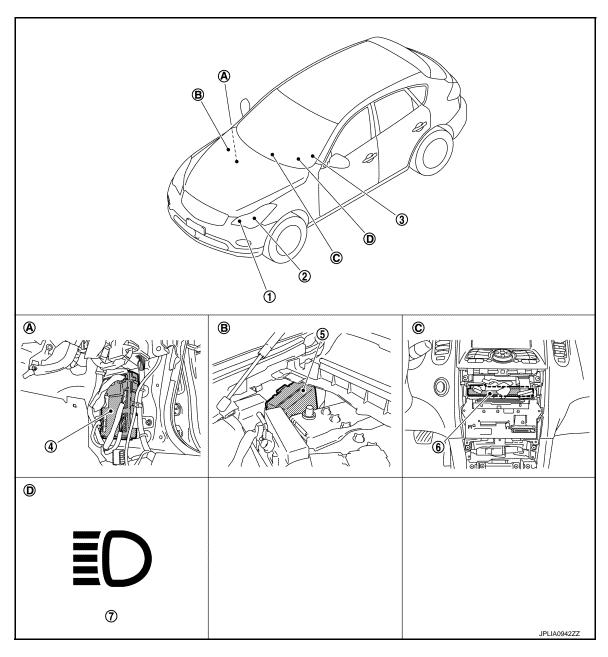
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## **Component Parts Location**

INFOID:0000000008289118



- 1. Headlamp (HI)
- 4. BCM
- 7. High beam indicator lamp
- A. Dash side lower (Passenger side)
- D. On the combination meter
- 2. Headlamp (LO)
- 5. IPDM E/R
- B. Engine room dash panel (LH)
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. Behind the cluster lid c

## **HEADLAMP SYSTEM**

## < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

## Component Description

INFOID:0000000008289119

Part	Description		
BCM	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges that the headlamp is turned ON according to the vehicle condition.</li> <li>Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication).</li> <li>Requests the high beam indicator lamp ON to the combination meter (with CAN communication).</li> </ul>		
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".		
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM [(with CAI communication (through unified meter and A/C amp.)].		

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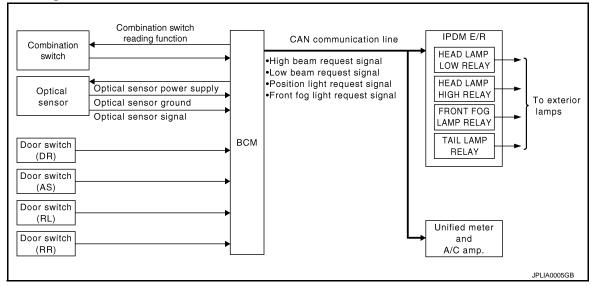
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### **AUTO LIGHT SYSTEM**

## System Diagram

INFOID:0000000008289120



## System Description

INFOID:0000000008289121

#### **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

#### Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function and the delay timer function.
- Auto light function turns the exterior lamps\* and each illumination ON/OFF automatically according to the outside brightness.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns
  the exterior lamps OFF depending on the vehicle condition with the auto light function after a certain period
  of time.
- \*: Headlamp (LO/HI), parking 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 ignition 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 with 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 EXL-249, "HEADLAMP: CONSULT Function (BCM - HEAD LAMP) (Halogen Type)".

#### **DELAY TIMER FUNCTION**

BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the ignition 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 ignition 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>EXL-249</u>, <u>"HEADLAMP : CONSULT Function (BCM HEAD LAMP) (Halogen Type)"</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.

### **Component Parts Location**

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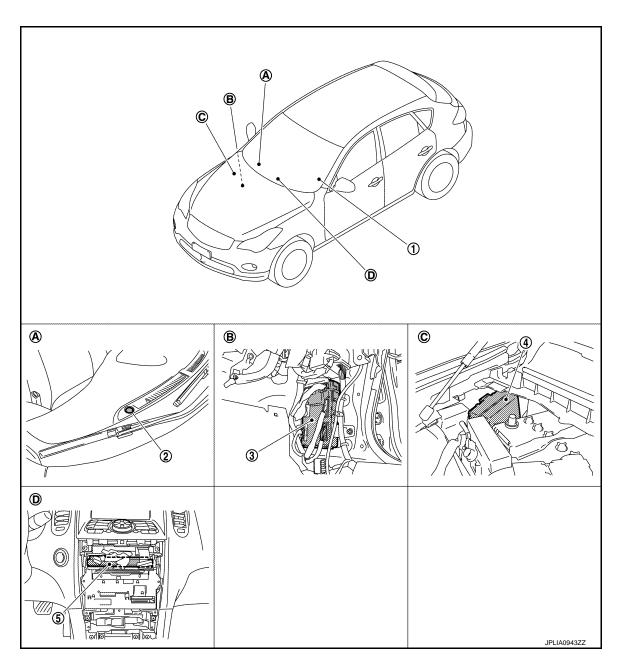
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- 1. Combination switch
- 4. IPDM E/R
- A. Instrument upper panel (RH)
- D. Behind the cluster lid C
- 2. Optical sensor
- 5. Unified meter and A/C amp.
- B. Dash side lower (Passenger side)
- 3. BCM
- C. Engine room dash panel (RH)

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## **AUTO LIGHT SYSTEM**

## < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

## Component Description

INFOID:0000000008289123

Part	Description  Judges each switch condition by the combination switch reading function.  Judges the outside brightness from the optical sensor signal.  Judges the OFF timing according to the vehicle condition.  Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition.  Requests ON/OFF of each relay to IPDM E/R (with CAN communication).		
ВСМ			
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).		
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".		
Optical sensor	Refer to EXL-270, "Description".		

[HALOGEN TYPE]

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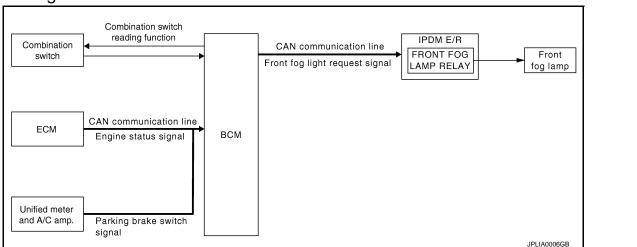
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## DAYTIME RUNNING LIGHT SYSTEM

System Diagram



## System Description

INFOID:0000000008289125

#### **OUTLINE**

- Turns the front fog lamp ON 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 depending on the following signals.
- Engine condition signal (received from ECM with CAN communication)
- Parking brake switch signal (received from unified meter and A/C amp. with CAN communication)
- BCM transmits the front fog light request signal to IPDM E/R with CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

While the engine running with the parking brake released

#### Daytime running light OFF condition

- Engine stopped
- Headlamp ON (Passing included)
- IPDM E/R turns the integrated front fog lamp relay ON and turns the front fog lamp ON according to the front fog light request signal.

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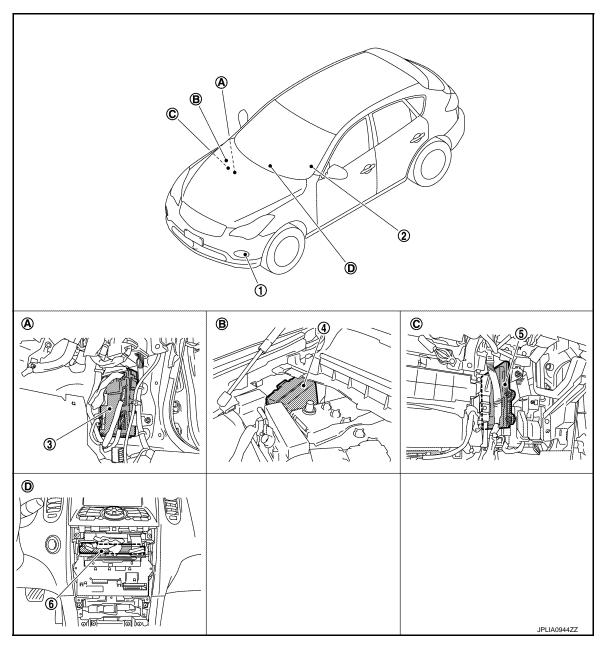
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## **Component Parts Location**

INFOID:0000000008289126



- Daytime running light (Front fog lamp)
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- D. Behind the cluster lid C
- 2. Combination switch
- 5. ECM
- B. Engine room dash panel (RH)
- 3. BCM
- 6. Unified meter and A/C amp.
- C. Behind the glove box

## Component Description

INFOID:0000000008289127

Part	Description	
BCM	<ul> <li>Judges each switch condition with the combination switch reading function.</li> <li>Judges the headlamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>	
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	

## **DAYTIME RUNNING LIGHT SYSTEM**

## < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Part	Description	
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".	
ECM	Transmits the engine condition signal to BCM with CAN communication.	
Unified meter and A/C amp.	Transmits the parking brake switch signal to BCM with CAN communication.	

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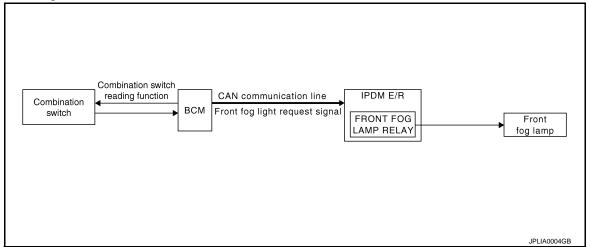
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## FRONT FOG LAMP SYSTEM

## System Diagram

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## System Description

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#### **OUTLINE**

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

#### NOTE:

For Canada models, the front fog lamp is turned ON as the daytime running light. Refer to <u>EXL-237</u>, "System <u>Diagram"</u> for the detail.

#### FRONT FOG LAMP OPERATION

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

#### Front fog lamp ON condition

- Front fog lamp switch ON with the headlamp ON (except for the high beam ON)
- IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog light request signal.

## **Component Parts Location**

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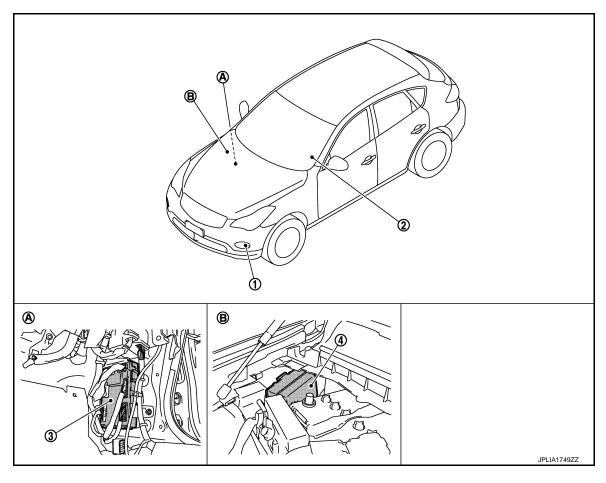
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- 1. Front fog lamp
- 4. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Combination switch
- 3. BCM
- B. Engine room dash panel (RH)

## Component Description

INFOID:0000000008289131

Part	Description
ВСМ	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the front fog lamp ON/OFF status according to the vehicle condition.</li> <li>Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".

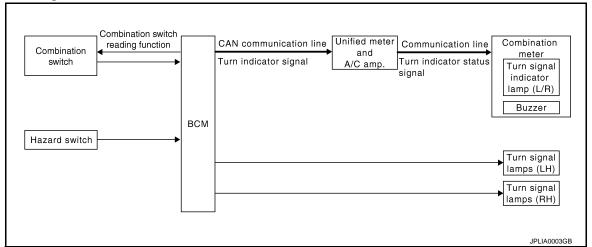
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Revision: 2013 December

### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### System Diagram

INFOID:0000000008289132



## System Description

INFOID:0000000008289133

#### **OUTLINE**

Turn signal 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 ignition switch is turned 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 turned ON. BCM blinks the hazard warning lamp.

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

- BCM transmits the turn signal indicator lamp signal to the combination meter (through the unified meter and A/C amp.) with CAN communication while the turn signal lamp and the hazard warning lamp 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.

#### HIGH FLASHER OPERATION (FAIL-SAFE)

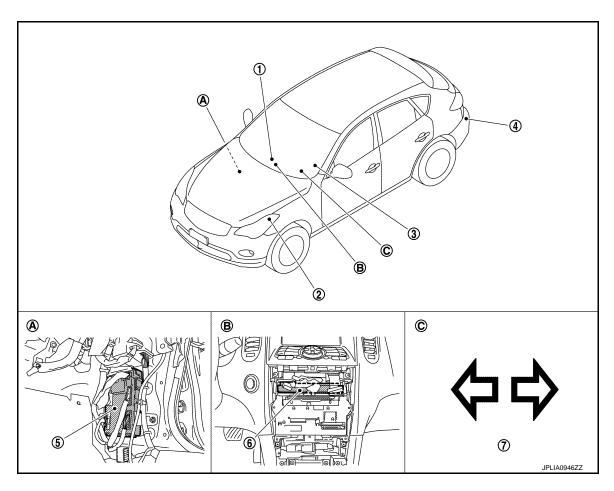
- BCM detects the turn signal lamp circuit status from the current value.
- BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

#### NOTE:

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

## **Component Parts Location**

INFOID:0000000008289134



- 1. Hazard warning switch
- 4. Rear turn signal lamp
- 7. Turn signal indicator lamp
- A. Dash side lower (Passenger side)
- 2. Front turn signal lamp
- 5. BCM
- B. Behind the cluster lid C
- 3. Combination switch
- 6. Unified meter and A/C amp.
- C. On the combination meter

## Component Description

INFOID:0000000008289135

Part	Description		
ВСМ	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks.</li> <li>Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).</li> </ul>		
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".		
Hazard switch (Multifunction switch)	Refer to EXL-273, "Description".		
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM [with CAN communication (through unified meter and A/C amp.)].		

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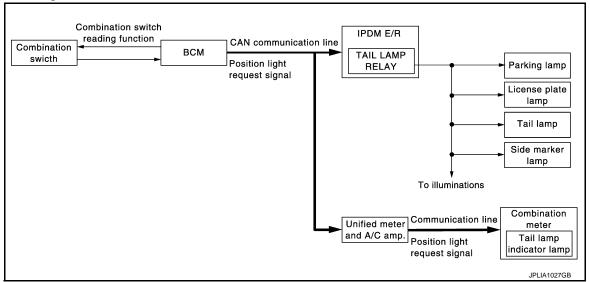
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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## System Diagram

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## System Description

INFOID:0000000008289137

#### **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

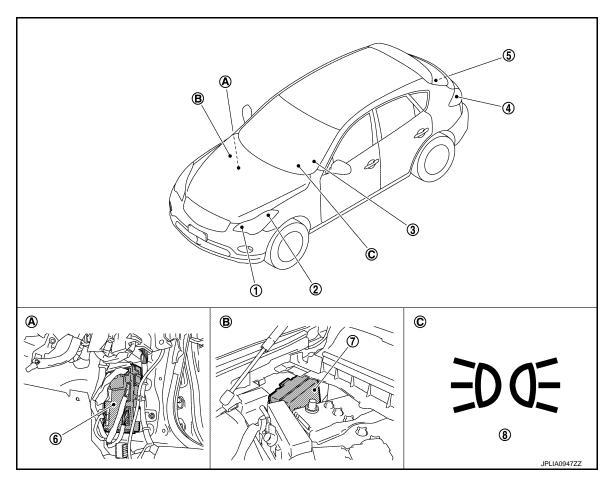
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R with CAN communication according to the ON/ OFF condition of the parking, license plate, side marker and tail lamps.

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 (with auto light system)
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking lamp, the 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.

## **Component Parts Location**

INFOID:0000000008289138



- 1. Parking lamp
- 4. Tail lamp and side marker lamp
- 7. IPDM E/R
- A. Dash side lower (Passenger side)
- 2. Side marker lamp
- 5. License plate lamp
- 3. Tail lamp indicator lamp
- B. Engine room dash panel (RH)
- 3. Combination switch
- 6. BCM
- C. On the combination meter

## Component Description

INFOID:0000000008289139

Part	Description	
ВСМ	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the ON/OFF status of the clearance, license plate, side marker and tail lamps according to the vehicle condition. Requests the tail lamp relay ON to IPDM E/R (with CAN communication).</li> </ul>	
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".	
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM [with CAN communication (through the unified meter and A/C amp.)].	

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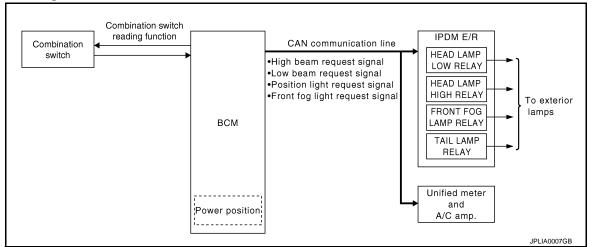
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### EXTERIOR LAMP BATTERY SAVER SYSTEM

### System Diagram

INFOID:0000000008289140



## System Description

INFOID:0000000008289141

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. Refer to EXL-234, "System Diagram".

#### EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

#### NOTE:

- Headlamp control function turns the exterior lamps ON normally when the ignition switch is turned ACC or the engine started (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 lamp OFF.

## **Component Parts Location**

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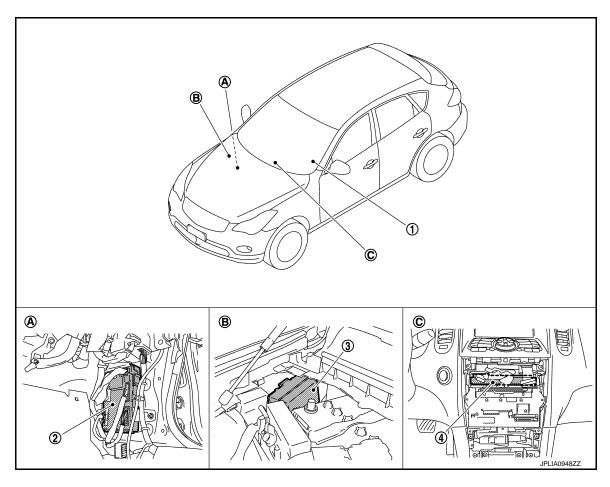
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- 1. Combination switch
- 4. Unified meter and A/C amp.
- A. Dash side lower (Passenger side)
- 2. BCM
- B. Engine room dash panel (RH)
- 3. IPDM E/R
- C. Behind the cluster lid C

## Component Description

INFOID:0000000008289143

Part	Description	
BCM	<ul> <li>Judges each switch condition by the combination switch reading function.</li> <li>Judges the exterior lamp OFF according to the vehicle condition. Requests each relay OFF to IPDM E/R (with CAN communication).</li> </ul>	
IPDM E/R	Controls the integrated relay according to the request from BCM (with CAN communication).	
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".	

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[HALOGEN TYPE]

## **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

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#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

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

x: Applicable item

System	Sub system selection item	Diagnosis mode		
System	Sub system selection item	Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
_	AIR CONDITONER*			
Intelligent Key system     Engine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
IVIS - NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open system	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	AP system RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

#### NOTE

## FREEZE FRAME DATA (FFD)

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

<sup>\*:</sup> This item is displayed, but is not used.

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

#### NOTE:

\*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

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

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

#### **HEADLAMP**

HEADLAMP: CONSULT Function (BCM - HEAD LAMP) (Halogen Type)

**WORK SUPPORT** 

Service item	Setting item	Setting		
BATTERY SAVER SET	On*	With the exterior lamp battery saver function		
BATTERT SAVER SET	Off	Without the exterior lamp battery saver function		
ILL DELAY SET	MODE 1*	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.	Sets delay timer function timer operation time. (All doors closed)	
	MODE 4	60 sec.		
	MODE 5	90 sec.		
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		
	MODE 1*	Normal		
CUSTOM A/LIGHT SET- TING	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)		
	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)		
	MODE 4	Less sensitive setting than normal setting (Turns ON later than normal operation.)		

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

## **DATA MONITOR**

## NOTE:

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

Monitor item [Unit]	Description	
PUSH SW [On/Off]	Indicates [ON/OFF] condition of push-button ignition switch.	
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates [STOP/START/CRANK/RUN] condition of engine states.	
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from unified meter and A/C amp. by numerical value [Km/h].	
KEY SW-SLOT [On/Off]	Indicates [ON/OFF] condition of key slot.	
TURN SIGNAL R [On/Off]		
TURN SIGNAL L [On/Off]		
TAIL LAMP SW [On/Off]		
HI BEAM SW [On/Off]		
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function	
HEAD LAMP SW2 [On/Off]		
PASSING SW [On/Off]		
AUTO LIGHT SW [On/Off]		
FR FOG SW [On/Off]		

## **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

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Monitor item [Unit]	Description	
RR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.	
DOOR SW-DR [On/Off]	Indicated [ON/OFF] condition of front door switch (driver side).	
DOOR SW-AS [On/Off]	Indicated [ON/OFF] condition of front door switch (passenger side).	
DOOR SW-RR [On/Off]	Indicated [ON/OFF] condition of rear door switch RH.	
DOOR SW- RL [On/Off]	Indicated [ON/OFF] condition of rear door switch LH.	
DOOR SW-BK [On/Off]	Indicated [ON/OFF] condition of back door switch.	
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	

### **ACTIVE TEST**

Test item	Operation	Description	
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.	
	Off	Stops the position light request signal transmission.	
	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).	
HEAD LAMP	Low	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).	
	Off	Stops the high & low beam request signal transmission.	
FR FOG LAMP	On	Transmits the front fog light request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.	
	Off	Stops the front fog light request signal transmission.	
RR FOG LAMP	On	NOTE:	
RR FOG LAMP	Off	The item is indicated, but cannot be tested.	
DAYTIME RUNNING LIGHT	On	NOTE:	
DAT TIME KONNING LIGHT	Off	The item is indicated, but cannot be tested.	
	RH		
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.	
	Off	- · · · · · · · · · · · · · · · · · · ·	
ILL DIM SIGNAL	On	NOTE:	
ILL DIW SIGNAL	Off	The item is indicated, but cannot be tested.	

## FLASHER

FLASHER : CONSULT Function (BCM - FLASHER) (Halogen Type)

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### **WORK SUPPORT**

Service item	Setting item	Setting		
HAZARD ANSWER BACK	Lock Only*	With locking only		
	Unlk Only	With unlocking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or the key fob.	
	Lock/Unlk	With locking/unlocking		
	Off	Without the function		

[HALOGEN TYPE]

#### **DATA MONITOR**

#### NOTE:

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

Monitor item [Unit]	Description	
REQ SW-DR [On/Off]	Indicated [ON/OFF] condition of door request switch (driver side).	
REQ SW-AS [On/Off]	Indicated [ON/OFF] condition of door request switch (passenger side).	
PUSH SW [On/Off]	Indicates [ON/OFF] condition of push-button ignition switch.	
TURN SIGNAL R [On/Off]	Each quitch condition that PCM judges from the combination quitch reading function	
TURN SIGNAL L [On/Off]	<ul> <li>Each switch condition that BCM judges from the combination switch reading function</li> </ul>	
HAZARD SW [On/Off]	The switch status input from the hazard switch	
RKE-LOCK [On/Off]	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.	
RKE-UNLOCK [On/Off]	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.	
RKE-PANIC [On/Off]	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.	

### **ACTIVE TEST**

Test item	Operation	Description
	RH	Outputs the voltage to blink the right side turn signal lamps.
FLASHER	LH	Outputs the voltage to blink the left side turn signal lamps.
	Off	Stops the voltage to turn the turn signal lamps OFF.

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

< SYSTEM DESCRIPTION >

[HALOGEN TYPE]

# 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.

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Side maker lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

#### Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

#### NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

- Turn the ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF.

#### **CAUTION:**

#### Close passenger door.

- 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
- The oil pressure warning lamp starts blinking when the auto active test starts.
- 6. After a series of the following operations is repeated 3 times, auto active test is completed.

#### NOTE:

When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF. **CAUTION:** 

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-63</u>, <u>"Component Function Check"</u>.
- Do not start the engine.

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Side maker lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> </ul>	10 seconds
4	Headlamps	LO 10 seconds     HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6*	Cooling fan	MID for 5 seconds → HI for 5 seconds

 $<sup>^*</sup>$ : Outputs duty ratio of 50% for 5 seconds o duty ratio of 100% for 5 seconds on the cooling fan control module.

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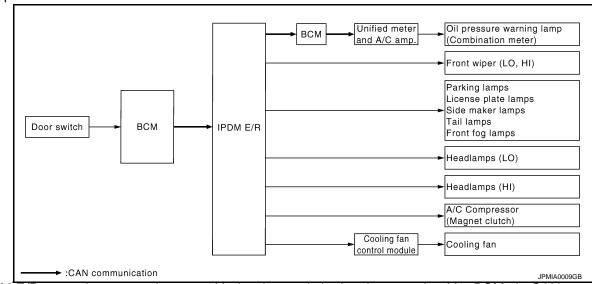
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Concept of auto active test



- 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
Any of the following components do not operate		YES	BCM signal input circuit
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Side maker lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> <li>Headlamp (HI, LO)</li> <li>Front wiper (HI, LO)</li> </ul>	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
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES	<ul> <li>Unified meter and A/C amp. signal input circuit</li> <li>CAN communication signal between unified meter and A/C amp. and ECM</li> <li>CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO	Magnet clutch     Harness or connector between IPDM E/R and magnet clutch     IPDM E/R
	Perform auto active test.  Does the oil pressure warning lamp blink?	YES	Harness or connector between IPDM E/R and oil pressure switch     Oil pressure switch     IPDM E/R
Oil pressure warning lamp does not operate		NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter

#### < SYSTEM DESCRIPTION >

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

# CONSULT Function (IPDM E/R)

INFOID:0000000008772698

#### APPLICATION ITEM

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

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

#### SELF DIAGNOSTIC RESULT

Refer to EXL-375, "DTC Index".

#### **DATA MONITOR**

#### NOTE:

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

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

Revision: 2013 December EXL-255 2013 EX

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# < SYSTEM DESCRIPTION >

[HALOGEN TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.  NOTE:
		For models without steering lock unit, this item is not monitored.  Displays the status of the steering lock judged by IPDM E/R.
S/L STATE [LOCK/UNLOCK/UNKWN]		NOTE: For models without steering lock unit, this item is not monitored.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

#### **ACTIVE TEST**

Test item

Test item	Operation	Description
	Off	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	RH	
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.

# < SYSTEM DESCRIPTION >

# [HALOGEN TYPE]

Test item	Operation	Description
	1	OFF
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
WOTOK FAIN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.
	Off	OFF
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

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#### **POWER SUPPLY AND GROUND CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

# DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000008772666

### 1. CHECK FUSE AND FUSIBLE LINK

Check that the following fuse and fusible link are not blown.

Signal name	Fuse and fusible link No.
Battery power supply	К
battery power suppry	10

#### Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

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

(	+)	(-)	Voltage (Approx.)
В	СМ		
Connector	Connector Terminal		
M118 1		Ground	Battery voltage
M119	11		Dattery Voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

# 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M119	M119 13		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

# 1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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Signal name	Fuses and fusible link No.
	С
Battery power supply	50
	51

Is the fuse fusing?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check voltage between IPDM E/R harness connector and the ground.

(-	+)	(-)	Voltage
IPDM E/R		(-)	(Approx.)
Connector	Terminal	Ground	
E4	1	Giodila	Battery voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

# 3. CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connectors and the ground.

IPDM I	E/R		Continuity
Connector	Terminal	Ground	Continuity
E5	12	Giodila	Existed
E6	41		LXISIEU

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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[HALOGEN TYPE]

# HEADLAMP (HI) CIRCUIT

# Component Function Check

#### INFOID:0000000008289151

# 1. CHECK HEADLAMP (HI) OPERATION

#### **RIPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the headlamp switches to the high beam.

#### (P)CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With 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 headlamp (HI) turned ON?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-260, "Diagnosis Procedure".

### Diagnosis Procedure

INFOID:0000000008289152

# 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

#### **®CONSULT ACTIVE TEST**

- 1. Turn the ignition switch OFF.
- 2. Disconnect the headlamp high connector.
- 3. Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

	Т	erminals		Condition		
(+)			(-)	Condition	Voltage	
IPDM E/R			External	(Approx.)		
Cor	nector	Terminal		lamp		
RH		89	Ground	Hi	Battery voltage	
	E8		Oround	Off	0 V	
LH	90		Hi	Battery voltage		
				Off	0 V	

#### Is the measurement value normal?

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

# 2.CHECK HEADLAMP (HI) OPEN CIRCUIT

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

# **HEADLAMP (HI) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

IPDM E/R		Front combination lamp		Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	89	E28	7	Existed
LH	LO	90	E58	7	LAISIEU

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#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

# 3.CHECK HEADLAMP (HI) FUSE

- 1. Turn the ignition switch OFF.
- 2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp HI (LH)	IPDM E/R	#54	10 A

#### Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

# 4.CHECK HEADLAMP (HI) SHORT CIRCUIT

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

	IPDM E/	'R		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E8	89	Ground	Not existed
LH	20	90		INOL EXISTED

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

# 5.check headlamp (HI) ground open circuit

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

Fro	nt combinat	ion lamp		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E28	2	Ground	Existed
LH	E58	2		LAISIEU

#### Does continuity exist?

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

NO >> Repair the harnesses or connectors.

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[HALOGEN TYPE]

INFOID:0000000008289153

INFOID:0000000008289154

# HEADLAMP (LO) CIRCUIT

# Component Function Check

# 1. CHECK HEADLAMP (LO) OPERATION

# RIPDM E/R AUTO ACTIVE TEST

- Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the headlamp is turned ON.

#### (P)CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the headlamp (LO) is turned ON.

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

#### Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-262, "Diagnosis Procedure".

### Diagnosis Procedure

1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

#### (R)CONSULT ACTIVE TEST

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

	Terminals			Test item			
	(+)		(+)		(-)	iest item	Voltage
	IPDN	/I E/R		External	(Approx.)		
Con	nector	Terminal		lamp			
RH		83	83 Ground		Battery voltage		
IXII	E8	03	Ground	Off	0 V		
LH	LO	84		Lo	Battery voltage		
LH	84		Off	0 V			

#### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

	IPDI	M E/R	Front combination lamp		Continuity
Conr	nector	Terminal	Connector Terminal		Continuity
RH	E8	83	E28	5	Existed
LH	LO	84	E58	5	LAISIGU
			•		

Does continuity exist?

# **HEADLAMP (LO) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

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YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

# 3.CHECK HEADLAMP (LO) FUSE

- Turn the ignition switch OFF.
- 2. Check that the following fuses are not fusing.

Unit	Lotion	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	#57	15 A
Headlamp LO (LH)	IPDM E/R	#56	15 A

#### Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

# 4. CHECK HEADLAMP (LO) SHORT CIRCUIT

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

IPDM E/R			Continuity	
Conr	nector	Terminal	Ground	Continuity
RH	E8	83	Glound	Not existed
LH	LO	84		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

# 5. CHECK HEADLAMP (LO) GROUND OPEN CIRCUIT

- Turn the ignition switch OFF.
- Disconnect the front combination lamp connector. 2.
- Check continuity between the front combination lamp harness connector and ground.

F	ront comb	ination lamp		Continuity
Coni	nector	Terminal	Ground	Continuity
RH	E28	3	Glound	Existed
LH	E58	3		LXISTEG

#### Does continuity exist?

YES >> Replace the headlamp (LO) bulb. (Bulb socket is abnormally.)

NO >> Repair the harnesses or connectors. **EXL** 

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#### FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

INFOID:0000000008289155

INFOID:0000000008289156

# FRONT FOG LAMP CIRCUIT

# Component Function Check

### 1

# 1. CHECK FRONT FOG LAMP OPERATION

#### **RIPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the front fog lamp is turned ON.

#### (P)CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With 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 front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-264, "Diagnosis Procedure".

### Diagnosis Procedure

# 1. CHECK FRONT FOG LAMP FUSE

- 1. Turn the ignition switch OFF.
- 2. Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#58	10 A

#### Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity	
Connector		Terminal	Ground	Continuity	
RH	E8	86	Glound	Not existed	
LH	E0	87		inot existed	

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

# 3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

# 4. CHECK FRONT FOG LAMP OUTPUT VOLTAGE

#### **PCONSULT ACTIVE TEST**

- 1. Disconnect the front fog lamp connector.
- Turn the ignition switch ON.
- 3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

#### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

	Т	erminals	Test item		
(+)			(-)	Test item	Voltage
	IPDM E	/R		EXTERNAL	(Approx.)
Cor	nnector	Terminal		LAMP	
RH		86	Ground	Fog	Battery voltage
	E8			Off	0 V
LH	87		Fog	Battery voltage	
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

# 5. CHECK FRONT FOG LAMP OPEN CIRCUIT

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

IPDM E/R		Front fog	Continuity		
Conr	Connector Terminal		Connector Terminal		Continuity
RH	E8	86	E34	1	Existed
LH	LO	87	E64	1	LXISIEU

### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

#### 6.CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

Check continuity between the front fog lamp harness connector and the ground.

Front fog lamp				Continuity
Conr	Connector Termina		Ground	Continuity
RH	E34	2	Giodila	Existed
LH	E64	2		Existed

#### Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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#### PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

### PARKING LAMP CIRCUIT

# Component Function Check

INFOID:0000000008289157

# 1. CHECK PARKING LAMP OPERATION

#### RIPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".

Check that the parking lamp is turned ON.

#### (R)CONSULT ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

2. With operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
Off : Parking lamp OFF

#### Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-266, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000008289158

# 1. CHECK PARKING LAMP FUSE

- 1. Turn the ignition switch OFF.
- Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Parking lamp	IPDM E/R	#52	10 A

#### Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

# 2.CHECK PARKING LAMP SHORT CIRCUIT

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

IPDM E/R				Continuity
Connector		Terminal	Ground	Continuity
RH	- E9	91	Giodila	Not existed
LH		92		inot existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if fusing is found again.)

### 3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

# 4. CHECK PARKING LAMP OUTPUT VOLTAGE

#### (R)CONSULT ACTIVE TEST

- 1. Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.

#### PARKING LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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

	Т	erminals	Test item		
(+)			(-)	Test item	Voltage
IPDM E/R			EXTERNAL	(Approx.)	
Cor	nnector	Terminal		LAMP	
RH		91	Ground	TAIL	Battery voltage
	E9			Off	0 V
LH		92		TAIL	Battery voltage
				Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

# 5. CHECK PARKING LAMP OPEN CIRCUIT

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

IPDM E/R		Front combin	Continuity		
Conr	Connector Terminal		Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	LJ	92	E58	8	LAISIEU

#### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

### **6.**CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

Front combination lamp				Continuity
Connector		Terminal	Ground	Continuity
RH	E28	4	Ground	Existed
LH	E58	4		EXISTECT

#### Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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### TURN SIGNAL LAMP CIRCUIT

Description INFOID.000000008289159

BCM performs the high flasher operation (fail-safe) if any bulb or harness of the turn signal lamp circuit is open.

#### NOTE:

Turn signal lamp blinks at normal speed when using the hazard warning lamp.

# Component Function Check

#### INFOID:0000000008289160

### 1. CHECK TURN SIGNAL LAMP

#### (P)CONSULT ACTIVE TEST

- 1. Select "FLASHER" of BCM (FLASHER) active test item.
- 2. With operating the test items, check that the turn signal lamp blinks.

LH : Turn signal lamp LH blinkingRH : Turn signal lamp RH blinkingOff : The turn signal lamp OFF

#### Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-268, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000008289161

### 1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

# 2. CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

#### **PCONSULT ACTIVE TEST**

- Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector or the rear combination lamp connector.
- Turn the ignition switch ON.
- Select "FLASHER" of BCM (FLASHER) active test item.
- 5. With operating the turn signal switch, check the voltage between the BCM harness connector and the ground.

Terminals				Test item			
(+)		(-)	1631 16111	Voltage (Approx.)			
BCM				FLASHER	voltage (Approx.)		
Connector Terminal			TEASILIN				
Front RH		17			(V) 15		
Front LH	M119	18	Ground	Ground	Ground	LH or RH	5 0 1 s
Rear RH		20					
Rear LH	M120	M120 25	Off	0 V			

#### Is the measurement value normal?

#### TURN SIGNAL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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YES >> GO TO 3.

NO >> Replace BCM.

# 3.check turn signal lamp open circuit

- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Check the continuity between the BCM harness connector and the front combination lamp or the rear combination lamp harness connector.

ВСМ			Front comb Rear comb	Continuity	
Conr	nector	Terminal	Connector	Terminal	
Front RH	M119	17	E28	6	
Front LH	WITTE	18	E58	6	Existed
Rear RH	M120	20	B261	1	EXISTEC
Rear LH	M120	25	B260	1	

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

### 4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

ВСМ				Continuity
Connector		Terminal		Continuity
Front RH	M119	17	Ground	
Front LH	WH19	18	Glound	Not existed
Rear RH	M120	20		Not existed
Rear LH	IVITZU	25		

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

# 5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

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

Front combination lamp / Rear combination lamp				Continuity
Connector Terminal				
Front RH	E28	4	Ground	
Front LH	E58	4		Existed
Rear RH	B261	2		Existed
Rear LH	B260	2		

#### Does continuity exist?

YES >> Replace the front combination lamp or the rear combination lamp.

NO >> Repair the harnesses or connectors.

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### **OPTICAL SENSOR**

Description INFOID:000000008289162

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

# Component Function Check

INFOID:0000000008289163

# 1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

#### (P)CONSULT DATA MONITOR

- 1. Turn the ignition switch ON.
- Select "OPTICAL SENSOR" of BCM (HEADLAMP) data monitor item.
- 3. Turn the lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition		Voltage (Approx.)
	Optical	When illuminating	3.1 V or more *
OPTICAL SENSOR	sensor	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 item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-270, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:0000000008289164

# 1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(-	+)	(-)	Voltage (Approx.)
Optica	sensor		(Approx.)
Connector Terminal		Ground	
M94	M94 1		5 V

#### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 4.

# 2.CHECK OPTICAL SENSOR GROUND INPUT

Check the voltage between the optical sensor harness connector and the ground.

(-	+)	(-)	Voltage (Approx.)
Optica	sensor		(Approx.)
Connector Terminal		Ground	
M94	M94 3		0 V

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> GO TO 6.

# 3.check optical sensor signal output

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#### < DTC/CIRCUIT DIAGNOSIS >

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

Terminals			Condition		
(+)		(-)	Condition	Voltage (Approx.)	
Optical sensor			Optical sensor		
Connector	Terminal		Optical serisor		
		Ground	When illuminating	3.1 V or more *	
M94	2		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 measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

# 4. CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optica	l sensor	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M94	1	M123	138	Existed

#### Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

### 5.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check the continuity between the optical sensor harness connector and the ground.

Optica	l sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	1		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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

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

Optica	sensor	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M94	3	M123	137	Existed

#### Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

### 7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

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

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Optical	sensor	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M94	2	M123	113	Existed

#### Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

# 8.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check the continuity between the optical sensor harness connector and the ground.

Optical	sensor		Continuity
Connector	Connector Terminal		Continuity
M94	2		Not existed

# Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

[HALOGEN TYPE]

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### HAZARD SWITCH

Description INFOID:0000000008289165

Hazard switch is integrated in the multifunction switch. Hazard switch inputs the signals to BCM when pressing the switch.

# Component Function Check

# INFOID:0000000008289166

# 1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

# **©CONSULT DATA MONITOR**

- 1. Turn the ignition switch ON.
- Select "HAZARD SW" of BCM (FLASHER) data monitor item.
- With operating the hazard switch, check the monitor status.

Monitor item	Condition		Monitor status
HAZARD SW	Hazard switch	While pressing the switch	On
TIAZARD OW	Tiazaiu Switch	While not pressing the switch	Off

#### Is the item status normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-273, "Diagnosis Procedure".

# Diagnosis Procedure

# 1. CHECK HAZARD SWITCH SIGNAL INPUT

With operating the hazard switch, check the voltage between the BCM harness connector and the ground.

	Terminals		Condition	
(+	·)	(-)	Condition	Voltage (Approx.)
ВС	M		Hazard switch	voltage (Approx.)
Connector	Terminal		Hazaru Switch	
			While pressing the switch	0 V
M122	110	Ground	While not pressing the switch	(V) 15 10 5 0 JPMIA0012GB

#### Is the measurement value normal?

YES >> Replace BCM.

NO >> GO TO 2.

# 2.check hazard switch signal open circuit

- Turn the ignition switch OFF.
- Disconnect the multifunction switch connector and BCM connector. 2.
- Check continuity between the multifunction switch harness connector and the BCM harness connector.

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Multifunc	tion switch	В	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M72	16	M122	110	Existed

#### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

# 3. CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunc	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	16		Not existed

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

# 4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between the multifunction switch harness connector and the ground.

Multifunct	tion switch		Continuity
Connector	Terminal	Ground	Continuity
M72	1		Existed

#### Does continuity exist?

YES >> Replace the hazard switch (multifunction switch).

NO >> Repair the harnesses or connectors.

#### TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN TYPE]

#### TAIL LAMP CIRCUIT

# Component Function Check

#### INFOID:0000000008289168

# 1. CHECK TAIL LAMP OPERATION

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#### **■IPDM E/R AUTO ACTIVE TEST**

- Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the tail lamp is turned ON.

#### (P)CONSULT ACTIVE TEST

- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the tail lamp is turned ON.

TAIL : Tail lamp ON Off : Tail lamp OFF

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#### Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

>> Refer to EXL-275, "Diagnosis Procedure". NO

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# Diagnosis Procedure

#### INFOID:0000000008289169

# 1. CHECK TAIL LAMP FUSE

- Turn the ignition switch OFF.
- Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity	
<ul><li> Tail lamp</li><li> Rear side marker lamp</li><li> License plate lamp</li></ul>	IPDM E/R	#53	10 A	

#### Is the fuse fusing?

YES >> Repair the malfunctioning part before replacing the fuse.

NO >> GO TO 2.

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# 2.CHECK TAIL LAMP OUTPUT VOLTAGE

### ©CONSULT ACTIVE TEST

- Disconnect the rear combination lamp connector.
- Turn the ignition switch ON.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

	Terminals		Test item	
(-	+)	(-)	rest item	Voltage
IPDN	I E/R		EXTERNAL	(Approx.)
Connector	Terminal	Ground	LAMP	
E5	7	Ground	TAIL	Battery voltage
	,		Off	0 V

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#### Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R.

# 3.CHECK TAIL LAMP OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.

**EXL-275** Revision: 2013 December 2013 EX

#### TAIL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

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

	IPDM E	/R	Rear comb	ination lamp	Continuity
C	Connector	Terminal	Connector	Terminal	Continuity
RH	E5	7	B232	1	Existed
LH	E3	,	B60	1	EXISTEC

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between the rear combination lamp harness connector and the ground.

	Rear combinat	ion lamp		Continuity
-	Connector	Terminal	Ground	Continuity
RH	B232	4	Ground	Existed
LH	B60	4		Existed

### Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

#### LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN TYPE]

# LICENSE PLATE LAMP CIRCUIT

# Component Function Check

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#### NOTE:

Check the tail lamp circuit if the tail lamp and the license plate lamp are not turned ON.

### 1. CHECK LICENSE PLATE LAMP OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

- 1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the license plate lamp is turned ON.

#### **PCONSULT ACTIVE TEST**

- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- With 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 license plate lamp turned ON?

>> License plate lamp circuit is normal.

NO >> Refer to EXL-277, "Diagnosis Procedure".

# Diagnosis Procedure

INFOID:000000000828917

# 1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

#### Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

# 2.CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

Continuity	late lamp	License p	/R	IPDM E	
Continuity	Terminal	Connector	Terminal	onnector	С
Existed	1	D117	7	E5	RH
LAISIEU	1	D112	,	LJ	LH

#### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

# 3.check license plate lamp ground open circuit

Check continuity between the license plate lamp harness connector and the ground.

	License plate	alamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	D117	2	Ground	Existed
LH	D112	2		LXISIEU

#### Does continuity exist?

YES >> Replace the license plate lamp.

NO >> Repair the harnesses or connectors. **EXL** 

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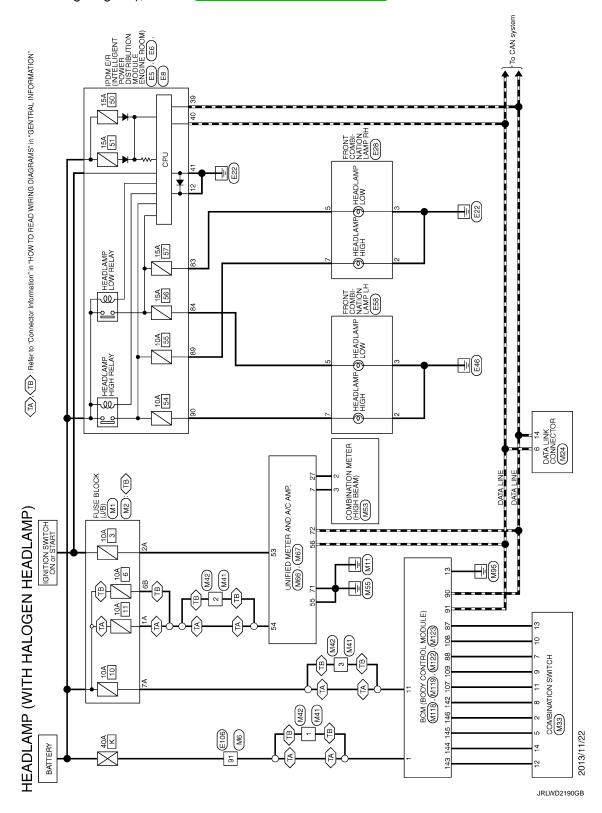
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# **HEADLAMP SYSTEM**

# Wiring Diagram - HEADLAMP -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



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Connector his EE0	T	Connector Name   FRONT COMBINATION   4MP   H		Connector Type RS08FB-PR	ſ					L 0 3	(2 6 7 8)			Terminal Color Of	No. Wire Signal Name [Specification]	+	٥	3 B/Y	4 B/W -	- · · · · ·		ł	$^{+}$	. BB 8			Connector No. E106	Γ	Connector Name WIRE TO WIRE	Connector Type TH80FW-CS16-TM4	1	£			2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			D la	No. Wire Signal Marine [Specification]	1 R -	2 W -	3 B	4 GR	5 GR	H	t	10 BG	+	+	+	+	14 K
(DLAMP)	4			Connector No. E8	PDM E/R (NTELLIGENT POWER DISTRIBUTION MODULE		Connector Type MS08EtW_CS	٦.	ą́	国			: ]-	90 89 88 87 88			· ·	g g	No. Wire	83 BG -	> 78	/VI 96	$^{+}$	+	88 GR -	89 BR	H	-		Connector No F28	Т	Connector Name FRONT COMBINATION LAMP RH	Т	Connector Type RS08FB-PR	ą			(C)	4 6 7	(5 6 7 8)			Terminal Color Of Signal Name (Secretical)	No. Wire oignal Mane [opecinication]	2 B	3 B/	4 B/W	t	ł	$^{+}$	. Na .	-		
HEADLAMP (WITH HALOGEN HEADLAMP)	2	Connector Name IPDM E/R (INTELLISENT POWER DISTRIBUTION MODULE	CONTROLL INCIDE ENGINE ROOM!	Connector Type TH20FW-CS12-M4-1V	ú			Ė	12 13 28 28 28	8 8				Terminal Color Of	No. Wire Signal Name [Specification]	+	+	- T	7 R	12 B/W -	13 ×	2	$^{+}$	+	_	26 R -	┞	H	30 GR	98	┨		Γ	Connector No. E6	Connector Name IPDM EIR (INTELLISENT POWER DISTRIBUTION MODULE	ENGINE ROOM)	Connector Type TH08FW-NH			K		41 40 39		C+ h+ C+ h+		Terminal Color Of	No. Wire Signal Name [Specification]	+	╀	44 Bak	- PWM	+	+	45 G

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ŀ	73 SB -	74 BR - [With ICC]	74 L - [Without ICC]	75 G	GR .	Μ.	77 P - [Without ICC]		R	W	$\dashv$	+	+	. SS 28	╀	+	۵	87 W		ψ			7	+		+	98 SHIELD .	700 SB	ł		$\overline{}$	Connector Name DATA LINK CONNECTOR	Connector Type BD16FW	ď	医		11 14 16		3 4 5 6 7 8						
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MP (WITH HALOGEN HEADL)	- [Without ICC]	6A	- [Without ICC] 7A	- [Without ICC]			_	Connector Name	Connector Type				9 -	-		2	Color Of	- No. Wire		- 4B	- 5B	- 98	- 78	+	96		Н	Connector No M1 WIRE TO W	FIRE BLOCK (JR)		Connector Lype NSU6FW-M2			MI 472	8A 7A 6A 5A 4A	[ ]	Terminal Color Of	No. Wire	f Sinnal Name (Specification)	Ognor realing [Specification]		- 4	0.00	+	e li oi vey sioil

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HEADLAMP (WITH HALOGEN HEADLAMP)   Terminal Code	Cornector No.   M41	Cornector Name   COMBINATION METER	PER SUPPLY WAL (METERAME) WAL (METERAME) WAL (METERAME) WAL (METERAME) WAL (METERAME) WITCH GROUND WITCH GROU	Corrector No.    Corrector Name   Correc		MEG  UNIFIED METER AND A/C AMP.  THOFWANH  Signal Name   Specification   MANNAL, MODE SHET UP SIGNAL,  COMMUNICATION SIGNAL, (AND ANGTER)  SUCHICLE SPEED SIGNAL (AND ANGTER)  SUCH BILL BILL BILL BILL BILL BILL  SUMMAN, MODE SHET UP SIGNAL,  COMMUNICATION SIGNAL, (AND ANGTER)  NON HANNALM, MODE SHET UP SIGNAL,  MANNALM, MODE SHET UP SIGNAL,  COMMUNICATION SIGNAL, (ACTERANE)  DON ONOFF SIGNAL, (ACTERANE)  COMMUNICATION SIGNAL, (BETERANE)  PERCHE SPEED SIGNAL (BETERANE)  PERCHE SPEED SIGNAL (BETERANE)  PERCHE SPEED SIGNAL, (BETERANE)  PERCHE SPEED SIGNAL, (BETERANE)  PERCHE SPEED SIGNAL, (BETERANE)  PERCHE SIGNAL, (BETERANE)  DON ONOFF SIGNAL, (BETERANE)  PERCHE S	
				+++++	> > \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ACC POWER SUPPLY FUEL LEVEL SENSOR SIGNAL INTAGE SENSOR SIGNAL IN-VEHICLE SENSOR SIGNAL AMBIENT SENSOR SIGNAL	

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ALOGEN HEADLAMP	ŀ	140 GK	5 8	NEYLESS EN IRY RECEIVER COMM 142 BG COMBISW OUTPUTS	143	145	146 SB	KEY SLOT ILL CONT 150 LG DRIVER DOOR SW	ON IND 151 G REAR WINDOW DEFOGGER RELAY CONT	PUDDIE LAMP CONT	AT SHIFT SELECTOR POWER SUPPLY	STEED OF THE STEED	PASSENGER DOOR REQUEST SW	DRIVER DOOR REQUEST SW	BLOWER FAN MOTOR RELAY CONT	KEYLESS ENTRY RECEIVER POWER SUPPLY	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INDUT 2	HAZARD SW		M423		BOW (BOOT CONTROL MICHOLE)	TH40FG-NH			· · · · · · · · · · · · · · · · · · ·				Signal Name (Specification)	a Constant a recinate	OPLICAL SENSOR	STOP LAMP SW 1	DR DOOR UNLOCK SENSOR	KEY SLOT SW	IGN F/B	PASSENGER DOOR SW	POWER WINDOW SW COMM	PUSH-BUTTON IGNITION SW ILL POWER	LOCK IND	RECEIVER/SENSOR GND	RECEIVER/SENSOR POWER SUPPLY	TIRE PRESSURE RECEIVER COMM
ALOGEN HEADLAMP	ŀ	+	+	+	+	╀	-	H	H	+	+	╀	Н	+	+	+	+	+	+	4		octor No	cotor Nome	ector realine	ector Type		Ţ	<u> 2</u>				inal Color C	+	+	+	╀	┝	H	H	H	3 W	4 GR	_	×	_
ALOGEN HEADLAMP)  RESOR SIGNAL  Convector Name  Convector Name		•   6	8 6	ő G	ō S	18	91	95	6	8 8	8 8	8	10	10	9	9	9	9	9			000	3	3	Conn.	<b>4</b>	手	1				Term	¥ ;	=[	ĒĮĒ	Ę	12:	12	12	13.	133	134	137	138	139
MAP (WITH HALOGEN HEAL  MILOAO SERSOR SIGNAL  EDWINTON POWER SUPPLY  GAUITON POWER SUPPLY  GAUITON POWER SUPPLY  GAUIND  CARL  ELECTE SERSOR GROUND  INTINACE SERSOR GROUND  SUN OLD SERSOR GROUND  NATURE SERSOR GROUND  SUN OLD SERSOR GROUND  SUN OLD SERSOR GROUND  AMBIENT SERSOR GROUND  SUN OLD SERSOR GROUND  AMBIENT SERSOR GROUND  SUN OLD SERSOR GROUND  AND SERSOR GROUND  AND SERSOR GROUND  GAN-L  ACLAN SIGNAL  CAN-L  CONTROL MODULE)  POWER WINDOW POWER SUPPLY (RAP)  POWER WINDOW POWER SUPPLY (RAP)	_	Τ		Commonder Times NIS16EIM-CC	Commercial type Institution-Co			5 7 6	13 14 15 17 18			Color Of	Wire	91	_	>-	>	o l	H 4	×	a >	>	. »	BG	>			Connector Name BCM (BODY CONTROL MODULE)	$\neg$	1			2	04   S			Color Of	Wire	SB	75 GR PASSENGER DOOR ANT+	76 V DRIVER DOOR ANT-	LG DRI	> ;	BK	80 GR NATS ANT AMP.
HEADLA HEADLA HEADLA HA HA HEADLA HA HA HEADLA HA HA HA HEADLA HA	EADLAMP (WITH HALOGEN HEAD	BG SUNLOAD:	G EXHAUST GAS / OUTSIDE C	٥ >	- a		W	BR FUEL LEVEL	GR	_ 8	¥ 8	2	BG ECV	٦	œ	8	Ь			1	Connector Name BCM (BODY CONTROL MODULE)	Connector Tyre M03FB-1 C			<u> </u>	-	3	]	Terminal Color Of		П	W POWER WINDOW	Y POWER WINDOW												

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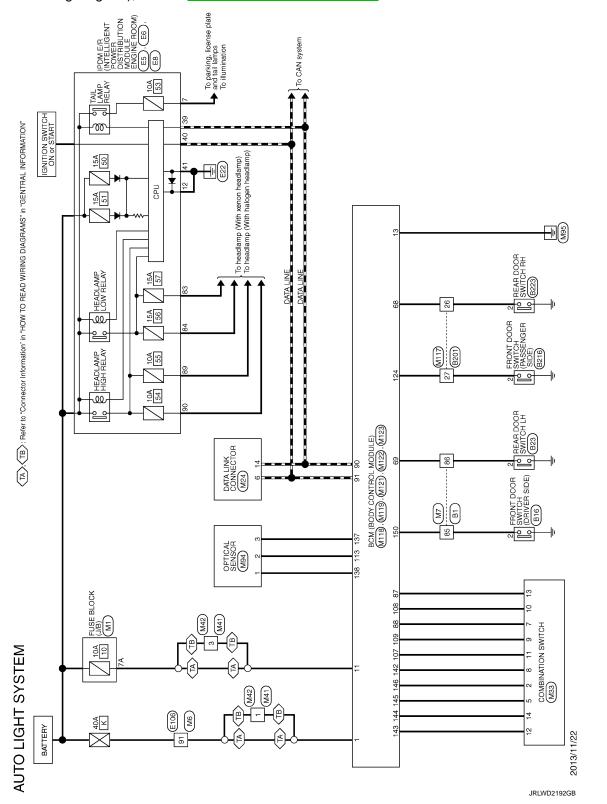
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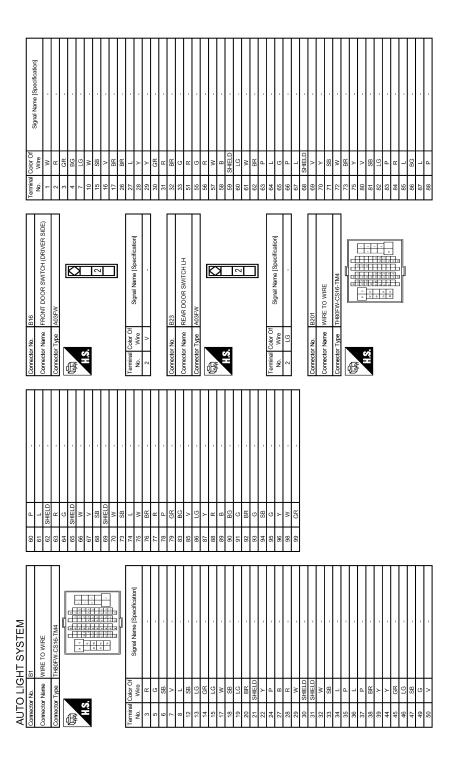
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# **AUTO LIGHT SYSTEM**

# Wiring Diagram - AUTO LIGHT SYSTEM -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".





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	9	<u>}</u>	2 2	50	21	22	23	Š	į	52	56	22	17	28	č	9	35	22	3	34	35	ć	g !	37	38	ç	3	4	45	43	Α,	2	48	20	5	5	54	22	ou u	60	9	61	63	70	ŝ	64	95	8 8	g	49	89	8	60	20	71	5	7/	73	74	,	+	75	22	2 6	9/
		Connector Name [PDM E/R (INTELLISENT POWER DISTRIBUTION MODULE ENGINE ROOM)		Connector Type NS08FW-CS	ģ					00	8				Tourism Only	Signal Name [Specification]	No. Wire	20 00	+	84 V		-	+	-	89 BR	a 06	┨			Connector No. E106		Connector Name WIRE TO WIRE		Connector Type TH80FW-CS16-TM4			7 X X X X X X X X X X X X X X X X X X X	0 11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 7 0 7 0 7 0 7	0 0 0			6 0 0			Terminal Color Of	No. Wire Signal Name [Specification]	t	+	2 W	3 B	2 0	+	5 GR -	H		+	+	11 SB -	t	+	13 L -	14 R	+	15 P -
	Connector No. E5	Connector Name   PDM E/R (NTELLIGENT POWER DISTRIBUTION MODILE   ENGINE ROOM)	_	Connector Type THZ0FW-CS12-IM4-1V	á				2.3	7 2					Toursell Color Of	Signal Name [Specification]	No. Wire		+	- 2 F	2	2000	- PMM		16 LG	ł	+	+	-	27 BG -	H	+	+	36 G			ı	Connector No. E6	STILLGOW NOTE INCIDENCE ENSOL LISTAN, GLS MODE	Connector Name Provide Record Provide distribution Module	- 1	Connector Type TH08FW-NH	1	þ		K		44 40	41 40 38	C7 77 D7 C7	64 ht 64 64		-	Terminal Color Of Signal Name (Specification)	Wire	П	38	40 L	41 B/W	╀	+	_	H	2 4	_
AUTO LIGHT SYSTEM	_	92 K	_	4	┙	- 9 2	L	L	1	100 L				Connector No. B216		Connector Name FRONT DOOR SWITCH (PASSENGER SIDE)		Compositor Tuno A03EW	П	ú		ATT.	X Y		T	2	Γ		]	Terminal Color Of	No Wire Signal Name [Specification]		2 L -				Connector No. B223		Connector Name   KEAK DOOK SWITCH KH		Connector Type A03FW		<b>[</b>	<b>区</b>	<u>X</u>	5.1		2	Ī		]]		lerminal color of Signal Name [Specification]		2 BR	-									

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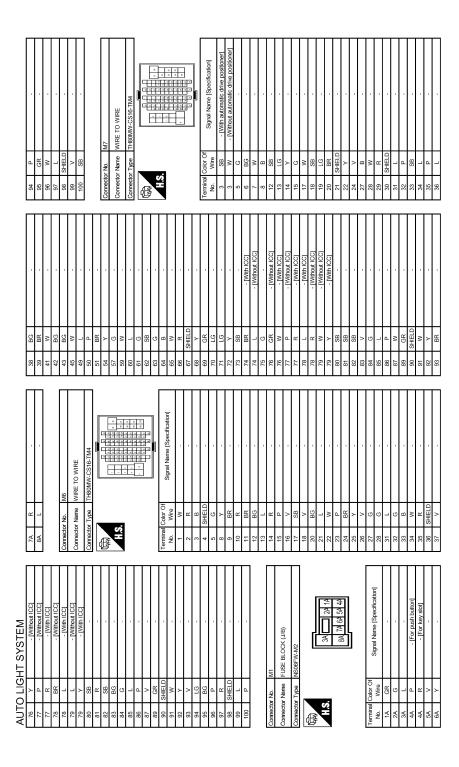
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	12 P OUTPUT 1 13 BR INPUT 5 14 G OUTPUT 2	$\overline{}$
Corrector Type BD16FW  H.S.	Corrector Nb. M41 Corrector Name WIRE TO WIRE	Connector Type   TKGSFW
3 4 5 6 7 8	Cornector Type   M03MW-LC	123
Terminal Color Of Signal Name [Specification] No. Wire	ν. - α	Terminal Color Of Signal Name [Specification]
3 LG -	[6]	1 Y POWER 2 P OUTPUT
	Terminal Color Of Comment Phone Connectional	3 B GROUND
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	No. Wire ogliki Marine [opedification]	Connector No M117
Н	2 Y	9
14 P	3 R	Connector Tune THROMAN-CS46-TM4
1		
Connector No M33		
9	_	- 73
Commonder Tunos	Connector Type M03FW-LC	X 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
COMMESSION 18/100 WATER		2 S S S S S S S S S S S S S S S S S S S
<b>7</b>	Si T	Torminal Color Of
1	•	
5 3	3.2	1 L
7 8 9 10 11 12 13 14		+
	Terminal Color Of	3 GK
Terminal Color Of	No. Wire Signal Name [Specification]	H
No. Wire Signal Name [Specification]		Н
1 P FR WASHER(-)	2 Y -	15 SB -
SB	3 R	+
GR		+
4 G IGN 5 I OITPIT3		26 BR -
1 80		+
>		
8 BG OUTPUT 5		30 ^
9 Y INPUT 2		31 R
10 R INPUT 4		H
11 LG INPUT 1		Н

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80 GR NATS ANT AMP.	81 W NATS ANT AMP.	ч	Y KEYLES	87 BR COMBLSW INPUT 5	88 V COMBI SW INPUT 3	90 P CAN-L	91 L CAN-H	92 LG KEY SLOT ILL CONT	ONIND \ \ 86	94 Y PUDDLE LAMP CONT	95 BG ACC RELAY CONT	96 GR A/T SHIFT SELECTOR POWER SUPPLY	ĸ	Н	SB	8 8	LG KEYLESS	+	TUS R COMBISWINFULA	- (	9		Connector No. M123	$\overline{}$	Connector Name   BCM (BODY CONTROL MODULE)	Connector Type TH40FG-NH	ą́	昼	S. E.	91 91 21 22 23 23	[22] (23) (23) (24) (25) (25) (25) (25) (25) (25) (25) (25			a D	Wire	۵	SB	Д	SB DR DO	BR KE	×	PT	BR	W PUSH-BUTTON	GR	137 BG RECEIVER/SENSOR GND
Connector No. M121	Complete Notice Control of the Contr		Connector Type TH40FGY-NH	4			7	47	(8) (8) (1) (8) (9) (4) (1) (8) (1) (1) (1)			Terminal Color Of Signal Name (Secretion)	No. Wire Ogular Marite [Specification]	SB	) )	80	> :	<u>5</u>	52 SB STAKIEK RELAY CONI	+	* >	> 2	R BACK DOOR SW	GR BACK DOOR OPENER SW	BR REAR RH DOOR SW	69 R REAR LH DOOR SW		ſ	Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FB-NH					25 25 25 25 25 25 25 25 25 25 25 25 25 2				nal C	Wire	SB	GR P/	>	LG	78 Y ROOM ANT1-
Connector No. M118	C III GOM CODENO VOCA MOO		Connector Type M03FB-LC	4		<u> </u>	2 1		2	]		Terminal Color Of Simpl Nama (Specification)	No. Wire Signal Name [Specimoatton]	1 W BAT (F/L)	2 W POWER WINDOW POWER SUPPLY(BAT)	3 Y POWER WINDOW POWER SUPPLY(RAP)		Г	Connector No. M119	Connector Name BCM (BODY CONTROL MODULE)	SO WEST T.	Comector type Institute-Ca			4 5 7 6 8 9 10	11 13 14 15 17 18 19	2		Townson Color Of		H	Н	7 Y STEP LAMP CONT	8 V ALL DOOR, FUEL LID LOCK OUTPUT	G DRN	. REAR DO	R	В	W PUSHBUTTON	>	M	BG T	19 V INT ROOM LAMP CONT			
AUTO LIGHT SYSTEM	- ·	В .		. 9	SHIELD -		re -	BR -		- TO	- 8		M	SHIELD -	^	· ·	SB	M (			^ 8	96		2	- 1	BG -		٠.	> 0	200	, ,	. 9	· ·	BR -		V - [With BOSE audio]		SB - [With BOSE audio]								

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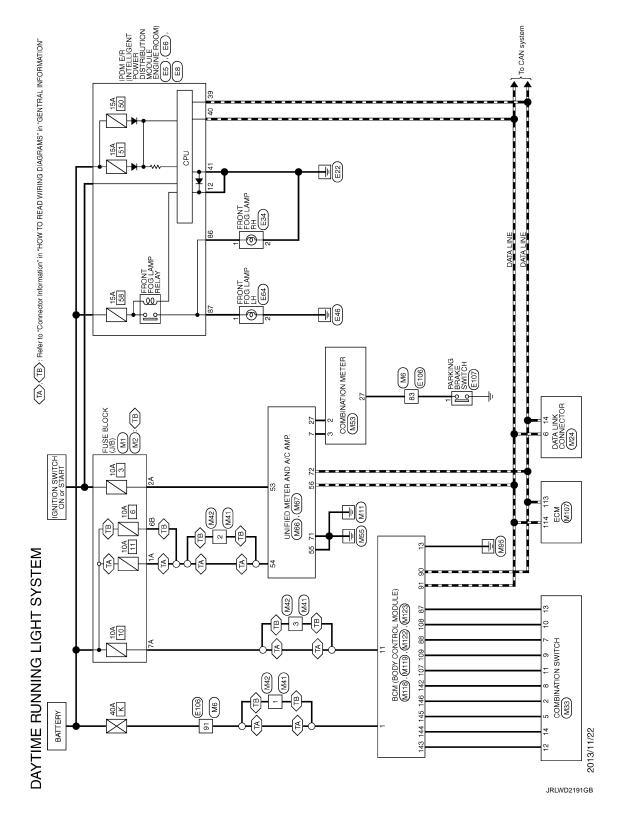
	VER COMM		P CONT	UT 5	UT 1	UT 2	UT 3	UT 4	SW	RELAY CONT
AUTO LIGHT SYSTEM	TIRE PRESSURE RECEIVER COMM	d/N 14IHS	SECURITY IND LAMP CONT	S TUPTIO WS IBMOO	COMBI SW OUTPUT	COMBI SW OUTPUT 2	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	WS AOOD REVIDE SW	REAR WINDOW DEFOGGER RELAY CONT
O LIG	Г	GR	9	BG	d	9	7	SB	97	9
AUT	139	140	141	142	143	144	145	146	150	151

### DAYTIME RUNNING LIGHT SYSTEM

## Wiring Diagram - DAYTIME LIGHT SYSTEM -

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For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



#### **DAYTIME RUNNING LIGHT SYSTEM**

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3	17	+	Н	25	+	+	$^{+}$	$^{+}$	╀	34	╀	Т	Т	+	38	-	41	┞	43	ł	+	+	+	4		┞	5 02	+	+	19	H	63	ł	╀	+	T	1	$\dashv$	69		ł	ł	$^{+}$	+	+	74	_	75	┞	32	+	+	14			
	_	Connector Name FRONT FOG LAMP LH	Connector Type FHZ02FB	4	· · · · · · · · · · · · · · · · · · ·	Ę					Tarminal Color Of	No Wire Signal Name [Specification]	+	†	2 B/W -			Connector No F106	Т	Connector Name WIRE TO WIRE	T. DOOD ALCOND.	Iype IIIBUFW-C3			*	0 E	C			6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Terminal Color Of		t	2 20		+	$\dashv$	5 GR -	· 8	BB	50	2 6	+	12 BG -	_	14 R	15 P	>	17 Sp	+	^ 0	20 BG -			
	46 K	<u> </u>	П	Connector Name Provide Provide Provide DISTRIBUTION MODILE	ENGINE ROOM)	Connector Type NS08FW-CS	1	AHIT			98 88 84 88	]			<u> </u>	Wire	83 BG -	^									Connector No E34	т	Connector Name FRONT FOG LAMP RH		Connector Type FHZ02FB		4					)			Terminal Color Of	No Wire Signal Name [Specification]	t	†	2 B/W											
DAYTIME RUNNING LIGHT SYSTEM	G2	Connector Name Engine Room)	Connector Type TH20FW-CS12-M4-1V				12 13 26 29 30 30	8 9				No Wire Signal Name [Specification]						\ \		2 3		٠									Connector No. E6	INDIA FIR DIVIELLICENT ROWER DISTRIBUTION MODILE	Connector Name Engine ROOM)	Consocios Tunocial Nil	I IOO MATAIL			K	T	41 40 39		46 45 44 43			Signal Name [Snecification]				-	8			- 9			

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ŀ	+	≥ -	9 0	F	┝	Н	M 6	+	+	+	2 E	-	П	7 SHIELD	> 5	+	╁	┢	H	Н		+	+	A 0	╀	H	Н	M 6	+	+	+	SB :	+	- c	9	-	H	S	T	>	3 BR	H	5 GR	≥ 9	7
Ľ	54	45	9 2	8 2	54	22	29	09	6	62	8 8	65	99	67	89	20	7	72	73	74	74	75	76	2 12	77	78	78	79	79	8 3	5	85	3 3	85	98	87	88	96	91	92	93	98	96	96	6
W.	M6	WIRE TO WIRE	THBOMM, CS16, TM1			9 5		# 5 # 5	B   R   P   P   P   P   P   P   P   P   P			Signal Name [Specification]			,				-													,						,						•	
Commontor No	ector No.	Connector Name	Connector Type	actor 1 ype	•	Ġ	ė				Terminal Color Of	Wire	Μ	œ	8	T	+	R	~	Н	BG	+	cc (	╁	Ë	H	BG	$\dashv$	+	+	+	> :	+	+	╀	ŋ	┝	L	┝	SHELD	>	BG	BR	$\dashv$	BG
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		FUSE BLOCK (J/B)		2	ſ		JA 142	84 74 64 54 44				Signal Name [Specification]	-			- (For key slot)	Topic Courts		-											9F 8F 7F 6F 5B				Signal Name [Specification]											
LIGHI SYSIEM	Τ	Connector Name FUSE BL	Connector Trans NSOGEM MS	7			ė.		_		Terminal Color Of		1A GR	2A G	3A L	L 02	: >	. Y 6A	7A R	. 8A L		ſ	Connector No. M2	Connector Name FUSE BLOCK (J/B)	Connector Type NS10FW-CS	1	I I	<b>8 1</b>	48				Torminal Color Of	Wire	t	L	5B BG	H	7B P	H	Ľ	l			

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DAYTIME RUNNING LIGHT SYSTEM	N N	NPIT 3	Connector No	M63	Connector No	Mes
т	+	S IOLANI	COLLECTO NO.	MIDD	COLLECTO NO.	INIDO
- A 66	S >	OUIPUI 5	Connector Name	Connector Name COMBINATION METER	Connector Name	UNIFIED METER AND A/C AMP.
4	- G	Z IO-WII	F	H	F	H
	+	# IOANI	Connector Type	┑.	cornector Type	
Commonder No. M.O.d.	11 12	I INFOLL	Ą.		1	
CONTRECTOR IND. INIZ4	+	- Indino	至		李	
Connector Name DATA LINK CONNECTOR	+	INPUT 5	Š	[	SII.	K
	14 G	OUIPUI 2				
Connector Type   BD16FW				1 2 3 5 8 7 8 19 19 19 19 19 19 19 19 19 19 19 19 19		23 25 27 28 30 31 34 44 45 45 45 45 45 45 45 45 45 45 45 45
<b>E</b>	Connector No	M41				
AND AND	COLLEGED NO.					
\[ \[ \] \	Connector Name	WIRE TO WIRE	Terminal Color Of	L	Terminal Color Of	
11 11 14 16	Connector Type	MO3MW-I C	No. Wire	Signal Name [Specification]		Signal Name [Specification]
3 4 5 6 7 8			1 GR	BATTERY POWER SUPPLY	2	MANUAL MODE SHIFT UP SIGNAL
	Œ		2	COMMINICATION SIGNAL (METER-AMP)	7 GB	COMMINICATION SIGNAL (AMP. METER)
	至于		e e	COMMINICATION SIGNAL (AMP -METER)	~	VEHICLE SPEED SIGNAL (2-PLILSE)
Terminal Color Of	S.	_	. r	GROUND	9 6	SEAT BELT BLICKLE SWITCH SICHAL (D. C.
No. Wire Signal Name [Specification]		<u>-</u>	ł	AI TERNATOR SIGNAL	ł	MANIAI MODE SIGNAI
t		2 3	F	MISSISSISSISSISSISSISSISSISSISSISSISSISS	╀	INCIS ECON IN INVINOR
t		]	, c	SECURITY SIGNAL	Ŧ	COMMUNICATION SIGNAL OF COLUMN P.
╀			╀	CEDUIND	╀	IONIONIOE SIGNAL
+	,		+	ONIONS CONTROL OFFICE	7 C	TANGIO LONONO EN
	<u>.</u>	Signal Name [Specification]	+	MEIER CONIROL SWILCH GROUND	۲ 72	ALI SINOW SWILLCH SIGNAL
+	No. Wire		+	ILL GND	+	MANUAL MODE SHIFT DOWN SIGNAL
4	1		┨	III	7	COMMUNICATION SIGNAL (METER-AMP.)
	2 Y		21 BG	IGNITION SIGNAL	28 R	VEHICLE SPEED SIGNAL (8-PULSE)
14 P -	3		22 B	GROUND	30 ^	PARKING BRAKE SWITCH SIGNAL
16 Y -			24 BR	COMMUNICATION SIGNAL (LCD-AMP.)	34 Y	COMMUNICATION SIGNAL (AMPLCD)
			25 Y	COMMUNICATION SIGNAL (AMPLCD)	38 P	BLOWER MOTOR CONTROL SIGNAL
	Connector No.	M42	26 R	VEHICLE SPEED SIGNAL (8-PULSE)		
Connector No. M33	Complete Alexand	LOUN OF LOUN	27 V	PARKING BRAKE SWITCH SIGNAL		
HOLING MODE COMPINATION SWITCH	COLLINGTON INGILIE	WINE TO WINE	28 W	BRAKE FLUID LEVEL SWITCH SIGNAL	Connector No.	M67
CONTRACTOR NAME CONTRACTOR SWITCH	Connector Type	M03FW-LC	29 SB	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	Condon Nomo	ONA CAS CIND ASSESSED AND ASSESSED ASSESSED.
Connector Type TH16FW-NH			30 G	SEAT BELT BUCKLE SWITCH SIGNAL (PASSENGER SIDE)		
			31 L	WASHER LEVEL SWITCH SIGNAL	Connector Type	TH32FW-NH
			33 B	ILLUMINATION CONTROL SIGNAL		
	Ż		90 30	SELECT SWITCH SIGNAL	E	
		F	37 SB	ENTER SWITCH SIGNAL		
1 2 3 4 5 6		3 2	38	TRIP A/B RESET SWITCH SIGNAL	S.	7
7 8 9 10 11 12 13 14			39 B	ILLUMINATION CONTROL SWITCH SIGNAL (-)		41 42 43 44 45 46 47 53 54 55 56
7 10 17			40 BG	H		57 58 59 60 61 62 63 65 65
	Terminal Color Of	Comment of the state of the sta	┨	1		
al Color Of Sizeal Name 18.	No. Wire	orginal Marrie [opecinication]				
No. Wire Signal Name [Specification]	1 W				Terminal Color Of	
1 P FR WASHER(-)	2 4					Signal Name [Specification]
2 SB OUTPUT 4	8				41	ACC POWER SUPPLY
GR					42 Y	FUEL LEVEL SENSOR SIGNAL
					43 R	INTAKE SENSOR SIGNAL
					H	INLVEHICLE SENSOR SIGNAL
1 0					$^{+}$	AMBIENT SENSOR SIGNAL
2					Ç.	AMBIEINI GENGON GIGINAL

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-	α (	100 G PASSENGER DOOR REQUEST SW	BG BF	9	107 LG COMBI SW INPUT 1	Я	S >	110 G HAZARD SW		Connector No. M409	_	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FG-NH			Ž.	15 80 15 15 15 15 15 15 15 15 15 15 15 15 15			Terminal Color Of Signal Name [Specification]	+	L SS	 SB DRD	Н	W	PI	H.	W PUSH-BUTTON	¥ 8	137 BG RECEIVER/SENSOR GND 130 V DECEIVED/SENSOR BOM/CD SI IDDI V	-	GR i	141 G SECURITY IND LAMP CONT	142 BG COMBI SW OUTPUT 5	143 P COMBI SW OUTPUT 1	144 G COMBI SW OUTPUT 2	145 L COMBI SW OUTPUT 3	146 SB COMBI SW OUTPUT 4	97	151 G REAR WINDOW DEFOGGER RELAY CONT			
	Terminal Color Of Signal Name [Specification]	+	3 _	7 Y STEP LAMP CONT	8 V ALL DOOR, FUEL LID LOCK OUTPUT	G DRIN	BR REAR DO	œ 4	n 3	14 W PUSH-BULLONIGNITION SWILL GND	JS NOTE - W	BG	19 V INT ROOM LAMP CONT		Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	Commenter Time Time Nil	٦.			## ## ## ## ## ## ## ## ## ## ## ## ##	20 55 55 56 E E E E E E E E E E E E E E E		nal	Wire	SB	GR	> 9	. E	78 Y ROOM ANI 1-	3	<u> </u>	82 R IGN RELAY (F/B) CONT	83 Y KEYLESS ENTRY RECEIVER COMM	87 BR COMBLSW INPUT 5	88 V COMBI SW INPUT 3	90 P CAN-L	91 L CAN-H	92 LG KEY SLOT ILL CONT	93 V ON IND	>-	BG.	96 GR AT SHIFT SELECTOR POWER SUPPLY
	ڻ د د	110 K ENGINE SPEED OUI PUI SIGNAL 110 V seutopopopulati manocarra seutopop		_	117 V DATA LINK CONNECTOR	LG EVAP CAN	P	123 B ECM GROUND	m (	125 R POWER SUPPLY FOR ECM	í a	0 8		Connector No M418	8		Connector Type M03FB-LC			2.1	<u>L</u> e		Terminal Color Of	No. Wire olgran varie [Specification]	П	М	3 Y POWER WINDOW POWER SUPPLY(RAP)		Г	Connector No. M119	Connector Name BCM (BODY CONTROL MODULE)	Connector Type NS16FW-CS	Ĺ			4 5 7 8 9 10	11 13 14 15 17 18 19	01 11 01 11					
YTIME RUNNING	BG SUNLOAD	47 G EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL		a	П	W BRAKE FLUID LE	Ж.	R -	_ :	61 BK AMBIENI SENSOR GROUND	8 0		_	70 R EACH DOOR MOTOR POWER SUPPLY 71 R GROINN	<u>a</u>		Consoder No M407		ECM	Connector Type RH24FGY-RZ8-R-LH-Z		125   124   105   106	 126 122 114 119	117			ā	wire	× (	98 P ACCELERATOR PEDAL POSITION SENSOR 2 [Without log]		, _	100 W SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)	101 SB ASCD/ICC STEERING SWITCH	102 LG EVAP CONTROL SYSTEM PRESS SENSOR	103 G вакраничення вичести предоставления принадии принад	103 L веняси вомет влему усседдилете втом, воетом язивон 2) имв всет	104 BR SENSOR GROUND INCELERATOR PEDAL POSITION SENSOR 21 (MIR 103)	GR sne	٦	≯	BG	108 Y SENSOR GROUND (ASCD/ICC STEERING SWITCH)

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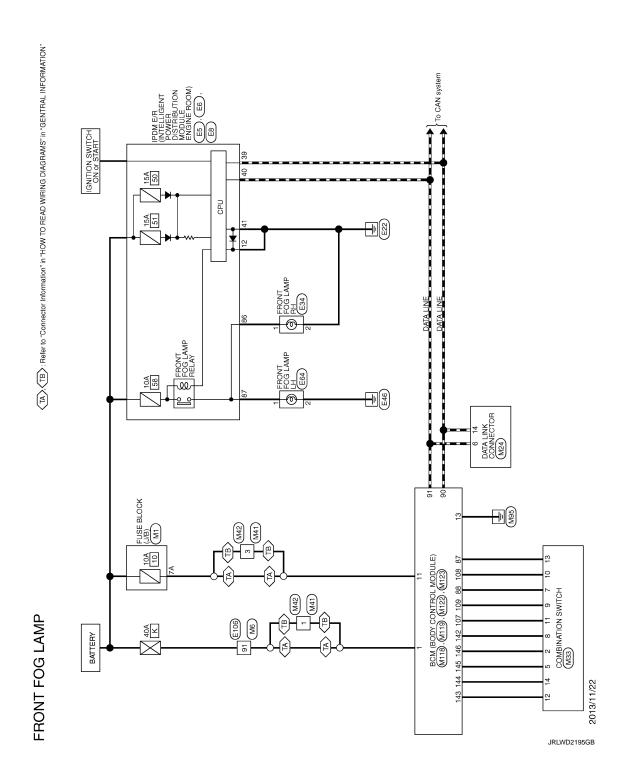
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### FRONT FOG LAMP SYSTEM

## Wiring Diagram - FRONT FOG LAMP -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



	+	22 \	╁	25 Y -	Н	28 G	╁	33 B	╁	ĸ	37 V	╁	H	42 G -	Н	45 W -	4	50 P	+	+	50 W	+	╀	F	Н	+	+	7 QQ	T	97 69	70 W	71 R .	72 Y -	В	74 BR - [With ICC]	74 L - [Without ICC]	9	W	*	>	۵.	77 R - [With ICC]
	Connector No. E64	Connector Name FRONT FOG LAMP LH	Connector Type FHZ02FB	4					Terminal Color Of Circuit Name (Consideration)	No. Wire ogner reame [opecincation]	2 Bw	1		Connector No. E106	Connector Name WIRE TO WIRE		Connector Type TH80FW-CS16-TM4			- T	2 G	2			nal		+	+	200	+	· 8	9 BR -	10 BG -		12 BG -	13 L -	14 R -	15 P	+	+	+	20 BG -
ŀ	46 R		Connector No. E8	Connector Name   Prox E/R (WTELLIGENT POWER DISTRBUTION MODULE   ENGINE ROOM)	Connector Type NS08FW-CS		MHD		90 88 88 87 86		Terminal Color Of		83 BG .	84 V	- M 98	$\dashv$	+	7	B		Connector No E34		Connector Name FRONT FOG LAMP RH	Connector Type FHZ02FB	ą	国	Ę					Jal	No. Wire ogner Name [Specification]	1 W	2 B/W -							
띠	Connector No. E5	Connector Name   IPDM EIR (INTELLISENT POWER DISTRIBUTION MODULE ENSINE ROCM)	Connector Type TH20FW-CS12-M4-1V	Œ	_	2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1			Terminal Color Of Comment (Comments)	Wire	A V	7	Ë	13 Y -	Н	4	4	26 R -	27 BG -	28 L	30 GK	-		Connector No. E6	Connector Name IPPM EIR (INTELLISENT POWER DISTRIBUTION MODULE	ENGINE HICKNI)	Connector Type TH08FW-NH	ą.		HS.	41 40 39	67 77 87	Ţ۱		a	Wire	39 P	H	+	+	44 BR -	45 G -

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Compositor Name   Compositor		FRONT FOG LAMP 78 BR - [Without ICC]	Connector No.	or No.	M6		Н	-	동	
Corrector Type   HerowavCS16_TN44   19   19   19   19   19   19   19	W] -	ith ICC]	Connectu	tor Nam		Т.	45 W		+	
Figure   F	w] -	rth ICC]	Connecto	tor Type		Ц	Н		ł	
Fig. 10   Fig.			4				$\dashv$		ı	
			厚	_	9 E E E E E E E E E E E E E E E E E E E		+			
Transport   Coore   Cooperation   Cooperat			Ě	7	8 B B B B B B B B B B B B B B B B B B B		+			INK CONNECTOR
				9			+	'		
First Section   Control   Control							+		Connector Type BUTDEW	
					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		+		q	
Framerial Code							$\dashv$		医	
No. Wine   Color   Signat Name   Sporthcatch   Color   Color		1					_	-	Ŀ	
No. Wine Signal warmer is postureation   66		1	Terminal		_		_	•	- E	17
1   W			9.	Wire		Ĺ	L			
1   2   R			-	≥		L	╀		_	5 6
1   2   1   1   1   2   1   1   2   1   2   1   2   2				2		L	t	-		
1   2   2   1   1   2   2   2   2   2			1 0	2 0		L	t	3		
Securication   Secu			,	<u>ا</u>		1	+			
S   C   C   C   C   C   C   C   C   C			4	SHE			┨	-	Color Of	Signal Name [Specification]
1			2	O			$\dashv$		Wire	
1   BR     7.2   SP		-	8	Υ	-					-
10   R   .		-	6	BR	-			-		-
11 BR   14 B			10	٣		L	H	-	H	
12   BC   C   C   C   C   C   C   C   C			11	BR		_	H		7 9	
13   L   R   R   R   R   R   R   R   R   R			12	BB		L	74 L	- [Without ICC]	>	,
14   R   R   R   R   R   R   R   R   R			13	٦		L				
15   P   P   P   P   P   P   P   P   P			41	٣		L	Ͱ		H	
15   SM   SM   SM   SM   SM   SM   SM   S	M1		15	۵		L	H		H	
17 SB   17 NumberCCC    18 NumberCCCC    18 NumberCCCCC    18 NumberCCCCC    18 NumberCCCCC    18 NumberCCCCC    18 NumberCCCCCCCCCCCCC    18 NumberCCCCCCCCCCCC    18 NumberCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	/ //20 10 1311	ĝ	16	>	-	_	_			
18   V   .	OSE BLOCK (	(a)	17	S		_	H			
20   BG   Corrector No.   M33   Corrector No.   M34   Corrector No.   M35   Corrector No.   Corrector	Connector Type NS06FW-M2		18	>		_	78 T	- [With ICC]		
21   L   Compactor Name   779   W   Comment (CC)   Comment (CC)			50	BG		L	H		Г	
1   1   2   2   W   1   2   With   CS    Correspond regime   Cor	L	_	21	1		_				0
121   14   23   P	Ľ		22	≷		L	H			MATION SWITCH
Specification   24   BR   25   SP   25   25   25   25   25   25   25   2			23	۵	,	L	H			TN-
Specification   25	-	٧3	24	H		L	H			
Specification   26	ò	5	25	≻	,	L	┞			
Specification    27    G	IJ		26	>		L	Ĺ		The state of the s	     
Specification)         28         C         E         L         Reminded of the control			27	G		L	H		<u></u>	
1			28	S		L	H			2 3 4 5
22   G   W	Signal N	lame [Specification]	34	-		L	ł			0 0 11 11 12 13
33   8     89   GR			32	ď		L	ŀ			0 3 10 11 17 10
34   W   .			200	9 0		L	$^{+}$			
35			3 2	2 3		1	Ť		Color Of	
36     SHELD       37     V       39     BR       39     BR       39     BR       41     W       42     W       43     W       44     W       45     W       46     W       47     W       48     C       49     C       40     W       41     W       42     C       43     C       44     W       45     C       46     C       47     C       48     C       49     C       40     C       40     C       40     C       40     C       40     C       41     C       42     C       43     C       44     C       45     C       46     C       47     C       48     C       49     C       40     C       40     C       40     C       41     C       42     C       43     C <t< td=""><td>ū</td><td>and the state of</td><td>400</td><td>٥</td><td></td><td>1</td><td>Ť</td><td>3</td><td>Wire</td><td>Signal Name [Specification]</td></t<>	ū	and the state of	400	٥		1	Ť	3	Wire	Signal Name [Specification]
30         STATULU         30         B. T.         2         2         SB         P. T.         2         2         SB         P. T.         2         SB         P. T.         2         SB         P. T.         2         SB         P. T.         3         SB         P. T.         3         SB         P. T.         3         SB         P. T.         A         T.         C         T.         T.         C         T.         T.         T.         C         T.         T. <td></td> <td>push battori</td> <td>3 8</td> <td>4</td> <td></td> <td>1</td> <td>+</td> <td></td> <td>t</td> <td>, /GLI 104741 GLI</td>		push battori	3 8	4		1	+		t	, /GLI 104741 GLI
BG		For key slot)	30	SHIE!	-	1	+		+	PR WASHER(-)
BR BR C C C C C C C C C C C C C C C C C			n c	}		1	+		$^{+}$	+ IOLIOO
M			9	2 2		1	+		+	FR WASHER(+)
M M M			RC 3	ž į		1	+		+	NOI
			4 0	\$ 2		1	+		2 0	OUIPUI 3

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FCON   FOG LAWR	Connector No. Connector Name Connector Type	0. M118 ame BCM (BODY CONTROL MODULE) wee M03FB.LC	Connector No. Connector Name	M122 Be BCM (BODY CONTROL MODULE) TH40FB-NH	Connector No. Connector Name	M123  B BCM (BODY CONTROL MODULE) TH40FG-NH
INPUT 1 INPUT 1 OUTPUT 1 INPUT 5 OUTPUT 2	H.S.		H.S.		H.S.	1
Cornector No. M41  Cornector Name WIRE TO WIRE  Cornector Tune MithalMW.1.C.	Terminal Co	Color Of Signal Name [Specification]	Terminal Color Of No. Wire	Of Signal Name [Specification]	Terminal Color Of No. Wire	Of Signal Name [Specification]
	Н	П	Н	$\coprod$	Н	
	2 8	W POWER WINDOW POWER SUPPLY(BAT) Y POWER WINDOW POWER SUPPLY(RAP)	- S	PASSENGER DOOR ANI + DRIVER DOOR ANT-	116 SB	STOP LAMP SW 1
_			77 LG		Ĥ	DR D
2	١	- [	+		1	Ā
	Connector No.		79 BK	ROOM ANI 1+	123 W	IGN F/B
	Connector Name	ame BCM (BODY CONTROL MODULE)	╀		╀	Ĭ
C-19-19-19-19-19-19-19-19-19-19-19-19-19-	Connector Type	ype NS16FW-CS	H	IGN	┝	PUSF
orginal warne [opecinication]	4		83 ≺	KEYLES	Н	
-	F		87 BR		137 BG	Н
	Ę	֓֞֝֜֝֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	$\dashv$	COME	138 Y	RECEIVER/SENSOR POWER SUPPLY
	Ş	0 8	90 P		+	TIRE PRESS
		11 13 14 15 17 18 19	+		4	4
			92 LG	KEY S	4	SE
			93	ONI NO	142 BG	
Connector Name   WIRE TO WIRE			94	PUDDLE LAMP CONT	143 P	
	a	Color Of Signal Name (Specification)	$\dashv$	┪	144 G	
	No.	Wire ognariame [opcomodator]	96 GR	A/T SHIFT SELE	145 L	COMBI SW OUTPUT 3
	4	LG INTERIOR ROOM LAMP POWER SUPPLY	99 R	SHIFT P	146 SB	_
	5	L PASSENGER DOOR UNLOCK OUTPUT	100 G	PASSENGER DOOR REQUEST SW	150 LG	DRIVER DOOR SW
<u> </u>	7	Y STEP LAMP CONT	101 SB	3 DRIVER DOOR REQUEST SW	151 G	REAR WINDOW DEFOGGER RELAY CONT
_	8	V ALL DOOR, FUEL LID LOCK OUTPUT	102 BG	Н		
	6	G DRIVER DOOR, FUEL LID UNLOCK OUTPUT	103 LG	KEYLESS ENTRY RECEIVER POWER SUPPLY		
3.2	10	BR REAR DOOR UNLOCK OUTPUT	107 LG	COMBI SW INPUT 1		
	11	R BAT (FUSE)	108	COMBI SW INPUT 4		
	13	B GROUND	109 Y	COMBI SW INPUT 2		
	L	W PUSH-BUTTON IGNITION SW ILL GND	110 G			
Signal Name [Specification]	15	Y ACC IND				
-	17	W TURN SIGNAL RH (FRONT)				
	18	BG TURN SIGNAL LH (FRONT)				
	19	V INT ROOM LAMP CONT				

JRLWD2347GB

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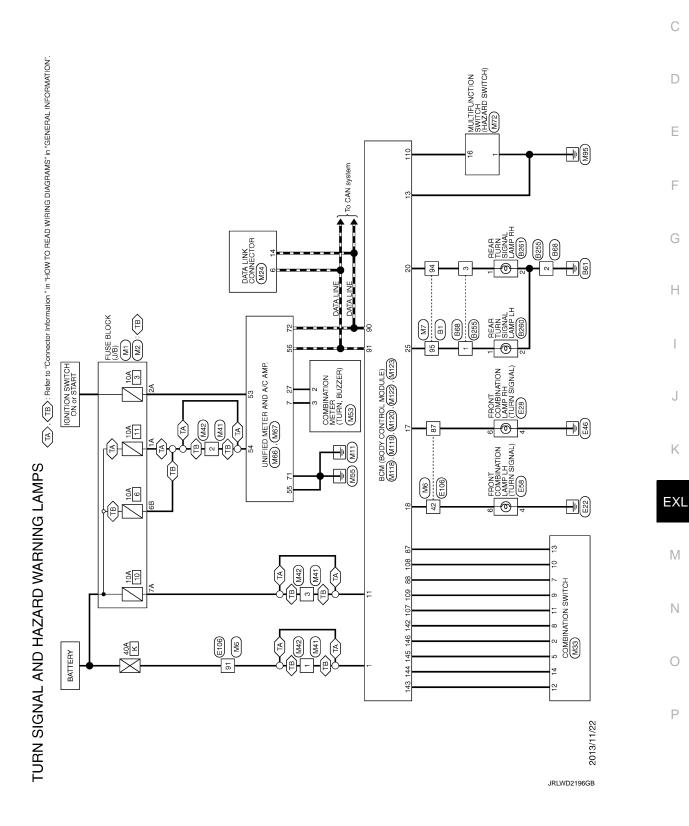
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### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

## Wiring Diagram - TURN AND HAZARD WARNING LAMPS -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



TUR	N SIG	TURN SIGNAL AND HAZARD WARNING LAMPS	NING	LAMF	Sc		
Connecto	or No.	B1	09	۵		Connector No. B68	Connector No. B260
Connecto	or Name	Connector Name WIRE TO WIRE	6	٦ ا		Connector Name WIRE TO WIRE	Connector Name REAR TURN SIGNAL LAMP LH
Connector Type	Т	TH80FW-CS16-TM4	88	2		Connector Type RH08MB	Connector Type HS02FG-W
			64	ŋ		4	4
厚		22 2	65	SHIELD	-		修
SH			9 2	≥ >			(S)
		7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	89	- 8S		_	(1 2)
		2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	69	SHIELD		(2 6 7 8)	
			70	Μ			
			73	SB			
Terminal	Terminal Color Of	Signal Name [Specification]	74	٦		<u>a</u>	E E
ġ Z	Wire		72	≥		0	
ကျ	۰ س		92	뚭 6		+	- 0
n			>	¥		+	. B 2
9	SB		28	۵		3 SB -	
7	>		79	GR		4 R	
8	٦		83	BG		6 B	Connector No. B261
12	SB	•	82	^	-	- M Z	LIGHT I VIVOIS INC. I DE VE TI IDN SICNIVI I ANNO DE
13	97	-	98	PI			
14	GR	-	87	<b>\</b>			Connector Type HS02FG-W
15	97		88	ч		Connector No. B255	ď
17	W		88	В		Connector Name MIRE TO MIRE	
18	SB	,	96	BG		מתופסום ואפוופ	
19	re		91	G		Connector Type RH08FB	
20	BR		92	BR			((1 2))
21	SHIELD	-	93	9	-		
22	>		98	SB	-		
24	Ь		92	9		2	
27	В		96	>		7 ( 4)	Ē
28	ď		86	W			
29	Μ		66	GR	-		
30	SHIELD	-					2 B -
31	SHIELD	-				al Color Of	
32	W	•				No. Wire ogneri varie pecindation	
33	SB					1 6	
34	_					2 B -	
32	۵					> <	
36	-					W 4	
47	۵					ł	
38	. 8					╀	
8 8	<u> </u>						
3	- >						
1	- {						
42	¥ :						
g !	9 8						
47	gg 6						
64	တ :						
20	>						

JRLWD2348GB

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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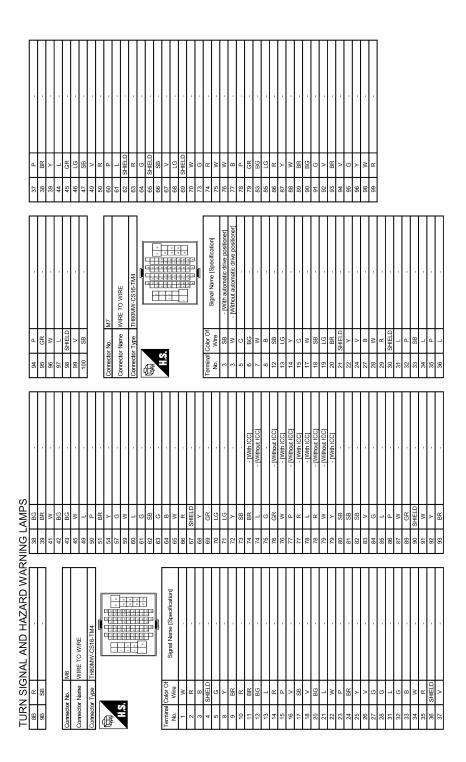
[HALOGEN TYPE]

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Signal Name   Specification   Specif	ВС
45 BR	E F G
Corrector No.   E106   Corrector No.   Co	I J K
Cornector Name   FRONT COMBINATION LAMP RH   Cornector Name   FRONT COMBINATION LAMP LH   CORNECTOR NAME	M N
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**EXL-301** Revision: 2013 December 2013 EX



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Revision: 2013 December EXL-303 2013 EX

TURN	SIG	TURN SIGNAL AND HAZARD WARNING LAMPS	NING LAM	AMPS	So.	Connector No	14430	ç	9	>	THOSE I AMB CONT
+	2 0		Connector		81118	Connector No.	ı	0.0	\$ 8	- 2	PUDDLE LAMP CON
53	י פ	EXHALST GAS / GUTSIDE ODOR DETECTING SENSOR SIGNAL	Connector Name		BCM (BODY CONTROL MODULE)	Connector Name		BCM (BODY CONTROL MODULE)	8 8	2 8	A/T SHIFT
54	>	BATTERY POWER SUPPLY	Connector Type	г	M03FB-LC	Connector Type	Т	NS12FW-CS	66	ď	+
55	В	GROUND	<u></u>	_		1			100	9	PASSENGER DOOR REQUEST SW
99	٦,	CAN-H							101	SB	DRIVER DOOR REQUEST SW
25	W	BRAKE FLUID LEVEL SWITCH SIGNAL	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Ⅱ	ŧ			102	BG	BLOWER FAN MOTOR RELAY CONT
58	BR	FUEL LEVEL SENSOR GROUND	ė.	_	2 1	Ż		20	103	PT	KEYLESS ENTRY RECEIVER POWER SUPPLY
29	GR	INTAKE SENSOR GROUND							107	97	COMBI SW INPUT 1
09	_	IN-VEHICLE SENSOR GROUND			3			92 52	108	œ	COMBI SW INPUT 4
61	BR	AMBIENT SENSOR GROUND							109	Υ	COMBI SW INPUT 2
62	SB	SUNLOAD SENSOR GROUND							110	9	HAZARD SW
-	ч		g	Color Of	Signal Name [Specification]	<u>B</u>	or Of	Signal Name [Specification]			
$\dashv$	BG	ECV SIGNAL	ò	Wire	I compounded output in the	┪	Wire	From a control of the			
69	_	A/C LAN SIGNAL	1		BAT (F/L)	20 \	>	TURN SIGNAL RH (REAR)	Connec	Connector No.	M123
70	H	EACH DOOR MOTOR POWER SUPPLY	2	W	POWER WINDOW POWER SUPPLY(BAT)	$\dashv$	ŋ	BACK DOOR OPEN OUTPUT	Journal	Connector Name	BCM (BODY CONTROL MODILLE)
71	В	GROUND	3	У	POWER WINDOW POWER SUPPLY(RAP)	25	G	TURN SIGNAL LH (REAR)	3	101	
72	۵	CAN-L				56	<sub>O</sub>	REAR WIPER OUTPUT	Connec	Connector Type	TH40FG-NH
			Connector No.		M119				4		
Connector No.	Н	M72	Comportor Namo		POW (BODY CONTROL MOBILE)	Connector No.	. M122	22	Ţ	,	
nector N	Name	Connector Name Mult TiEUNCTION SWITCH	000000	$\overline{}$	COM (BOD) COMINCE MODOLE)	Connector Name	me BCM	BCM (BODY CONTROL MODIME)	Ę	á	7
			Connector Type	┑.	NS16FW-CS	F	Т				22 22 22 23 24 24 24 24 24 24 24 24 24 24 24 24 24
in in in	- Albe	COLLECTOR Type THIOTWIND	1			Collinector	_	Thi-010			
F			E		֟֝֟֝֟֝֟֝֟֝֟֝֟֝֟֟֜֟֟֜֟֟֟֟֟֟֟֟	E					
S			2	_	6 : 8 : 7 :	Si			Terminal	al Color Of	Of Signal Name [Specification]
l		4 6 8 14 16			17 13 14 15 17 18 19		18	20 00 00 00 00 00 00 00 00 00 00 00 00 0	113	۵	OPLICAL SENSOR
		0					8	(株) (2) (2) (3) (4) (4) (5) (5) (5) (5) (5) (5) (5) (5) (5) (5	116	SB	STOP LAMP SW 1
									118	۵	STOP LAMP SW 2
			Terminal (	Color Of	Signal Namo [Specification]				119	SB	DR DOOR UNLOCK SENSOR
la (	olor Of	Signal Nama [Spacification]	O	Wire	orginal realine [openingation]	Terminal Color Of	or Of	Signal Nama [Spacification]	121	BR	KEY SLOT SW
O	Wire	financia de la companya de la compan	4	- 91	INTERIOR ROOM LAMP POWER SUPPLY	┪	Wire	licenson and a long a long and a long a long and a long and a long and a long a long and a long a long a long and a long and a long a	123	≯	IGN F/B
	В	GROUND	9	_	PASSENGER DOOR UNLOCK OUTPUT	74 S	SB	PASSENGER DOOR ANT-	124	Pl	PASSENGER DOOR SW
3	>	ACC	7	>	STEP LAMP CONT	75 G	GR	PASSENGER DOOR ANT+	132	BR	POWER WINDOW SW COMM
4	~	III	80	7	ALL DOOR, FUEL LID LOCK OUTPUT	$\dashv$	>	DRIVER DOOR ANT-	133	≥	PUSH-BUTTON IGNITION SW ILL POWER
5	>	ILL CONT	6	┪	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	$\dashv$	P	DRIVER DOOR ANT+	134	g	LOCK IND
9	SB	AV COMM (H)	10	BR	REAR DOOR UNLOCK OUTPUT	78 ,	>	ROOM ANT1-	137	BG	RECEIVER/SENSOR GND
8	97	AV COMM (L)	11	ĸ	BAT (FUSE)	79 B	BR	ROOM ANT1+	138	٨	RECEIVER/SENSOR POWER SUPPLY
6	В	SW GND	13	В	GROUND	80	GR	NATS ANT AMP.	139	٦	TIRE PRESSURE RECEIVER COMM
14	>	DISK EJECT SIGNAL	14	//	PUSH-BUTTON IGNITION SW ILL GND	81 V	W	NATS ANT AMP.	140	GR	SHIFT N/P
16	9	HAZARD ON	15	<b>&gt;</b>	ACC IND	82 F	~	IGN RELAY (F/B) CONT	141	9	SECURITY IND LAMP CONT
			17	W	TURN SIGNAL RH (FRONT)	83	Y	KEYLESS ENTRY RECEIVER COMM	142	BG	COMBI SW OUTPUT 5
			18	BG	TURN SIGNAL LH (FRONT)	Н	BR	COMBI SW INPUT 5	143	Ь	COMBI SW OUTPUT 1
			19	>	INT ROOM LAMP CONT	88	<u></u>	COMBI SW INPUT 3	144	ŋ	COMBI SW OUTPUT 2
						$\dashv$	a.	CAN-L	145	٦	COMBI SW OUTPUT 3
						91	-	CAN-H	146	SB	COMBI SW OUTPUT 4
						Н	PI	KEY SLOT ILL CONT	150	PC	DRIVER DOOR SW
						93	>	ON IND	151	O	REAR WINDOW DEFOGGER RELAY CONT

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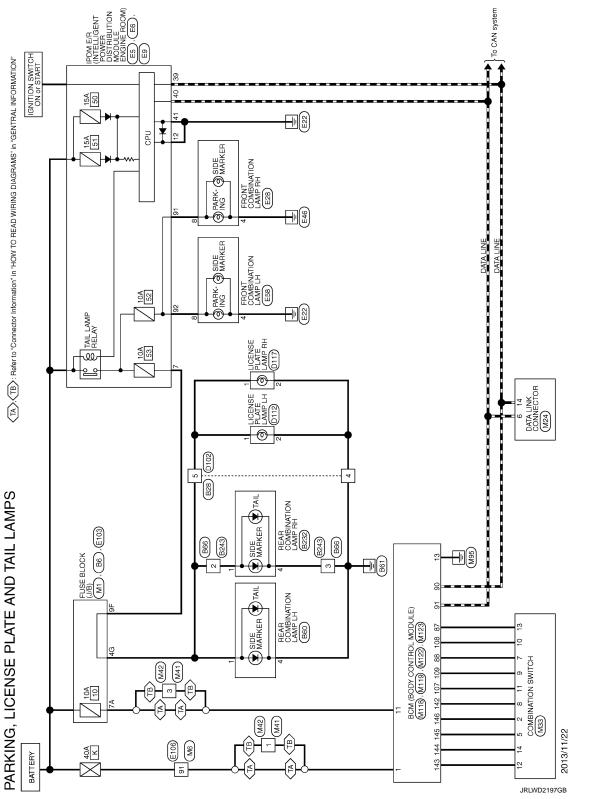
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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram - PARKING, LICENSE PLATE AND TAIL LAMPS -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



G, LICENSE I	PLATE AND TAIL LAMPS			
Connector No. B6	$\dashv$	18 P -	Connector No.	D102
Connector Name FUSE BLOCK (J/B)	20 BG .		Connector Name	WIRE TO WIRE
Connector Type NS12FBR-CS	Н	Connector No. B232	Connector Type	TH24FW-NH
4	23 BR .	Connector Name REAR COMBINATION LAMP RH	1	
	-	Connector Type TH04MW-NH	UT	
	Connector No.   B60		į.	6 5 4 3 1
120 110 100	Connector Name REAR COMBINATION LAMP LH	H.S.		24 23 22 21 20 19 18 17 16 15 14 13
	Connector Type TH04MW-NH			
Terminal Color Of Signal Name [Specification]	1	12114	Terminal Color Of No Wire	Signal Name [Specification]
+	distrib		t	
╀		Terminal Color Of	3	
H		No. Wire Signal Name [Specification]	4 B	
4G R -	1 7 1 4	1 R	5 R	
- 91 9s		2 LG -	$\dashv$	
		4 B -	3 R	-
Г	Terminal Color Of Signal Name [Specification]		1	- [With around view monitor]
Connector No. B28	Wile	Opening Man Dodge	14 SHIELD	- [Without around wew monitor]
Connector Name WIRE TO WIRE	× (-	Cornector No. 6243	+	C. Marian C.
Construction TurbAndly Nill	2 [6	Connector Name WIRE TO WIRE	16 20 -	- (With around wew monitor)
Connector Type   International	1	Connector Tyne TH24EW-NH	Ŧ	- [Without around view monitor]
4		7	╀	Indition with barrons (INVI) -
	Connector No. B66	4	Ġ	-
S		7	т	
1 3 4 5 6	CONTRECTOR NAME I O WIRE		20 0	
13 14 15 16 17 18 19 20 21 22 23 24	Connector Type TH24MW-NH	_	21 ^	
	d.	18 17 16 15 14 13	Н	
	医		4	-
Terminal Color Of Signal Name [Specification]			24 R	
al Wile	1123	I erminal Color Of Signal Name [Specification]   No.   Wire		
3 M	13 14 15 16 17 18	t		
4 B -		2 R -		
Н		3 B		
+	<u>a</u>			
BR		+		
R - [With aroun	7	+		
14 SHIELD - [Without around view monitor]	7 C C	16 BR -		
٥ >	+	+		
- >	14 W	7		
┞	┝			
17 R - [Without around view monitor]	Н			
18 SHIELD -	B6			

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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

[HALOGEN TYPE] < DTC/CIRCUIT DIAGNOSIS >

	$\wedge$
Selfication]	В
FRONT COMBINATION LAMP LH RSG8FB-PR Signal Name (Specification) Signal Name (Specification) Signal Name (Specification)	С
Terminal Color Of Name From Man	D
TOOM	Е
E9 THIGHWANH THIGHWANH Signal Name [Specification] Signal Name [Specification] Signal Name [Specification] Signal Name [Specification]	F
NB   E9     NB     NB     NB     NB     NB     NB     NB   NB     NB	G
Corrector No.  Corrector Name Corrector Name Signature S	Н
Signal Name (Specification)	I
	J
Corrector Name   Corr	К
ation along	EXL
PARKING, LICENSE PLATE A  Corrector Name LICENSE PLATE LAMP LH  Corrector Name LICENSE PLATE LAMP LH  LICENSE PLATE LAMP LH  LICENSE PLATE LAMP LH  LICENSE PLATE LAMP RH  Corrector Name LICENSE PLATE LAMP RH  CORRECTOR NAM	М
PARKING, I Connector Name   Ut Connector Name   Ut No.   Wire   I	N
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**EXL-307** Revision: 2013 December 2013 EX

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			ì	)							
Connector No.	or No.	E106	43	BR	•	Ħ	•		$\mathbb{H}$		
			45	>		98 SHIELD	- and		6	BR -	
Connector Name	or Name	WIRE TO WIRE	49	-		T		Ĺ	H	~	Γ
Connector Type	ar Tyne	THB0FW_CS16_TM4	Ç	۵		100		Ľ	ł	and	Γ
	,		2	ŀ		1		L	t	28	
1			5 2	, a				ľ	╀	3 -	Τ
1		5 0 0 0 0 0 0 0 0 0	52	2		Connector No	M4	L	ł		
S :	,	2 2 3 1 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3	5 0	á		COLLECTO	т	L	╀		Τ
			8	-		Connector Name	ne FUSE BLOCK (J/B)	L	+		T
		# 10 # 10	8 2	3 0		F	OF MILES	L	+	> 8	T
		0 0	LQ :	ָ פ		Connector Type	7	_	+	- 88	
			62	g		ą			+	^	
			63	≥		唐				BG .	
Terminal	Terminal Color Of	Of Sional Nama [Specification]	94	В		Ę			21	L .	
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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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OV CONTROL MODULE)  Control Module)  Bat (FL) WINDOW POWER SUPPLY(RAT) WE SUPPLY POWER SUPPLY(RAT) WE SUPPLY POWER S	В
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Connector No.   M118	D
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OUTPUT 1 INPUT 5 OUTPUT 2 OUTPUT 2 OUTPUT 5 OUTPUT 5 OUTPUT 6 1-1C	F
M42 MOSFW MOSFW	G
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M24     DATA LINK CONNECTOR     BDYSEW     BDYSEW     BDYSEW     BATTER	J
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PARKING, LICENSE PLATE AND TAIL LAMPS     1	М
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Revision: 2013 December EXL-309 2013 EX

Cook of   Cook	M123 BCM (BODY CONTROL MODULE) THIOFG.NH  THIOFG.NH	╝	OPLICAL SENSOR	STOP LAMP SW 1	DR DOOR UNLOCK SENSOR	KEY SLOT SW	IGN F/B	PASSENGER DOOR SW	POWER WINDOW SW COMM	PUSH-BUTTON IGNITION SW ILL POWER	LOCK IND	RECEIVER/SENSOR GND	RECEIVER/SENSOR POWER SUPPLY	TIRE PRESSURE RECEIVER COMM	SHIFT NP	SECURITY IND LAMP CONT	COMBI SW OUTPUT 5	COMBI SW OUTPUT 1	COMBI SW OUTPUT 2	COMBI SW OUTPUT 3	COMBI SW OUTPUT 4	DRIVER DOOR SW	REAR WINDOW DEFOGGER RELAY CONT						
CLICENSE PLATE AND TAIL   MI122	APS. Type	Color Of	۵	SB	SB	R	W	PT	BR	×	GR	8	>	٦	GR	O	8	۵	9	٦	SB	Pl	9						
PARKING LICENSE PLATE AND TA Corrector No. M122   Corrector No. M122   Corrector Type   THOFFD.NH	Connector Connector Connector	Terminal	113	116	119	121	123	124	132	133	134	137	138	139	140	141	142	143	144	145	146	150	151						
Connector Name   Conn	M122 BCM (BODY CONTROL MODULE) THAOFB.NH		PASSENGER DOOR ANT-	PASSENGER DOOR ANT+	DRIVER DOOR ANT+	ROOM ANT1-	ROOM ANT1+	NATS ANT AMP.	NATS ANT AMP.	IGN RELAY (F/B) CONT	KEYLESS ENTRY RECEIVER COMM	COMBI SW INPUT 5	COMBI SW INPUT 3	CAN-L	CANH	KEY SLOT ILL CONT	ONINO	PUDDLE LAMP CONT	ACC RELAY CONT	A/T SHIFT SELECTOR POWER SUPPLY	SHIFT P	PASSENGER DOOR REQUEST SW	DRIVER DOOR REQUEST SW	BLOWER FAN MOTOR RELAY CONT	KEYLESS ENTRY RECEIVER POWER SUPPLY	COMBI SW INPUT 1	COMBI SW INPUT 4	COMBI SW INPUT 2	HAZABD SW
DARRI Connecto Connec	KING I Name	Color Of Wire	SB	SR >	. 97	>	BR	GR	W	ď	>	BR	>	Д	4	P.	>	>	BG	GR	Я	9	SB	BG	ΓC	PT	ď	>	٢
	PARI Connecto Connecto	Terminal No.	74	75	77	78	79	80	81	82	83	87	88	90	91	92	93	94	92	96	66	100	101	102	103	107	108	109	110

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# STOP LAMP

Wiring Diagram - STOP LAMP -

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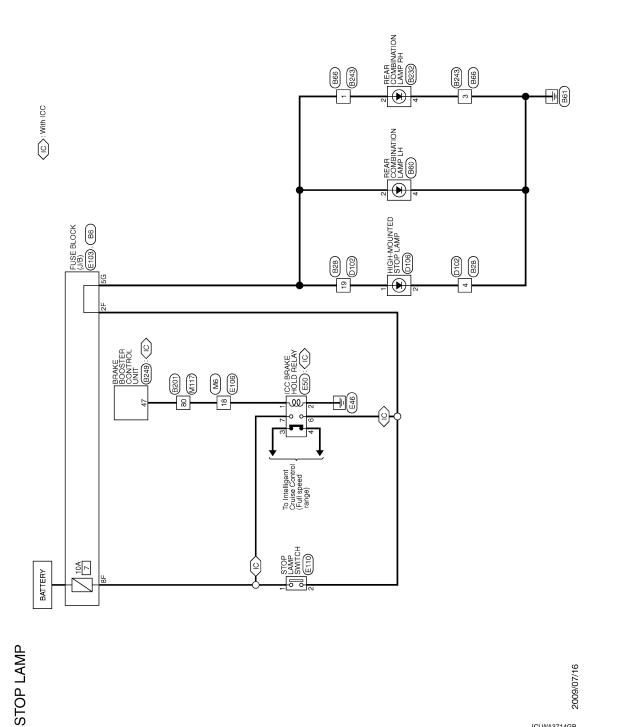
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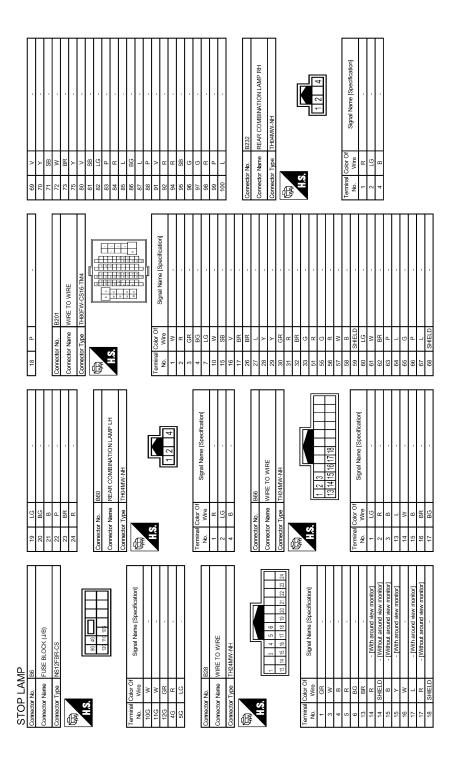


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Revision: 2013 December



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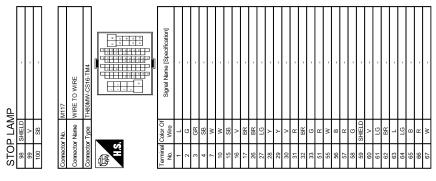
Corrector No. E103 Corrector Name FUSE BLOCK (J/B) Corrector Type NS16FW-CS  H.S. E66 446 2716	Terminal Color Of Nurse   Signal Name   Specification   Nurse   Signal Name   Signal Name   Specification   Nurse   Signal Name   Signal Nam	
Corrector No. D106 Corrector Name HIGH-MOUNTED STOP LAMP Corrector Type ITB02MW  H.S.	Terminal Color Of   Signal Name   Specification   No.   Nurse   Signal Name   Specification	
Corrector No. D102 Corrector Name WIRE TO WIRE Corrector Type ITP24FWANH  H.S.     1	Territral Color Of   No.   Wire   Color Of   No.   Wire   OR	
STOP LAMP  Connector No. B243  Connector Name WIRE TO WIRE  Connector Type TH24FWAH  H.S.  (18] 17 16 15 14 13	Terminal Color Of   Signal Name [Specification]   No. Wire   1.0	

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177   R   R     177   R   R     178   R     179   L     179   L     179   L     179   R     180   S     180   S	- [Without ICC] - [With ICC] - [With ICC]		E110 MO4FW-LC 33	Signal Name (Specification)
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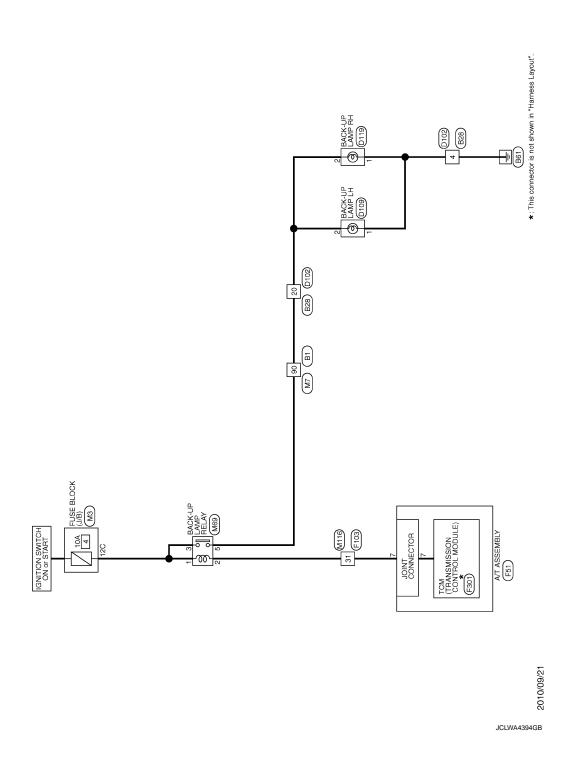
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# **BACK-UP LAMP**

Wiring Diagram - BACK-UP LAMP -

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BACK-UP LAMP

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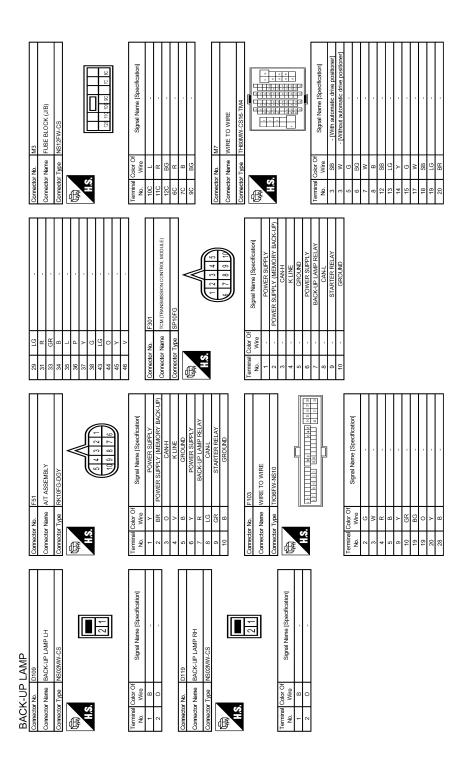
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BACK-UP LAMP								-				-	-						-																										-					
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[HALOGEN TYPE]

# **ECU DIAGNOSIS INFORMATION**

# BCM (BODY CONTROL MODULE)

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

#### CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
I IX WIF LIX I II	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
FR WIFER LOW	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
TIX WASHEN SW	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT	Off
FR WIFER INT	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
RR WIPER ON	Other than rear wiper switch ON	Off
KK WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
DD WACHED CW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
DD WIDED CTOD	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
TUDNI CIONAL D	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TUDNI CIONALI	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL LAMD CVV	Other than lighting switch 1ST and 2ND	Off
TAIL LAMP SW	Lighting switch 1ST or 2ND	On
LI DEAM CW	Other than lighting switch HI	Off
HI BEAM SW	Lighting switch HI	On
LIEAD LAND CVV	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
LIEAD LAMB CWO	Other than lighting switch 2ND	Off
HEAD LAMP SW 2	Lighting switch 2ND	On
DA COINO CIAI	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
ALITO LIGHT C'A'	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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Monitor Item	Condition	Value/Status
ED FOC CW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
DOOK GW-DIK	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
000K 0W-A0	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
JOOK SW-KL	Rear LH door opened	On
DOOD SW BK	Back door closed	Off
DOOR SW-BK	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
ODL LOCK SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
VEV 0VI 11/ 0VV	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
(EV 0)/  LINLOW	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off
LIAZADD CW	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off
TR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off
TD/DD ODEN SW	Back door opener switch OFF	Off
TR/BD OPEN SW	While the back door opener switch is turned ON	On
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
REVERSE SW	NOTE: The item is indicated, but not monitored.	Off
BKE I OCK	LOCK button of the key is not pressed	Off
RKE-LOCK	LOCK button of the key is pressed	On
DIVE LINILOOK	UNLOCK button of the key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the key is pressed	On
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off
DICE DANIC	PANIC button of the key is not pressed	Off
RKE-PANIC	PANIC button of the key is pressed	On
DIVE DAM COST!	UNLOCK button of the key is not pressed	Off
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On

## < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Monitor Item	Condition	Value/Status
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of the key is pressed and held simultaneously	On
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
JPTICAL SENSOR	Dark outside of the vehicle	Close to 0 V
REQ SW -DR	Driver door request switch is not pressed	Off
REQ SW -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
YEQ OW -AO	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
YEM OVV -DD/ IIV	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
OON OW	Push-button ignition switch (push switch) is pressed	On
GN RLY2 -F/B	NOTE: The item is indicated, but not monitored.	Off
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off
	The brake pedal is depressed when No. 7 fuse is blown	Off
BRAKE SW 1	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
BRAKE SW 2	The brake pedal is not depressed	Off
SKARL OW Z	The brake pedal is depressed	On
DETE/CANCL SW	Selector lever in P position	Off
SETE/O/MAGE GVV	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
S/L -LOCK	NOTE: The item is indicated, but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off
JNLK SEN -DR	Driver door is unlocked	Off
	Driver door is locked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
	Push-button ignition switch (push-switch) is pressed	On
GN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
J	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT PN -IPDM	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On

### < ECU DIAGNOSIS INFORMATION >

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Monitor Item	Condition	Value/Status
CET D. MET	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On
ENGINE STATE	Engine stopped	Stop
	While the engine stalls	Stall
	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed- ometer reading
VEH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
DOOR STAT-AS	Passenger door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset
	Ignition switch ON	Set
DOME ENO CEDE	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
I/EV OW OLOT	The key is not inserted into key slot	Off
KEY SW -SLOT	The key is inserted into key slot	On
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the third key ID registered to BCM.	Done

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## < ECU DIAGNOSIS INFORMATION >

### [HALOGEN TYPE]

Monitor Item	Condition	Value/Status
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done
TP 4	The ID of fourth key is not registered to BCM	Yet
	The ID of fourth key is registered to BCM	Done
TD 2	The ID of third key is not registered to BCM	Yet
TP 3	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
	The ID of second key is registered to BCM	Done
TD 4	The ID of first key is not registered to BCM	Yet
TP 1	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
	ID of front LH tire transmitter is not registered	Yet
ID DECST ED1	ID of front RH tire transmitter is registered	Done
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet
ID DECCT DD4	ID of rear RH tire transmitter is registered	Done
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

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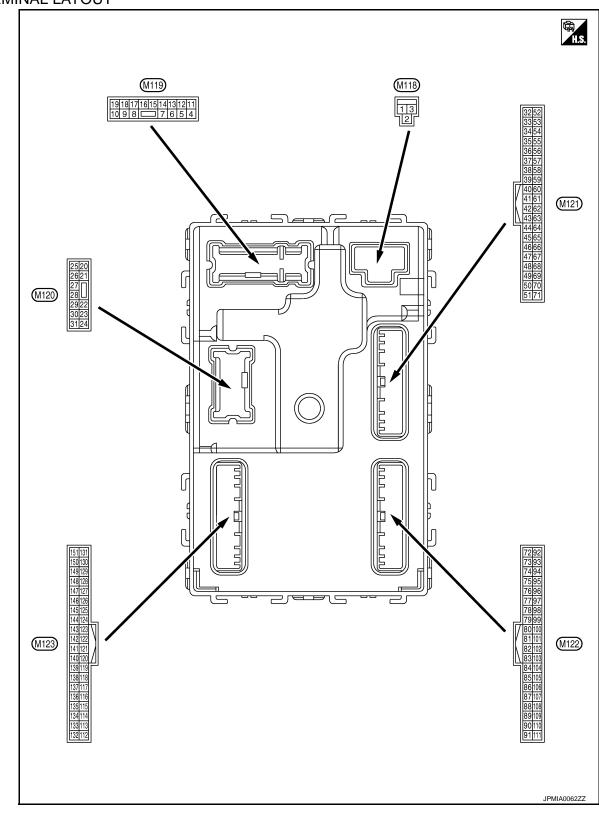
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TERMINAL LAYOUT



PHYSICAL VALUES

	I N I .	Burning				
	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
4		Intorior room long			battery saver is activated. oom lamp power supply)	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	ed.	battery saver is not activat- or room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	rasseriger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Ground	Step lamp	Output	Step lamp	OFF	Battery voltage
8	Ground	All doors, fuel lid	Output	All doors	LOCK (Actuator is activated)	Battery voltage
(V)	LOCK	Output		Other than LOCK (Actuator is not activated)	0 V	
9	Ground	Driver door, fuel lid	Output	out Driver door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Ground	UNLOCK	Output	Dilver door	Other than UNLOCK (Actuator is not activated)	0 V
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Orouna	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0 V
					OFF	0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position  (V)  10  2 ms  JSNIA0010GB
15	Ground	ACC indicator lamp	Output	Ignition switch	OFF or ON	Battery voltage
(Y)	Cround	7.00 maioator iamp	Output	igililion switch	ACC	0 V

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color) –	Signal name	Input/ Output		Condition	(Approx.)
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch OFF  Turn signal switch RH	0 V  (V) 15 10 5 0 PKID0926E
					Turn signal switch OFF	6.5 V 0 V
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
19 (V)	Ground	Room lamp timer control	Output	Interior room lamp	OFF ON	Battery voltage 0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch OFF  Turn signal switch RH	0 V  (V) 15 10 5 0 PKID0926E 6.5 V
23	Cround	Poek door open	Output	Pools door	OPEN (Back door opener actuator is activated)	Battery voltage
(G)	Ground	Back door open	Output	Back door	Other than OPEN (Back door opener actuator is not activated)	0 V
					Turn signal switch OFF	0 V
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0
					OFF (Stopped)	6.5 V 0 V
26 (G)	Ground	Rear wiper	Output	Rear wiper	ON (Operated)	Battery voltage

#### < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
34	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(SB)	Glodina	na (–)	Guipur	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	Clound	na (+)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
38		Back door antenna (–		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1   S   S   S   S   S   S   S   S   S
(B)	(B) Ground ) ques oper	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 1		

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	
(Wire	e color) –	Signal name	Input/ Output		Condition	(Approx.)	F
39		Back door antenna		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s	E ()
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	E
47	Cround	Ignition relay (IPDM	Outerut	Ignition switch	OFF or ACC	Battery voltage	(
(Y)	Ground	E/R) control	Output	ignition switch	ON	0 V	
52	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	ŀ
(SB)	Ground	Starter relay control	Output	ON	When selector lever is not in P or N position	0 V	
60	_	Push-button ignition	_	Push-button igni-	Pressed	0 V	
(BR)	Ground	switch (Push switch)	Input	tion switch (push switch)	Not pressed	Battery voltage	
					ON (Pressed)	0 V	,
61 (W)	Ground	Back door opener request switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB	<b>=</b>
		Intelligent Key warn-		Intelligent Key	Sounding	1.0 V 0 V	ľ
64 (V)	Ground	ing buzzer (Engine room)	Output	warning buzzer (Engine room)	Not sounding	Battery voltage	
65 (BG)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	(V) 15 10 5 0	(
						JPMIA0016GB 1.0 V	
					Not in stop position	0 V	

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
66 (R)	Ground	Back door switch	Input	Back door switch	OFF (Door close)	(V) 15 10 10 10 ms JPMIA0011GB
					ON (Door open)	0 V
					Pressed	0 V
67 (GR)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0011GB
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V

## < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

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	inal No.	Description				Value	٨
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	Α
74		Passenger door an-		When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	B C
(SB)	Ground	tenna (-)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	E F
75	0	Passenger door an-	0.4.4	When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	G H
(GR)	Ground	tenna (+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0  JMKIA0063GB	J K
76	Canada	Driver door antenna	Outout	When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s  JMKIA0062GB	M
(V)	Ground	(-)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	O

## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	1		Condition	Value
+	_	Signal name	Input/ Output		Condition	(Approx.)
77	Cround	Driver door antenna	Output	When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1   S   S   S   S   S   S   S   S   S
(LG)	Ground	(+)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
78	Ground	Room antenna 1 (–)	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(Y)	Gloand	(Instrument panel)	(Instrument panel) Output OFF	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
79	Ground	Room antenna 1 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(BR)	Ground	(Instrument panel)	Guiput	ÖFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB

## < ECU DIAGNOSIS INFORMATION >

#### [HALOGEN TYPE]

	inal No.	Description				Value	A
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	Е
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V	
(R)	Giodila	block (J/B)] control	Output	ignition switch	ON	Battery voltage	
83	Ground	Remote keyless entry receiver communica-	Input/	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB	F
(Y)	Ground	tion	Output	When operating e	ither button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB	F

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#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
87	Ground	Combination switch	Input	Combination	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB
(BR)		INPUT 5		switch	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF  Wiper intermittent dial 1  Wiper intermittent dial 2  Wiper intermittent dial 6  Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V
90 (P)	Ground	CAN-L	Input/ Output	_		_
91 (L)	Ground	CAN-H	Input/ Output	_		_

#### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					OFF	Battery voltage
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0  JPMIA0015GB 6.5 V
					ON	0 V
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0 V
94 (Y)	Ground	Puddle lamp control	Output	Puddle lamp	OFF	Battery voltage
					ON OFF	0 V
95 (BG)	Ground	ACC relay control	Output	Ignition switch	ACC or ON	0 V  Battery voltage
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output	_	ACC UI ON	Battery voltage
99		Selector lever P posi-			P position	0 V
(R)	Ground	tion switch	Input	Selector lever	Any position other than P	Battery voltage
-					ON (Pressed)	0 V
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
					ON (Pressed)	0 V
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(BG)	Ground	lay control	Output	Igilition switch	ON	Battery voltage
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF		Battery voltage

#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Terminal I		Description				Value
(Wire col	lor) –	Signal name	Input/ Output		Condition	value (Approx.)
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB
107 (LG) Gro	round	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB
					Front washer switch ON	(V) 15 10 5 0 2 ms

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## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description	1			Value
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3 V
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB
					Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0040GB
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V

## < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	^
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	Δ
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB	F
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 2 ms JPMIA0036GB 1.3 V	( )
					Front wiper switch INT	(V) 15 10 5 0 	K E
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V	N
					ON	0 V	C
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 0 10 ms 10 ms 1.1 V	F

#### < ECU DIAGNOSIS INFORMATION >

< =00	DIAGI	10313 INFORMAT	ION >			[00]
	inal No.	Description				Value
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Cround	Option scribor	Прис	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118	Ground	(Without ICC)	Input	Stop famp switch	ON (Brake pedal is depressed)	Battery voltage
(P)	Ground	Stop lamp switch 2	при		OFF (Brake pedal is not de- brake hold relay OFF	0 V
		(With ICC)			ON (Brake pedal is de- rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 10 ms JPMIA0012GB 1.1 V
					UNLOCK status (Unlock switch sensor ON)	0 V
121				When the key is in	serted into key slot	Battery voltage
(BR)	Ground	Key slot switch	Input	When the key is no	ot inserted into key slot	0 V
123	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
(W)			,		ON	Battery voltage
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 5 0 JPMIA0011GB 11.8 V
					ON (Door open)	0 V
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms JPMIA0013GB
				Ignition switch OF	F or ACC	10.2 V  Battery voltage
				ignition switch OF	I UI AUU	Dattery Voltage

## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description				Value
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	ON (Tail lamps OFF) ON (Tail lamps ON)	9.5 V  NOTE:  The pulse width of this wave is varied by the illumination brightening/dimming level.  (V) 15 10 5 0
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF OFF	JPMIA0159GB  0 V  Battery voltage
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON	ON	0 V
138 (Y)	Ground	Receiver and sensor power supply	Output	Ignition switch	OFF ACC or ON	0 V 5.0 V
139	Ground	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 ••• 0.2s OCC3881D
(L)		er communication	Output	ON	When receiving the signal from the transmitter	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
140 (GR)	Ground	Selector lever P/N position	Input	Selector lever	P or N position  Except P and N positions	Battery voltage 0 V
141 (G)	Ground	Security indicator	Output	Security indicator	ON	0 V  (V) 15 10 5 0 JPMIA0014GB
						11.3 V

## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
142 (BG)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF Lighting switch 1ST Lighting switch HI Lighting switch 2ND  Turn signal switch RH	0 V  (V) 15 10 5 0 2 ms  JPMIA0031GB  10.7 V
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	
143	0	Combination switch	Outrot	Combination	Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15
(P)	Ground	OUTPUT 1	Output	switch	Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3  • Wiper intermittent dial 6  • Wiper intermittent dial 7	5 0 2 ms 10.7 V
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Rear wiper switch ON (Wiper intermittent dial 4)  Rear washer switch ON (Wiper intermittent dial 4)	15 10 5 0
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	2 ms JPMIA0033GB
					All switches OFF	0 V
					Front wiper switch INT	(10)
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch LO  Lighting switch AUTO	(V) 15 10 5 0 2 ms JPMIA0034GB

#### < ECU DIAGNOSIS INFORMATION >

#### [HALOGEN TYPE]

	inal No.	Description				Value	Δ.
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	F
					All switches OFF	0 V	
					Front fog lamp switch ON		Е
				Combination	Lighting switch 2ND	(V)	
146	Ground	Combination switch	Output	switch	Lighting switch PASS	10	
(SB)	Ground	OUTPUT 4	Output	(Wiper intermit- tent dial 4)	Turn signal switch LH	0	
						(10)	Е
150 (LG)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	(V) 15 10 5 0	F
						JPMIA0011GB 11.8 V	C
					ON (Door open)	0 V	
151	Crour d	Rear window defog-	Outros	Rear window de-	Active	0 V	H
(G)	Ground	ger relay control	Output	fogger	Not activated	Battery voltage	

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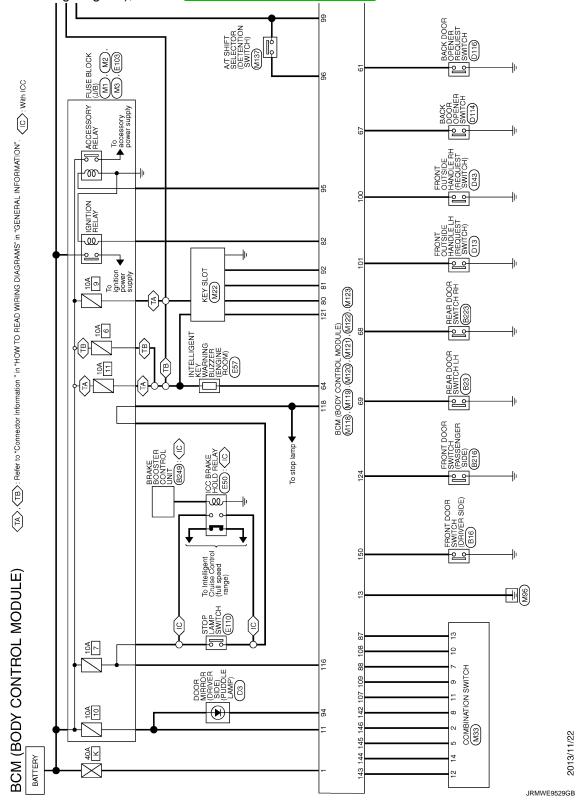
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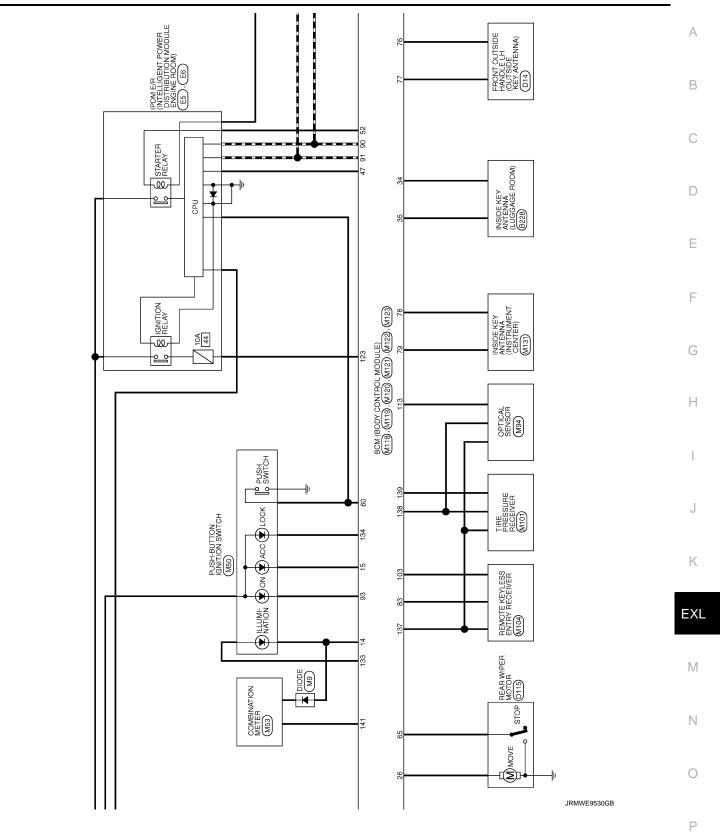
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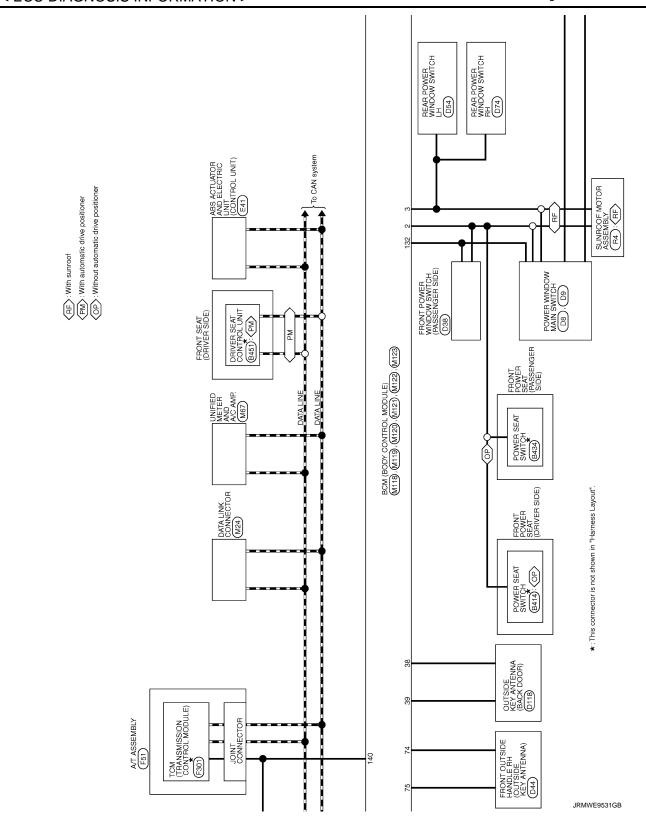
Wiring Diagram - BCM -

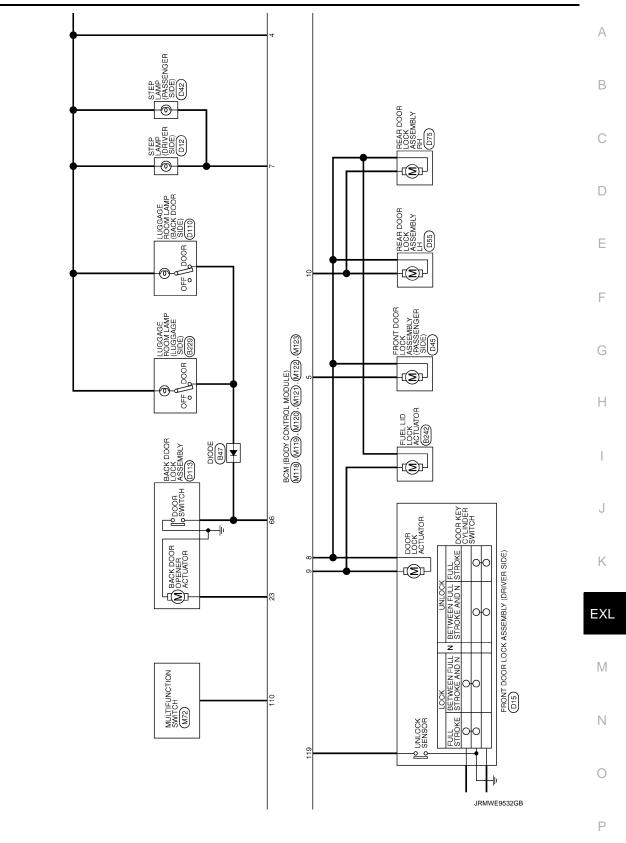
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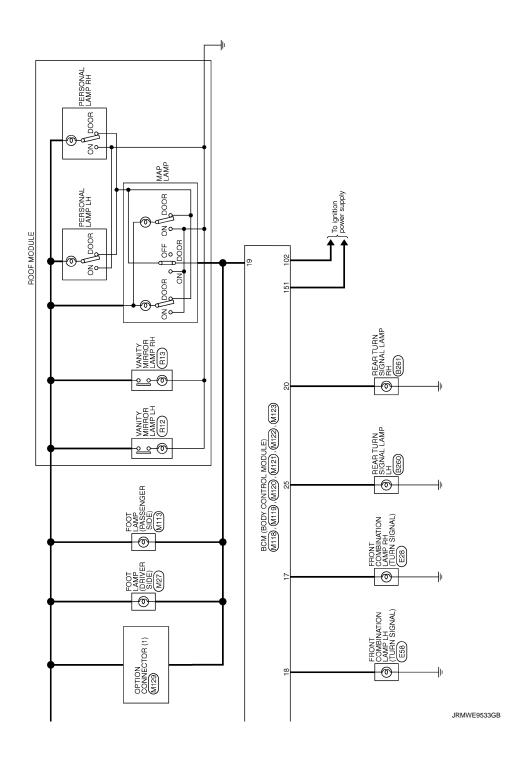
For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".











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Corrector No. B242  Corrector Name FUEL LID LOCK ACTUATOR  Corrector Type MAHPA-LC  LAS  H.S.  Terminal Coorr Off No. Write  1 R  2 V	State
Corrector No. 8228  Corrector Type RYCOTF GY  Corrector Type RYCOTF GY  Terminal Color Of No. Wire Signal Name (Specification)  1 V 2 SB	Corrector No. 6229  Corrector Name Luccavice Room Lawin (Luccavice SDE)  Corrector Type TROSPW  TROSPW  TROSPW  TROSPW  To GR  2 L  CR  2 L  CR  Corrector Type TROSPW  TROSPW  To GR  2 L  CR  CR  CR  CR  CR  CR  CR  CR  CR  C
Terminal   Color Of   Signal Name   Specification   No.   Wire	Terminal Color Of No. Signal Name [Specification]  2
BCM (BODY CONTROL MODULE)  Connector Name FRONT DOOR SWITCH (IDRIVER SIDE)  Connector Type A03FW  Connector Type A03FW  Terminel Color Off Signal Name (Specification)  Name Signal Name (Specification)	Corrector Name REAR DOOR SWITCH LH Corrector Name REAR DOOR SWITCH LH Corrector Type A03FW  Corrector Name DioDE  Corrector Name DioDE  Corrector Name DioDE

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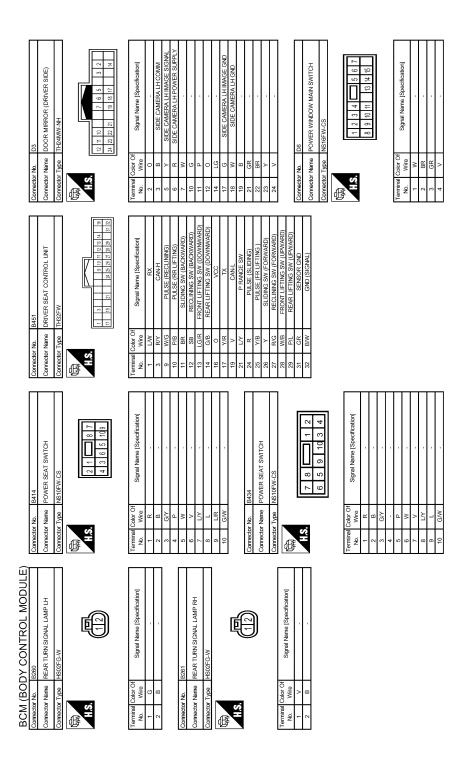
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Connector No. D42 Connector Name STEP LAMP (PASSENGER SIDE) Connector Type T1902FW	Terminal Color Of Signal Name (Specification) No. Wire S. S. R
Corrector No. 1015 Corrector Name Frowt DOOR LOCK ASSEMBLY (DRIVER SIDE) Corrector Type EUGE COV-RS  H.S. (123456)	Terminal Color Of Name   Signal Name   Specification   1
Corrector No. D13  Corrector Name RRONF OUTSDE HANDLE LH (RECOLEST SWITCH)  Corrector Type RRONFL  H.S.	Terminal Color Of Signal Name (Specification)  1
BCM (BODY CONTROL MODULE)  5 0 6 Y 7 BR 9 0 0 110 Y 111 G 13 P 14 V 15 B	Corrector No. D9  Corrector Type NS03FW.CS  Terminal Color Of Signal Name (Specification)  To B  Corrector Name STEP LAMP (DRIVER SIDE)  Terminal Color Of Signal Name (Specification)  No. Wire Signal Name (Specification)  1 R

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Corrector No. 1074 Corrector No. 10110	R WINDOW SWITCH LH Corrector Nane REAR POWER WINDOW SWITCH RH Corrector Nane Corrector Type Corrector Type Corrector Type	HS. HS. HS. L23451	Signal Name [Specification]   Terminal Color Of   Signal Name [Specification]   No.   Wire   W   Terminal Color Of   Signal Name [Specification]   No.   Wire   Signal Name [Specification]   No.   Wire   Terminal Color Of   Signal Name [Specification]   No.   Wire   Signal Name [Specification]   Terminal Color Of   Signal Name [Specification]   No.   Wire   Signal N	3   6	D55         Corrector No.         D75         Corrector Type INSOAFW-CS           REAR DOOR LOCK ASSEMBLY LH         Corrector Type ISOAFW-CS         「中央」           EG6FGY-RS         Corrector Type ISOAFW-CS         「中央」		Signal Name [Specification]  No Wire Signal Name [Specification]  3 V  n D  A D  A D  A D  A D  A D  A D  A D			5 > >						
Connector No. D54	e e	H.S.	, Of	2 4 4 3 7 4 8 W	Corrector No. D55 Corrector Name REAR DOOF Corrector Type E06FGY-RS	H.S.	Terminal Color Of Signature	> 1	2 C C	Н	Н	++	+++	1 V 2 G 5	HH	+++
BCM (BODY CONTROL MODULE) Connector No.   D44	9 o	H.S.	Terminal Color Of Signal Name [Specification] No. Wife 1 P	Corrector No. D45 Corrector Name Front DORLOCK ASSEMBLY PASSEMBR SES;	Connector Type EtoFCV-RS  H.S.	Terminal Color Of No. Wire Signal Name (Specification)	┨									

JRMWE9719GB

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Corrector No. E28 Corrector Name FRONT COMBINATION LAMP RH Corrector Type RS08FB-PR H.S. H.S.	Nor Of   Signal Name   Nor	Terminal Coor Of   Signal Name [Specification]   No.   Wire   Signal Name [Specification]   No.   Signal Name [Specification]   No.   Signal Name   Si	
Corrector No. E5  Corrector Name Free Section Forest Desireation woods a corrector Type THEOLEW CST2-MA-TV  Line Free Free Free Free Free Free Free Fr	Termival Color Of   Signal Name   Specification	Corrector Name   Prove to prove to present parameter	
Corrector No. 10116 Corrector Name SWITCH Corrector Type TROZMIBR-P	Terminal Color Ol   Signal Name [Specification]   1   W	Termanal Codor Of   Signal Name [Specification]	
BCM (BODY CONTROL MODULE) Cornector No. D114 Cornector Name BACK DOOR OPENER SWITCH Cornector Type ITROZMBR.P  H.S.	Territical Color Of Signal Name (Specification)  1	Terminal Codo Of   Wire   Signal Name   Specification   No. Wire   2	

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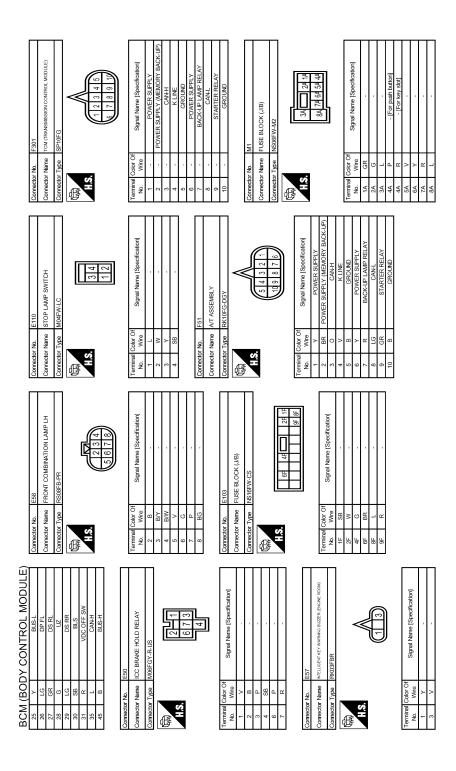
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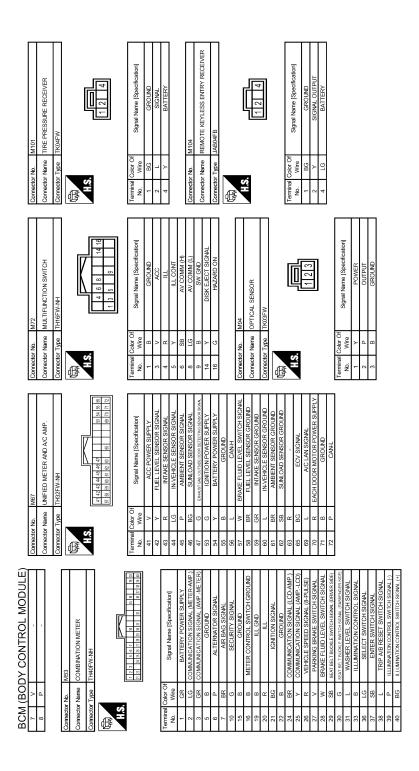
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Corrector No. M33  Corrector Name COMBINATION SWITCH  Corrector Type THIFFW-NH    1 2 3   4 5 6   7 8 14   1 8   14   14	Terminal Coor Of   Signal Name (Specification)   No.   No.     1   P	
Corrector No. M24  Corrector Name DATA LINK CONNECTOR  Corrector Type BD16FW  H.S.	Territical Color Of   Signal Name (Specification)   No. Wire   Signal Name (Specification)   Signal Name (Specification)   No. Wire   No. Wire   Signal Name (Specification)   No. Wire   Signal Name (	
Corrector No. M9 Corrector Name DIODE Corrector Type 24335_C9900 H.S.	Terrine  Color Of   Signal Name (Specification)   1	
BCM (BODY CONTROL MODULE) Corrector No. M2 Corrector Name FLISE BLOCK (JIB) Corrector Type NST0FW.CS  ##3.	Terminal Color Of   Signal Name (Specification)   No.   Wire   Signal Name (Specification)   Signal Name   Specification   Specifi	

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70.00	┰	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FGY-NH				2	24	88 67 88 67 88 64 64 64 65			Terminal Color Of	No. Wire Signal Name [Specification]	34 SB LUGGAGE BOOM ANT-	3 >		2 %	A >	- 8	SB SIAK	84 W BACK DOOR OPENIED PEOLIS	ł	- 8	2	GR BAC	BR	ж		ſ	Connector No. M122	Connector Name BCM (BODY CONTROL MODULE)	Connector Type TH40FB-NH	1	<b>8</b>	2	10   10   10   10   10   10   10   10				Terminal Color Of Signal Name [Specification]	+	9	<u> </u>	> =	2 >	+	79 BK ROOM ANI 1+
D	_	Connector Name BCM (BODY CONTROL MODULE)	Connector Type NS16FW-CS				4 5 7 8 9 10	11 13 14 15 17 18 19	2.			Terminal Color Of	No. Wire Signal Name [Specification]	4 I.G. INTERIOR ROOM I AMP POWER SLIPPLY	t	, >	TIGHTO ACCULATION AND	> (	, 2	뚪 4	11 K BAI (FUSE)	Ŧ	>	W TURNSI	BG:	>			Connector No. M120	Connector Name BCM (BODY CONTROL MODULE)	Т	Connector Type INST2F-W-CS				7,9 7,0			<u>8</u>	wire	23 C BACK DOOD ODEN OI TRUIT	0	1	5			
ᄗ	Connector No. MILLS	Connector Name FOOT LAMP (PASSENGER SIDE)	Connector Type A02FW					2 1				Terminal Color Of	No. Wire Signal Name [Specification]	α.	2 BR			Commondon Nie		Connector Name BCM (BODY CONTROL MODULE)	Commonster Turns MOSEB I C	CONTRACTOR INCOLUDED TO CONTRACTOR INCOLUDE TO CO			H.S.		33			<u>a</u>	4	1 W BOWER WINDOW POWER SLIPPI Y(BAT)	Y POWER WINDOW POWE														

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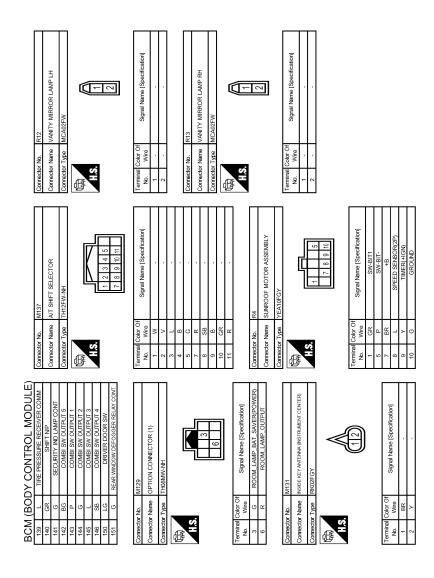
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Fail-safe

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

#### < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Display contents of CONSULT	Fail-safe	Cancellation			
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC			
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC			
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC			
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC			
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF			
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent  • Starter control relay signal  • Starter relay status signal			
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status become consistent  • Starter motor relay control signal  • Starter relay status signal (CAN)			
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>			
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilled  • Power position changes to ACC  • Receives engine status signal (CAN)			
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal			
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal			
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization			

#### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

1. More than 1 minute is passed after the rear wiper stops.

- Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

#### DTC Inspection Priority Chart

INFOID:0000000008772670

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC	N.I.
1	B2562: LOW VOLTAGE	- IV
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)	0
3	<ul> <li>B2190: NATS ANTENNA AMP</li> <li>B2191: DIFFERENCE OF KEY</li> <li>B2192: ID DISCORD BCM-ECM</li> <li>B2193: CHAIN OF BCM-ECM</li> <li>B2195: ANTI SCANNING</li> </ul>	Р

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< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

Priority	DTC
4	<ul> <li>B2553: IGNITION RELAY</li> <li>B2555: STOP LAMP</li> <li>B2556: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: PNP SW</li> <li>B2605: PNP SW</li> <li>B2605: PNP SW</li> <li>B2606: STARTER RELAY</li> <li>B2607: ENG STATE RIGLAY</li> <li>B2607: ENG STATE SIG LOST</li> <li>B2614: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM</li> <li>B261A: PUSH-BTN IGN SW</li> <li>B261A: PUSH-BTN IGN SW</li> <li>B261E: VEHICLE TYPE</li> <li>B2626A: KEY REGISTRATION</li> <li>C1729: VHCL SPEED SIG ERR</li> <li>U0415: VEHICLE SPEED SIG</li> </ul>
5	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1734: CONTROL UNIT</li> </ul>
6	B2621: INSIDE ANTENNA     B2623: INSIDE ANTENNA

DTC Index

#### NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <a href="INL-15">INL-15</a>, "COM-MON ITEM: CONSULT Function (BCM - COMMON ITEM)".

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	_	BCS-41
U1010: CONTROL UNIT (CAN)	_	_	_	_	BCS-42
U0415: VEHICLE SPEED SIG	_	_	_	_	BCS-43
B2190: NATS ANTENNA AMP	×	_	_	_	<u>SEC-40</u>

# **BCM (BODY CONTROL MODULE)**

< ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
2191: DIFFERENCE OF KEY	×	_	_	_	SEC-43
2192: ID DISCORD BCM-ECM	×	_	_	_	SEC-44
2193: CHAIN OF BCM-ECM	×	_	_	_	SEC-45
2195: ANTI SCANNING	×	_	_	_	SEC-46
2553: IGNITION RELAY	_	×	_	_	PCS-50
2555: STOP LAMP	_	×	_	_	SEC-47
2556: PUSH-BTN IGN SW	_	×	×	_	SEC-49
2557: VEHICLE SPEED	×	×	×	_	SEC-51
2560: STARTER CONT RELAY	×	×	×	_	SEC-52
2562: LOW VOLTAGE	_	×	_	_	BCS-44
2601: SHIFT POSITION	×	×	×	_	<u>SEC-53</u>
2602: SHIFT POSITION	×	×	×	_	SEC-56
2603: SHIFT POSI STATUS	×	×	×	_	SEC-59
2604: PNP SW	×	×	×	_	SEC-62
2605: PNP SW	×	×	×	_	SEC-64
2608: STARTER RELAY	×	×	×	_	SEC-66
260A: IGNITION RELAY	×	×	×	_	PCS-52
260F: ENG STATE SIG LOST	×	×	×	_	SEC-68
2614: ACC RELAY CIRC	_	×	×	_	PCS-54
2615: BLOWER RELAY CIRC	_	×	×	_	PCS-57
2616: IGN RELAY CIRC	_	×	×	_	PCS-60
2617: STARTER RELAY CIRC	×	×	×	_	SEC-71
2618: BCM	×	×	×	_	PCS-63
261A: PUSH-BTN IGN SW	_	×	×	_	SEC-73
261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	<u>SEC-76</u>
2621: INSIDE ANTENNA	_	×	_	_	DLK-58
2623: INSIDE ANTENNA	_	×	_	_	DLK-60
26E1: ENG STATE NO RES	×	×	×	_	SEC-69
26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	SEC-70
1704: LOW PRESSURE FL	_	_	_	×	
1705: LOW PRESSURE FR	_	_	_	×	M/T 00
1706: LOW PRESSURE RR	_	_	_	×	<u>WT-23</u>
1707: LOW PRESSURE RL	_	_	_	×	
1708: [NO DATA] FL	_	_	_	×	
1709: [NO DATA] FR	_	_	_	×	VALL OF
1710: [NO DATA] RR	_	_	_	×	<u>WT-25</u>
:1711: [NO DATA] RL	_	_	_	×	

# **BCM (BODY CONTROL MODULE)**

# < ECU DIAGNOSIS INFORMATION >

[HALOGEN TYPE]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	_	_	_	×	
C1717: [PRESSDATA ERR] FR	_	_	_	×	WT-28
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u> </u>
C1719: [PRESSDATA ERR] RL	_	_	_	×	
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-30</u>
C1734: CONTROL UNIT	_	_	_	×	<u>WT-32</u>

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< ECU DIAGNOSIS INFORMATION >

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

Reference Value INFOID:0000000008772701

### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

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

Monitor Item		Condition	Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL SOLD DEO	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
III 10 DEO	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
		Front fog lamp switch OFF	Off
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	On
FR WIP REQ		Front wiper switch OFF	Stop
	Ignition switch ON	Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
IGN RLTT-REQ	Ignition switch ON		On
ICN DI V	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
DITCH C/V	Release the push-button ignition	n switch	Off
PUSH SW	Press the push-button ignition s	witch	On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off
		Selector lever in P or N position	On
ST DLV CONT	Ignition switch ON	Off	
ST RLY CONT	At engine cranking		On

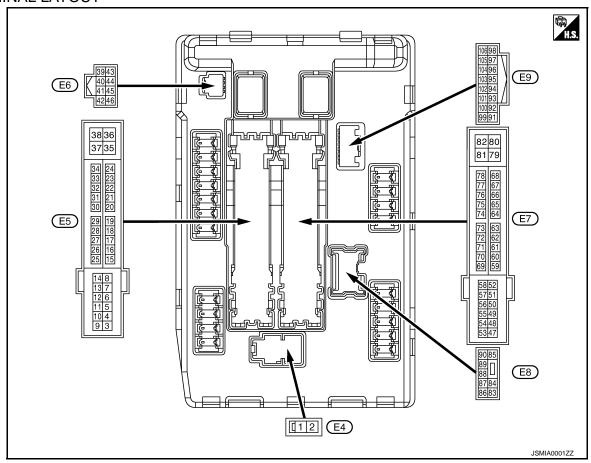
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Monitor Item	Cor	ndition	Value/Status		
ILIDT DLV. DEO	Ignition switch ON	Ignition switch ON			
IHBT RLY -REQ	At engine cranking		On		
	Ignition switch ON		Off		
	At engine cranking		INHI ON $\rightarrow$ ST ON		
ST/INHI RLY		control relay cannot be recognized by . when the starter relay is ON and the	UNKWN		
DETENT SW	Ignition switch ON	Ignition switch ON  Press the selector button with selector lever in P position Selector lever in any position other than P			
	Release the selector button with se	On			
S/L RLY -REQ	NOTE: The item is indicated, but not monit	Off			
S/L STATE	NOTE: The item is indicated, but not monit	UNLOCK			
DTRL REQ	NOTE: The item is indicated, but not monit	Off			
OIL D CW	Ignition switch OFF, ACC or engine	Open			
OIL P SW	Ignition switch ON		Close		
LICOD CW	Close the hood		Off		
HOOD SW	Open the hood		On		
HL WASHER REQ	NOTE: The item is indicated, but not monit	NOTE: The item is indicated, but not monitored.			
	Not operation		Off		
THFT HRN REQ	<ul> <li>Panic alarm is activated</li> <li>Horn is activated with VEHICLE S</li> <li>TEM</li> </ul>	On			
LIODAL OLUDD	Not operating		Off		
HORN CHIRP	Door locking with Intelligent Key (ho	orn chirp mode)	On		
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	Off			

< ECU DIAGNOSIS INFORMATION >

# TERMINAL LAYOUT



### PHYSICAL VALUES

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Ground	Front winer LO	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Ground	Front winer III	Output	Ignition	Front wiper switch OFF	0 V
(L)	Ground	d Front wiper HI O	Output	switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Outrout	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	_	Ignition swi	tch ON	0 V
13					ely 1 second or more after ignition switch ON	0 V
(Y)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage
16				Ignition	Front wiper stop position	0 V
(LG)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
19	Ground	Ignition roley newer cumply	Output	Ignition swi	itch OFF	0 V
(W)	Giouria	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
25	Cround	Ignition roley newer cumply	Output	Ignition swi	itch OFF	0 V
(G)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
26*	Cravind	lanition relevance comple	Outnut	Ignition swi	itch OFF	0 V
(R)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage
27	Cravinal	lanition valou monitor	lanut	Ignition swi	itch OFF or ACC	Battery voltage
(BG)	Ground	Ignition relay monitor	Input	Ignition swi	itch ON	0 V
28	Cravind	Push-button ignition	la a ut	Press the p	oush-button ignition switch	0 V
(L)	Ground	switch	Input	Release the	e push-button ignition switch	Battery voltage
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
\/					Selector lever P or N	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
39 (P)	_	CAN-L	Input/ Output	_		
40 (L)	_	CAN-H	Input/ Output	_		_
41 (B/W)	Ground	Ground	_	Ignition switch ON		0 V
42	Ground	Cooling fan relay control	Input	Ignition swi	tch OFF or ACC	0 V
(Y)	Ciodila	Cooling fair rolay control	прис	Ignition switch ON		0.7 V
43 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	Press the selector button (Selector lever P)     Selector lever in any position other than P	Battery voltage
					Release the selector but- ton (selector lever P)	0 V
44	Ground	Horn rolay control	Input	The horn is	deactivated	Battery voltage
(BR)	Giodila	Horn relay control	Input	The horn is	activated	0 V
45	Ground	Anti thoft harn roley central	Innut	The horn is	deactivated	Battery voltage
(G)	Ground	Anti theft horn relay control	Input	The horn is	activated	0 V
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
(N)				SWILCH ON	Selector lever P or N	Battery voltage
					A/C switch OFF	0 V
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage
40				Ignition swi (More than ignition swi	a few seconds after turning	0 V
49 (BG)	(BG) Ground ECM relay power supply C		Output	Ignition s	w seconds after turning igni-	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal No. Description				Valu-								
(Wire	e color)	Signal name	Input/ Output	Condition	Value (Approx.)							
51		1 22 1	Output	Ignition switch OFF	0 V							
(Y)	Ground	Ground Ignition relay power supply		Ignition switch ON	Battery voltage							
53			Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V								
(W)	Ground	ECM relay power supply	Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)	Battery voltage							
<b>5</b> 4		Ground Throttle control motor relay power supply		Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V							
54 (P)	Ground										Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF	Battery voltage							
56	Ground	lanition rolay nower supply	Ignition relay nower supply	Ignition relay nower supply	Ignition relay nower supply	lanition relay nower supply	Ignition relay power supply	Ignition relay power supply	Output	Ignition switch OFF	0 V	
(LG)	Ground	ignition relay power supply	Output	Ignition switch ON	Battery voltage							
57	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V							
(G)	Ground	ignition relay power supply	Output	Ignition switch ON	Battery voltage							
58	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V							
(V)	Ground	ignition relay power supply	Output	Ignition switch ON	Battery voltage							
60				Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	Battery voltage							
69 (BR)	Ground	ECM relay control	Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)	0 – 1.5 V							
					0 – 1.0 V							
70 (BG)	Ground	Throttle control motor re- lay control	Output	Ignition switch ON → OFF	↓ Battery voltage ↓							
(50)		, 00111101			0 V							
				Ignition switch ON	0 – 1.0 V							
74	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V							
(P)	Cround	ignition relay power supply	Output	Ignition switch ON	Battery voltage							
75	Ground	Oil pressure switch	Input	Ignition Engine stopped	0 V							
(SB)	0.50.10	C process owners	put	switch ON Engine running	Battery voltage							

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< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
				Ignition swi	tch ON	(V) 6 4 2 0 2 ms JPMIA0001GB 6.3 V
76 (Y)	Ground	Power generation command signal	Output	40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 2ms JPMIA0002GB 3.8 V
				80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 2ms JPMIA0003GB 1.4 V
77 (R)	Ground	Fuel pump relay control	Output	Approximately 1 second after turning the ignition switch ON     Engine running		0 – 1.0 V
					tely 1 second or more after ignition switch ON	Battery voltage
80 (W)	Ground	Starter motor	Output	At engine of	ranking	Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(BG)	0.000		- Carpar	switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
(V)				SWILCH ON	Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	<ul> <li>Front fog lamp switch OFF</li> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	0 V  Battery voltage
					Front fog lamp switch OFF	0 V
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	Battery voltage
88 (GR)	Ground	Washer pump power supply	Output	Ignition swi	tch ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
00				Lawition	Lighting switch OFF	0 V
89 (BR)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HI     Lighting switch PASS	Battery voltage
90				Ignition	Lighting switch OFF	0 V
90 (P)	Ground	Headlamp HI (LH)	Output Ignition switch ON	Lighting switch HI     Lighting switch PASS	Battery voltage	
91	Cround	Darking Jama (DU)	Output	lgnition	Lighting switch OFF	0 V
(P)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage
92	Cround	Darking Jamp (LU)	Output	Ignition	Lighting switch OFF	0 V
(BG)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V
104	Ground	Hood switch	Input	Close the h	ood	Battery voltage
(LG)	Ground	11000 SWILCIT	input	Open the hood		0 V

<sup>\*:</sup> Only for the models with ICC system

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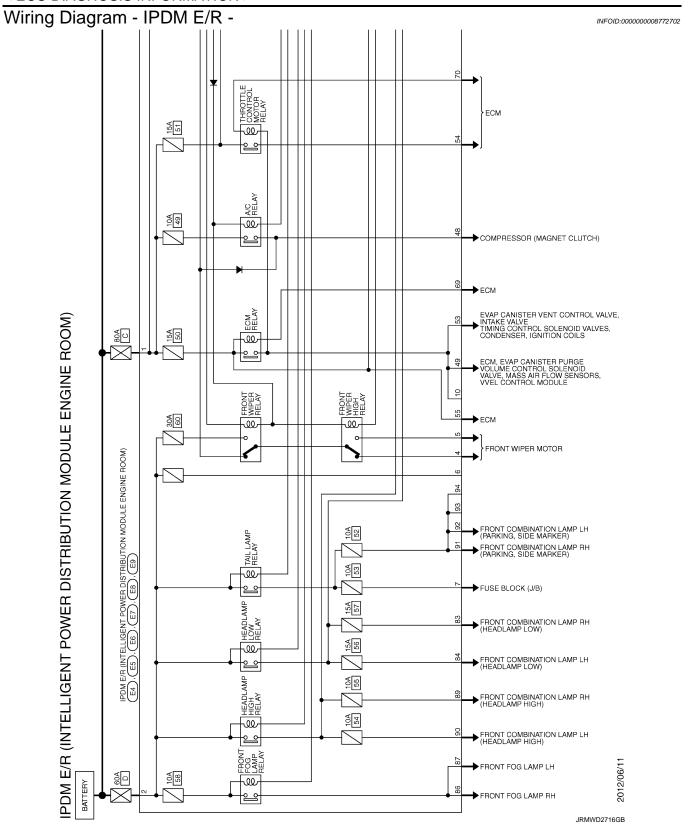
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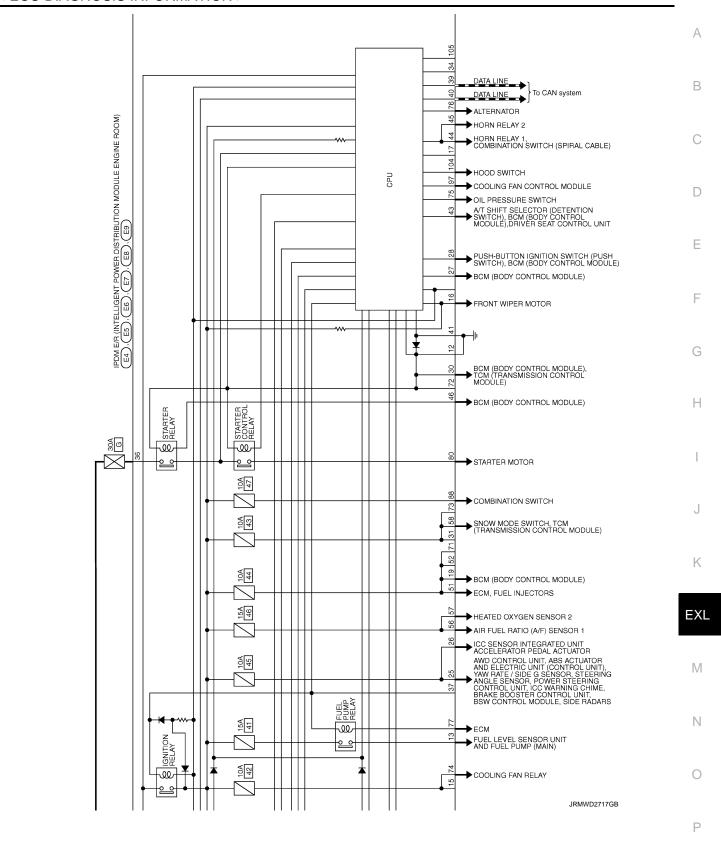
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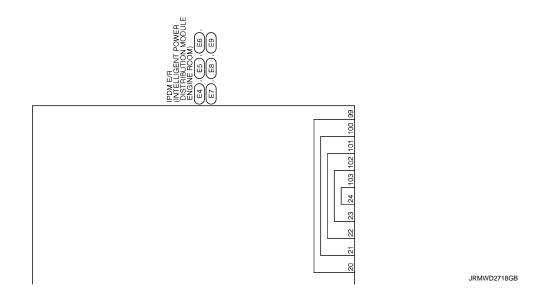
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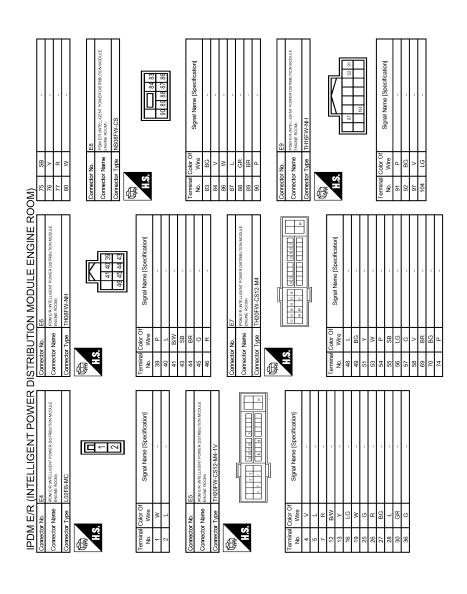
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INFOID:0000000008772703

# CAN COMMUNICATION CONTROL

Fail-safe

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

If No CAN Communication Is Available With ECM

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< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	<ul> <li>Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON</li> <li>Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF</li> </ul>
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

#### If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>
<ul><li>Parking lamps</li><li>License plate lamps</li><li>Side maker lamps</li><li>Illuminations</li><li>Tail lamps</li></ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>
Front wiper	<ul> <li>The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul>
Front fog lamps	Front fog lamp relay OFF
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Voltage	judgment			
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation	
ON	ON	Ignition relay ON normal	_	
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	Detects DTC "B2098: IGN RELAY ON"     Turns ON the tail lamp relay for 10 minutes	
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	

#### FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper stop position signal.

When a front wiper stop position signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

Ignition switch	Front wiper switch	Front wiper stop position signal
011	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.
ON	ON	The front wiper stop position signal does not change for 10 seconds.

< ECU DIAGNOSIS INFORMATION >

#### NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

#### STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index INFOID:0000000008772704

#### NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 ightarrow 2  $\cdots$  38 ightarrow 39 after returning to the normal condition whenever IGN OFF ightarrow
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-14
B2098: IGN RELAY ON CIRC	×	PCS-15
B2099: IGN RELAY OFF CIRC	_	PCS-17
B210B: STR CONT RLY ON CIRC	_	<u>SEC-77</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-78</u>
B210D: STARTER RLY ON CIRC	<del>-</del>	SEC-80
B210E: STARTER RLY OFF CIRC	_	<u>SEC-82</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-84</u>
B2110: INTRLCK/PNP SW OFF	_	SEC-86

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[HALOGEN TYPE]

# SYMPTOM DIAGNOSIS

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

Symptom Table

#### **CAUTION:**

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

Sym	otom	Possible cause	Inspection item	
Headlamp (HI) is not turned ON.	One side	Fuse     Halogen bulb (HI)     Harness between IPDM E/R and the headlamp high     Daytime running light relay (with daytime running light system)     IPDM E/R	Headlamp (HI) circuit Refer to <u>EXL-260</u> .	
	Both sides	Symptom diagnosis		
Headlamp (HI) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-379</u> .	RE NOT TURNED ON"	
turned OFF.	When ignition switch is turned OFF.	IPDM E/R —		
High beam indicator lamp [The headlamp (HI) is turn		Combination meter	<ul> <li>Combination meter         Data monitor "HI-BEAM IND"     </li> <li>BCM (HEAD LAMP)         Active test "HEADLAMP"     </li> </ul>	
Headlamp (LO) is not turned ON.	One side	Fuse     Halogen bulb (LO)     Harness between IPDM E/R and the headlamp low     IPDM E/R	Headlamp (LO) circuit Refer to EXL-262.	
	Both sides	Symptom diagnosis		
Headlamp (LO) is not	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-380.		
turned OFF.	When ignition switch is turned OFF.	IPDM E/R	_	
Headlamp is not turned O	N/OFF with the lighting	Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to <u>BCS-93</u> .	
switch AUTO.		Optical sensor     Harness between the optical sensor and BCM     BCM	Optical sensor Refer to EXL-270.	
Front fog lamp is not turned ON.		Front fog lamp bulb     Harness between IPDM E/R and the front combination lamp     Front combination lamp     IPDM E/R	Front fog lamp circuit Refer to <u>EXL-264</u> .	
	Both side	Symptom diagnosis		
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-382</u> .	S ARE NOT TURNED ON"	
Parking lamp is not turned ON.		<ul> <li>Fuse</li> <li>Parking lamp bulb</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>Front combination lamp</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to EXL-266.	

## **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

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Symptom		Possible cause	Inspection item
Tail lamp is not turned ON.		Harness between IPDM E/R and the rear combination lamp     Rear combination lamp	Tail lamp circuit Refer to EXL-275.
License plate lamp is not turned ON.		Harness between IPDM E/R and the license plate lamp     License plate lamp	License plate lamp circuit Refer to EXL-277.
Tail lamp and the license p ON.	late lamp are not turned	Fuse     Harness between IPDM E/R and the rear combination lamp     IPDM E/R	Tail lamp circuit Refer to <u>EXL-275</u> .
<ul> <li>Parking lamp, the tail lar lamp are not turned ON.</li> <li>Parking lamp, the tail lar lamp are not turned OFF (Each illumination is turned)</li> </ul>	np and the license plate	"DADKING LICENSE DI ATE AND TAIL LAMPS ARE NOT TURNER	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation.)	Harness between BCM and each turn signal lamp     Turn signal lamp bulb	Turn signal lamp circuit Refer to EXL-268.
	Indicator lamp is included	Combination switch     Harness between the combination switch and BCM     BCM	Combination switch Refer to <u>BCS-93</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator lamp is normal.)	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>Unified meter and A/C amp.</li> <li>BCM</li> <li>Combination meter</li> </ul>	Unified meter and A/C amp. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuit Combination meter	Combination meter Power supply and the ground circuit Refer to MWI-55.
<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 the hazard switch and BCM     BCM	Hazard switch Refer to EXL-273.

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### NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

# NORMAL OPERATING CONDITION

Description INFOID:0000000008289190

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

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

< SYMPTOM DIAGNOSIS > [HALOGEN TYPE]

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description INFOID:000000008289191

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

# Diagnosis Procedure

# 1.combination switch inspection

Check the combination switch. Refer to BCS-93, "Symptom Table".

#### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

# 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

### **©CONSULT DATA MONITOR**

- 1. Select "HL HI REQ" of IPDM E/R data monitor item.
- 2. With operating the lighting switch, check the monitor status.

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

#### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-96, "Exploded View".

# 3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-260, "Component Function Check".

#### Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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Revision: 2013 December EXL-379 2013 EX

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

< SYMPTOM DIAGNOSIS > [HALOGEN TYPE]

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:0000000008289193

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

# Diagnosis Procedure

INFOID:0000000008289194

# 1. CHECK COMBINATION SWITCH

Check the combination switch. Refer to BCS-93, "Symptom Table".

#### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

# 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

## (E) CONSULT DATA MONITOR

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

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	On
	Lighting Switch	OFF	Off

#### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-96, "Exploded View".

# 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-262, "Component Function Check".

#### Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

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

Description INFOID:000000008289195

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

# Diagnosis Procedure

# 1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-93, "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" of IPDM E/R data monitor item.
- 2. With operating the lighting switch, check the monitor status.

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

#### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

# 3. TAIL LAMP CIRCUIT INSPECTION

Check the tail lamp circuit. Refer to EXL-275, "Component Function Check".

#### Is the tail lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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## BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:000000008289197

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

## **Diagnosis Procedure**

INFOID:0000000008289198

[HALOGEN TYPE]

# 1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-93, "Symptom Table".

#### Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

# 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

## PCONSULT DATA MONITOR

- 1. Select "FR FOG REQ" of IPDM E/R data monitor item.
- 2. With operating the front fog lamp switch, check the monitor status.

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

### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

# 3. FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-264, "Component Function Check".

#### Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

### **PRECAUTIONS**

< PRECAUTION > [HALOGEN TYPE]

# **PRECAUTION**

## **PRECAUTIONS**

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

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, 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 "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

#### **WARNING:**

Always observe the following items for preventing accidental activation.

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

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Revision: 2013 December EXL-383 2013 EX

# PERIODIC MAINTENANCE

# HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000008289200

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

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

Before performing aiming adjustment, check the following.

• Adjust the tire pressure to the specification.

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

#### NOTE:

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

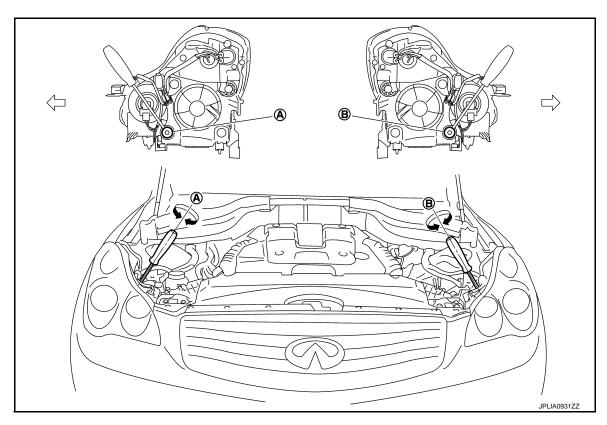
Wipe out dirt on the headlamp.

#### **CAUTION:**

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW



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

#### NOTE:

The figure is the vehicle without AFS. Each adjustment screw is applied to the vehicle with AFS.

 <sup>∀
 □:</sup> Vehicle center

### **HEADLAMP AIMING ADJUSTMENT**

#### < PERIODIC MAINTENANCE >

[HALOGEN TYPE]

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

# Aiming Adjustment Procedure

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1. Place the screen.

#### NOTE:

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

#### NOTE:

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

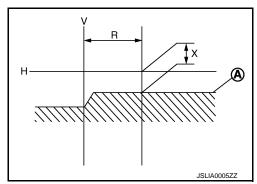
#### **CAUTION:**

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

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

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

Low beam distribution on the screen

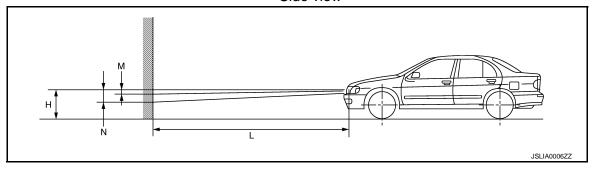


5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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



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

[HALOGEN TYPE]

### FRONT FOG LAMP AIMING ADJUSTMENT

Description

#### PREPARATION BEFORE ADJUSTING

#### NOTE:

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

Before performing aiming adjustment, check the following.

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

#### NOTE:

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

· Wipe out dirt on the headlamp.

#### **CAUTION:**

Never use organic solvent (thinner, gasoline etc.)

· Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW

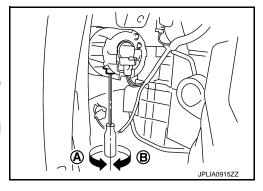
• Turn the aiming adjusting screw for adjustment.

A: UP B: DOWN

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

#### NOTE:

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



INFOID:0000000008289203

# Aiming Adjustment Procedure

1. Place the screen.

#### NOTE:

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

#### NOTE:

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

#### **CAUTION:**

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

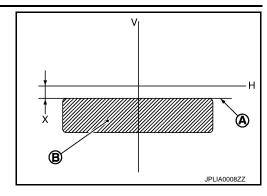
4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 200 mm (7.87 in).

## FRONT FOG LAMP AIMING ADJUSTMENT

## < PERIODIC MAINTENANCE >

# [HALOGEN TYPE]

Front fog lamp light distribution on the screen



A : Cutoff line

B : High illuminance area

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

X : Cutoff line height

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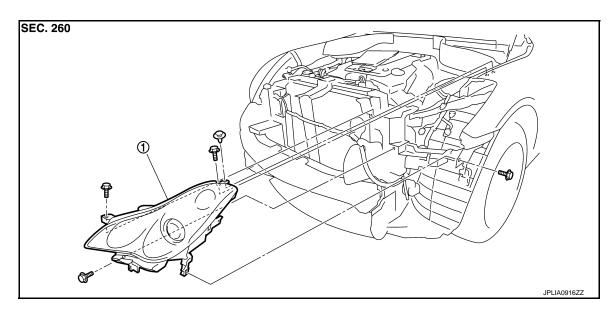
2013 EX

# REMOVAL AND INSTALLATION

# FRONT COMBINATION LAMP

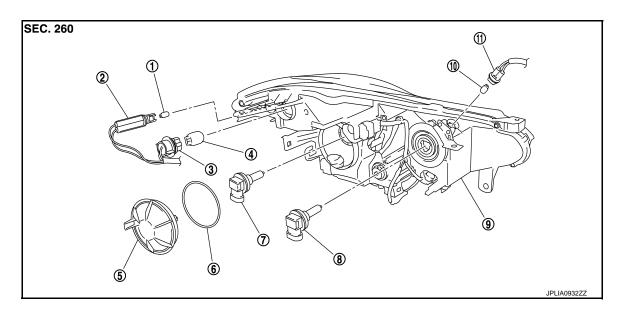
Exploded View

### **REMOVAL**



1. Front combination lamp

#### DISASSEMBLY



- 1. Front side marker lamp bulb
- 4. Front turn signal lamp bulb
- 7. Halogen bulb (LO)
- 10. Parking lamp bulb

- 2. Front side marker lamp bulb socket
- 5. Resin cap
- 8. Halogen bulb (HI)
- 11. Parking lamp bulb socket
- 3. Front turn signal lamp bulb socket
- 6. Seal packing
- 9. Headlamp housing assembly

### Removal and Installation

INFOID:0000000008289205

# REMOVAL CAUTION:

#### FRONT COMBINATION LAMP

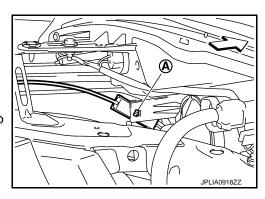
#### < REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

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#### Disconnect the battery negative terminal or remove the fuse.

- Remove the front bumper fascia. Refer to EXT-12, "Exploded View".
- Remove the headlamp mounting bolts and clips.
- Remove the harness clip and the holding clip (A)\*. 3. \*: Left side only.
  - < 
    ☐ : Vehicle front
- Pull out the headlamp assembly forward the vehicle.
- Disconnect the connector before removing the headlamp assembly.



#### INSTALLATION

Install in the reverse order of removal.

#### NOTE:

After installation, perform aiming adjustment. Refer to EXL-384, "Description".

Replacement INFOID:0000000008289206

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- 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. 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.

#### **HEADLAMP BULB (LO)**

- Remove the fender rubber protector in the engine room. Keep a service area.
- Rotate the resin cap counterclockwise and unlock it.
- Disconnect the headlamp (LO) bulb connector.
- 4. Rotate the bulb counterclockwise and unlock it.
- Remove the bulb from the headlamp housing assembly.

#### HEADLAMP BULB (HI)

- Remove the washer tank inlet\*. Refer to <u>WW-112</u>, "Exploded View". \*:When replace a right.
- 2. Disconnect the headlamp (HI) bulb connector.
- Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb socket from the headlamp housing assembly.

### PARKING LAMP BULB

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

#### FRONT TURN SIGNAL LAMP BULB

- Remove the fender rubber protector in the engine room. Keep a service area.
- Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

#### FRONT SIDE MARKER LAMP BULB

- Remove the fender rubber protector in the engine room. Keep a service area.
- Remove the bulb from the bulb socket.

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2. Rotate the bulb socket counterclockwise and unlock it.

**EXL-389** Revision: 2013 December 2013 EX

### FRONT COMBINATION LAMP

#### < REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

# Disassembly and Assembly

INFOID:0000000008289207

#### **DISASSEMBLY**

- 1. Rotate the resin cap counterclockwise and unlock it.
- 2. Disconnect the headlamp bulb (LO) connector.
- 3. Rotate the headlamp bulb (LO) counterclockwise and unlock it
- 4. Remove the bulb from the headlamp housing assembly.
- 5. Rotate the headlamp bulb (HI) counterclockwise and unlock it
- 6. Remove the bulb from the headlamp housing assembly.
- 7. Rotate the parking lamp bulb socket counterclockwise and unlock it.
- 8. Remove the bulb from the parking lamp bulb socket.
- 9. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 10. Remove the bulb from the front turn signal lamp bulb socket.
- 11. Rotate the front side marker lamp bulb socket counterclockwise and unlock it.
- 12. Remove the bulb from the front side marker lamp bulb socket.

#### **ASSEMBLY**

Assemble in the reverse order of disassembly.

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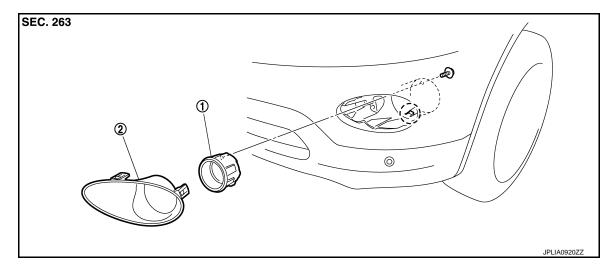
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INFOID:0000000008289209

## FRONT FOG LAMP

**Exploded View** INFOID:0000000008289208



Front fog lamp

Front fog lamp finisher

: Pawl

#### Removal and Installation

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

CAUTION:

- Remove the front fender protector. Keep a service area. Refer to EXT-25, "FENDER PROTECTOR: Exploded View".
- Remove the front fog lamp finisher.
- 3. Remove the front fog lamp connector.
- Remove the screw.
- Disengage the pawl. And then remove the front fog lamp. 5.

### INSTALLATION

Installation is the reverse order of removal.

### NOTE:

After installation, perform aiming adjustment. Refer to EXL-386, "Description"

Replacement INFOID:0000000008289210

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- · Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### FRONT FOG LAMP BULB

Remove the front fender protector. Keep the service area. Refer to EXT-25, "FENDER PROTECTOR: Exploded View".

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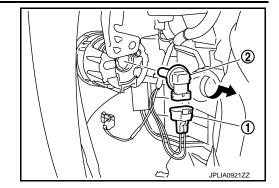
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## **FRONT FOG LAMP**

# < REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

- 2. Remove the front fog lamp bulb connector (1).
- 3. Rotate the bulb (2) counterclockwise and unlock it.



### [HALOGEN TYPE]

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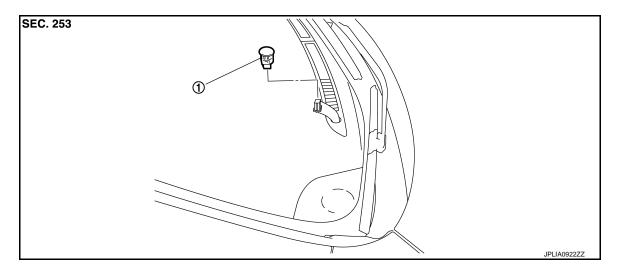
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# **OPTICAL SENSOR**

Exploded View



1. Optical sensor

### Removal and Installation

INFOID:0000000008289212

### **REMOVAL**

- 1. Insert an appropriate tool between the optical sensor and the instrument upper panel. Pull out the optical sensor upward.
- 2. Disconnect the optical sensor connector. And then remove the optical sensor.

### **INSTALLATION**

Install in the reverse order of removal.

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## LIGHTING AND TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

# LIGHTING AND TURN SIGNAL SWITCH

Exploded View

Lighting and turn signal switch is integrated in the combination switch. BCS-97, "Exploded View".

## **HAZARD SWITCH**

< REMOVAL AND INSTALLATION >

[HALOGEN TYPE]

# HAZARD SWITCH

Exploded View

The hazard warning switch is integrated in the multifunction switch. Refer to AV-138, "Exploded View".

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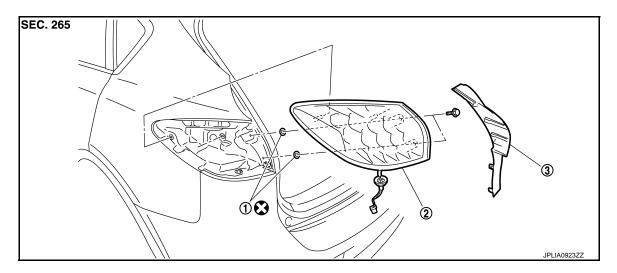
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# REAR COMBINATION LAMP

Exploded View



Seal packing

- 2. Rear combination lamp
- 3. Rear combination lamp finisher

Refer to GI-4, "Components" for symbols in the figure.

#### Removal and Installation

INFOID:0000000008289216

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### **REMOVAL**

- Remove the luggage side finisher lower. Refer to <u>INT-36, "Exploded View"</u>.
- 2. Remove the rear combination lamp finisher.
- 3. Remove the rear combination lamp mounting bolts.
- 4. Disconnect the rear combination lamp connector.
- 5. Pull the rear combination lamp toward outside of the vehicle. Remove the rear combination lamp.

### **INSTALLATION**

Install in the reverse order of removal.

#### **CAUTION:**

Seal packing cannot be reused.

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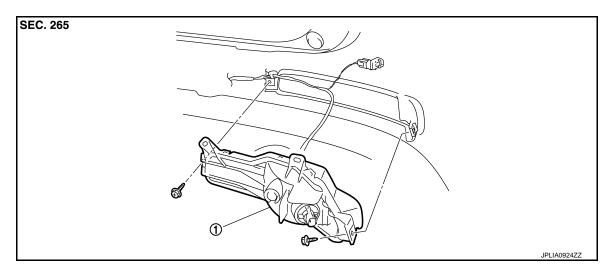
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INFOID:0000000008289218

# **REAR TURN SIGNAL LAMP**

Exploded View



Rear turn signal lamp

#### Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

- Remove the rear bumper fascia. Refer to <u>EXT-16</u>, "<u>Exploded View</u>".
- 2. Remove the rear turn signal lamp.

#### **INSTALLATION**

Install in the reverse order of removal.

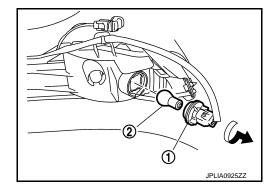
Replacement

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- 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.

#### REAR TURN SIGNAL LAMP BULB

- 1. Turn the bulb socket (1) counterclockwise and unlock it.
- 2. Remove the bulb (2) from the socket.



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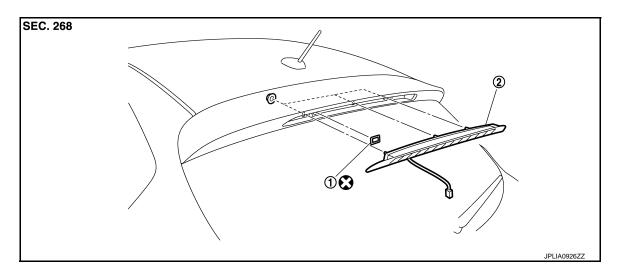
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# HIGH-MOUNTED STOP LAMP

Exploded View



1. Seal packing

2. High-mounted stop lamp

Refer to GI-4, "Components" for symbols in the figure.

### Removal and Installation

INFOID:0000000008289221

2013 EX

#### **REMOVAL**

- 1. Remove the back door finisher inner. Refer to INT-40, "Exploded View".
- 2. Remove the high-mounted stop lamp mounting nuts.
- 3. Disconnect the high-mounted stop lamp connector. And then remove the rear washer tube.
- 4. Pull the high-mounted stop lamp toward rear of the vehicle.
- 5. Remove the high-mounted stop lamp.

#### **INSTALLATION**

Install in the reverse order of removal.

#### **CAUTION:**

Seal packing cannot be reused.

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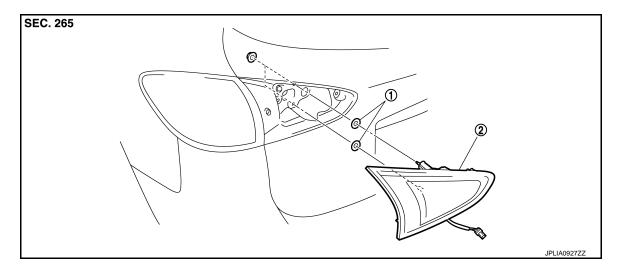
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INFOID:0000000008289223

## **BACK-UP LAMP**

**Exploded View** INFOID:0000000008289222



Seal packing

Back-up lamp

### Removal and Installation

**CAUTION:** 

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the back door finisher inner. Refer to INT-40, "Exploded View".
- Remove the back-up lamp mounting nuts. 2.
- Disconnect the back-up lamp connector. And then remove the back-up lamp.

#### INSTALLATION

Install in the reverse order of removal.

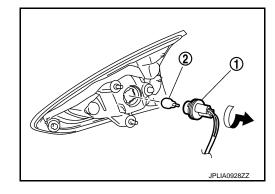
Replacement INFOID:0000000008289224

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- 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.

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

- Remove the back-up lamp. Refer to EXL-399, "Exploded View".
- Turn the bulb socket (1) counterclockwise and unlock it. 2.
- Remove the bulb (2) from the socket.



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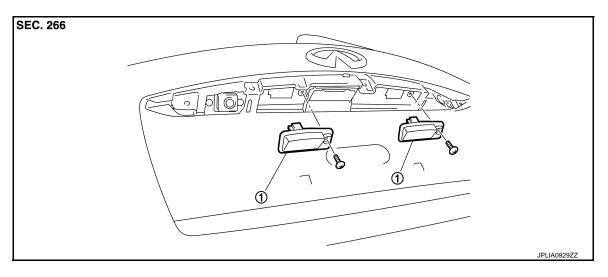
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### LICENSE PLATE LAMP

Exploded View



License plate lamp

### Removal and Installation

INFOID:0000000008289226

#### **CAUTION:**

Disconnect the battery negative terminal or remove the fuse.

#### REMOVAL

- 1. Remove the door handle cover. Refer to EXT-48, "Exploded View".
- Remove the screw. And then remove the license plate lamp.
- 3. Disconnect the license plate lamp connector.

#### INSTALLATION

Install in the reverse order of removal.

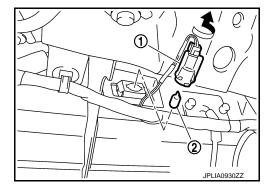
Replacement

#### **CAUTION:**

- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
   Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

#### LICENSE PLATE LAMP BULB

- 1. Remove the back door finisher inner. Refer to <a href="INT-40">INT-40</a>, "Exploded View".
- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



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

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HALOGEN TYPE]

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# SERVICE DATA AND SPECIFICATIONS (SDS)

# SERVICE DATA AND SPECIFICATIONS (SDS)

# **Bulb Specifications**

Item		Туре	Wattage (W)
	Headlamp (HI)	H9 (Halogen)	65
	Headlamp (LO)	H11 (Halogen)	55
Front combination lamp	Front turn signal lamp	W21W	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp		H8	35
Door combination lamp	Stop lamp/Tail lamp	LED	_
Rear combination lamp	Rear side marker lamp	LED	_
Rear turn signal lamp		PY21W (Amber)	21
Back-up lamp		W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_

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