

# SECTION **EXL**

## EXTERIOR LIGHTING SYSTEM

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B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
EXL  
M  
N  
O  
P

### CONTENTS

<b>XENON TYPE</b>		
<b>BASIC INSPECTION</b> .....	4	
<b>DIAGNOSIS AND REPAIR WORK FLOW</b> .....	4	
Work Flow .....	4	
<b>SYSTEM DESCRIPTION</b> .....	7	
<b>HEADLAMP SYSTEM</b> .....	7	
System Diagram .....	7	
System Description .....	7	
Component Parts Location .....	9	
Component Description .....	9	
<b>AUTO LIGHT SYSTEM</b> .....	11	
System Diagram .....	11	
System Description .....	11	
Component Parts Location .....	12	
Component Description .....	13	
<b>DAYTIME RUNNING LIGHT SYSTEM</b> .....	14	
System Diagram .....	14	
System Description .....	14	
Component Parts Location .....	15	
Component Description .....	16	
<b>FRONT FOG LAMP SYSTEM</b> .....	17	
System Diagram .....	17	
System Description .....	17	
Component Parts Location .....	18	
Component Description .....	18	
<b>TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM</b> .....	19	
System Diagram .....	19	
System Description .....	19	
Component Parts Location .....	20	
Component Description .....	20	
<b>PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM</b> .....	21	
	System Diagram .....	21
	System Description .....	21
	Component Parts Location .....	22
	Component Description .....	22
<b>EXTERIOR LAMP BATTERY SAVER SYSTEM</b> .....	23	
System Diagram .....	23	
System Description .....	23	
Component Parts Location .....	24	
Component Description .....	24	
<b>DIAGNOSIS SYSTEM (BCM)</b> .....	25	
<b>COMMON ITEM</b> .....	25	
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) .....	25	
<b>HEADLAMP</b> .....	26	
HEADLAMP : CONSULT Function (BCM - HEAD LAMP) .....	26	
<b>FLASHER</b> .....	28	
FLASHER : CONSULT Function (BCM - FLASHER) .....	28	
<b>DIAGNOSIS SYSTEM (IPDM E/R)</b> .....	30	
Diagnosis Description .....	30	
CONSULT Function (IPDM E/R) .....	32	
<b>DTC/CIRCUIT DIAGNOSIS</b> .....	35	
<b>POWER SUPPLY AND GROUND CIRCUIT</b> ....	35	
<b>BCM (BODY CONTROL MODULE)</b> .....	35	
BCM (BODY CONTROL MODULE) : Diagnosis Procedure .....	35	
<b>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</b> .....	35	
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure .....	35	

<b>HEADLAMP (HI) CIRCUIT</b> .....	<b>37</b>	<b>TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM</b> .....	<b>67</b>
Description .....	37	Wiring Diagram - TURN AND HAZARD WARNING LAMPS - .....	67
Component Function Check .....	37		
Diagnosis Procedure .....	37		
<b>HEADLAMP (LO) CIRCUIT</b> .....	<b>39</b>	<b>PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM</b> .....	<b>68</b>
Description .....	39	Wiring Diagram - PARKING LICENSE PLATE AND TAIL LAMPS - .....	68
Component Function Check .....	39		
Diagnosis Procedure .....	39		
<b>XENON HEADLAMP</b> .....	<b>41</b>	<b>STOP LAMP</b> .....	<b>70</b>
Description .....	41	Wiring Diagram - STOP LAMP - .....	70
Diagnosis Procedure .....	41		
<b>DAYTIME RUNNING LIGHT RELAY CIRCUIT</b> .....	<b>43</b>	<b>BACK-UP LAMP</b> .....	<b>71</b>
Component Function Check .....	43	Wiring Diagram - BACK-UP LAMP - .....	71
Diagnosis Procedure .....	43		
Component Inspection .....	44	<b>ECU DIAGNOSIS INFORMATION</b> .....	<b>72</b>
<b>FRONT FOG LAMP CIRCUIT</b> .....	<b>46</b>	<b>BCM (BODY CONTROL MODULE)</b> .....	<b>72</b>
Component Function Check .....	46	Reference Value .....	72
Diagnosis Procedure .....	46	Wiring Diagram - BCM - .....	95
		Fail-safe .....	98
		DTC Inspection Priority Chart .....	99
		DTC Index .....	100
<b>PARKING LAMP CIRCUIT</b> .....	<b>48</b>	<b>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</b> .....	<b>103</b>
Component Function Check .....	48	Reference Value .....	103
Diagnosis Procedure .....	48	Wiring Diagram - IPDM E/R - .....	110
		Fail-safe .....	112
		DTC Index .....	114
<b>TURN SIGNAL LAMP CIRCUIT</b> .....	<b>50</b>	<b>SYMPTOM DIAGNOSIS</b> .....	<b>115</b>
Description .....	50	<b>EXTERIOR LIGHTING SYSTEM SYMPTOMS</b> .....	<b>115</b>
Component Function Check .....	50	Symptom Table .....	115
Diagnosis Procedure .....	50	<b>NORMAL OPERATING CONDITION</b> .....	<b>117</b>
		Description .....	117
<b>OPTICAL SENSOR</b> .....	<b>53</b>	<b>BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM</b> .....	<b>118</b>
Description .....	53	Description .....	118
Component Function Check .....	53	Diagnosis Procedure .....	118
Diagnosis Procedure .....	53	<b>BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON</b> .....	<b>119</b>
<b>HAZARD SWITCH</b> .....	<b>56</b>	Description .....	119
Description .....	56	Diagnosis Procedure .....	119
Component Function Check .....	56	<b>PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON</b> .....	<b>120</b>
Diagnosis Procedure .....	56	Description .....	120
<b>TAIL LAMP CIRCUIT</b> .....	<b>58</b>	Diagnosis Procedure .....	120
Component Function Check .....	58	<b>BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON</b> .....	<b>121</b>
Diagnosis Procedure .....	58	Description .....	121
<b>LICENSE PLATE LAMP CIRCUIT</b> .....	<b>60</b>	Diagnosis Procedure .....	121
Component Function Check .....	60	<b>PRECAUTION</b> .....	<b>122</b>
Diagnosis Procedure .....	60		
<b>HEADLAMP SYSTEM</b> .....	<b>61</b>		
Wiring Diagram - HEADLAMP - .....	61		
<b>AUTO LIGHT SYSTEM</b> .....	<b>62</b>		
Wiring Diagram - AUTO LIGHT SYSTEM - .....	62		
<b>DAYTIME RUNNING LIGHT SYSTEM</b> .....	<b>64</b>		
Wiring Diagram - DAYTIME LIGHT SYSTEM - .....	64		
<b>FRONT FOG LAMP SYSTEM</b> .....	<b>66</b>		
Wiring Diagram - FRONT FOG LAMP - .....	66		

<b>PRECAUTIONS</b> .....	122	<b>LIGHTING &amp; TURN SIGNAL SWITCH</b> .....	134	
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" .....	122	Exploded View .....	134	A
Precaution for Battery Service .....	122	<b>HAZARD SWITCH</b> .....	135	
Precautions For Xenon Headlamp Service .....	122	Exploded View .....	135	B
<b>PERIODIC MAINTENANCE</b> .....	124	<b>STEERING ANGLE SENSOR</b> .....	136	
<b>HEADLAMP AIMING ADJUSTMENT</b> .....	124	Removal and Installation .....	136	C
Description .....	124	<b>REAR COMBINATION LAMP</b> .....	137	
Aiming Adjustment Procedure .....	125	Exploded View .....	137	D
<b>FRONT FOG LAMP AIMING ADJUSTMENT</b> ..	126	Removal and Installation .....	137	
Description .....	126	Replacement .....	138	D
Aiming Adjustment Procedure .....	126	<b>HIGH-MOUNTED STOP LAMP</b> .....	139	E
<b>REMOVAL AND INSTALLATION</b> .....	128	<b>WITHOUT REAR SPOILER</b> .....	139	
<b>FRONT COMBINATION LAMP</b> .....	128	WITHOUT REAR SPOILER : Exploded View .....	139	F
Exploded View .....	128	WITHOUT REAR SPOILER : Removal and Installation .....	139	F
Removal and Installation .....	129	<b>WITH REAR SPOILER</b> .....	139	
Replacement .....	129	WITH REAR SPOILER : Exploded View .....	139	G
Disassembly and Assembly .....	130	WITH REAR SPOILER : Removal and Installation .....	139	G
Inspection After Installation .....	130	<b>LICENSE PLATE LAMP</b> .....	141	
<b>FRONT FOG LAMP</b> .....	131	Exploded View .....	141	H
Exploded View .....	131	Removal and Installation .....	141	
Removal and Installation .....	131	Replacement .....	141	H
Replacement .....	132	<b>SERVICE DATA AND SPECIFICATIONS (SDS)</b> .....	143	I
<b>OPTICAL SENSOR</b> .....	133	<b>SERVICE DATA AND SPECIFICATIONS (SDS)</b> .....	143	J
Exploded View .....	133	Bulb Specifications .....	143	J
Removal and Installation .....	133			K

**EXL**

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[XENON TYPE]

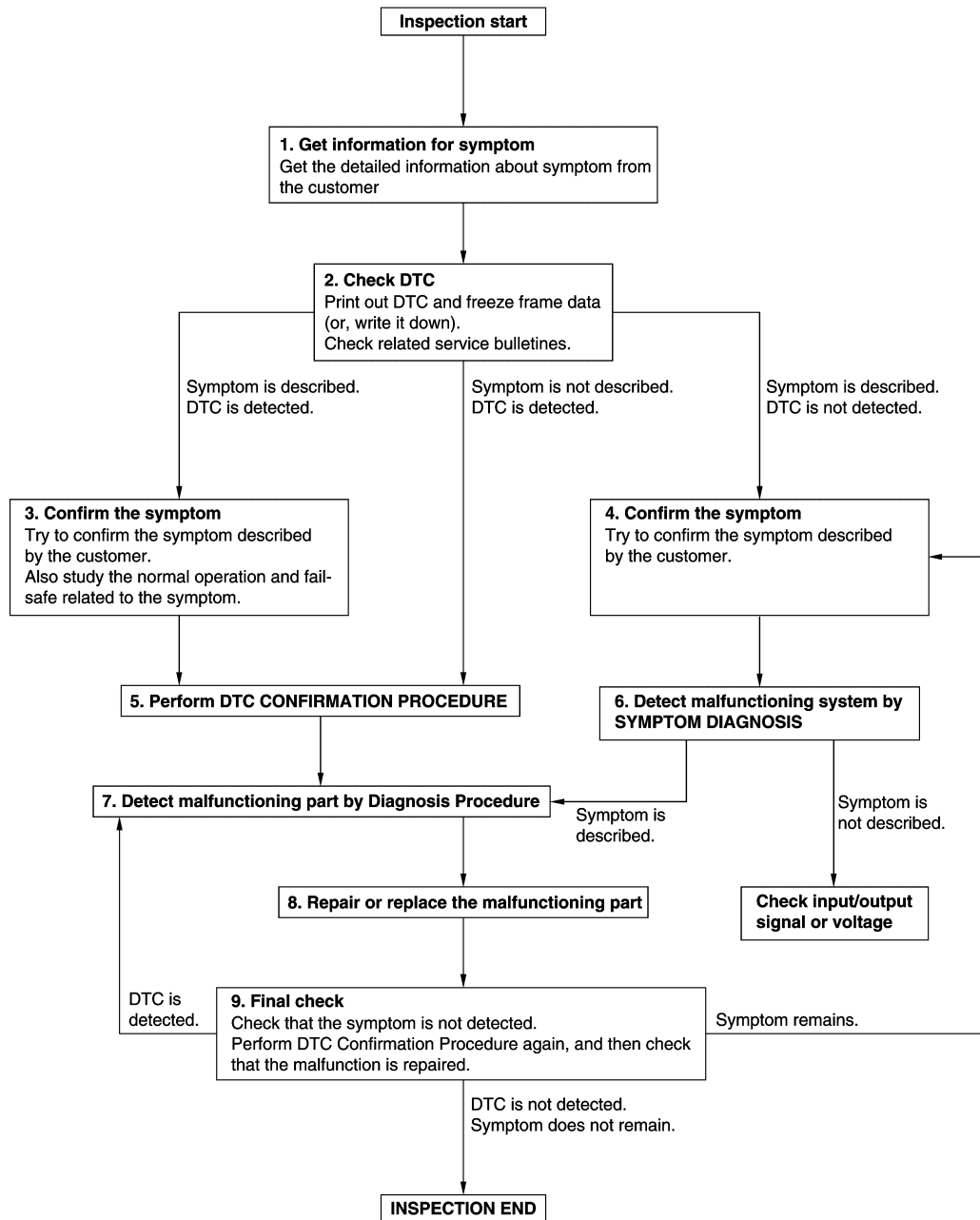
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000008159412

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

Revision: 2012 July

EXL-4

2013 G Coupe

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[XENON TYPE]

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## 1.GET INFORMATION FOR SYMPTOM

---

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

>> GO TO 2.

---

## 2.CHECK DTC

---

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

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

Symptom is described, DTC is detected>>GO TO 3.

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

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

---

## 3.CONFIRM THE SYMPTOM

---

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

---

## 4.CONFIRM THE SYMPTOM

---

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

---

## 5.PERFORM DTC CONFIRMATION PROCEDURE

---

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

### **NOTE:**

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

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

### Is DTC detected?

YES >> GO TO 7.

NO >> Check according to [GI-43. "Intermittent Incident"](#).

---

## 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

---

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

### Is the symptom described?

YES >> GO TO 7.

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

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## 7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

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# DIAGNOSIS AND REPAIR WORK FLOW

[XENON TYPE]

< BASIC INSPECTION >

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Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-43. "Intermittent Incident"](#).

## 8. 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 9.

## 9. FINAL CHECK

---

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

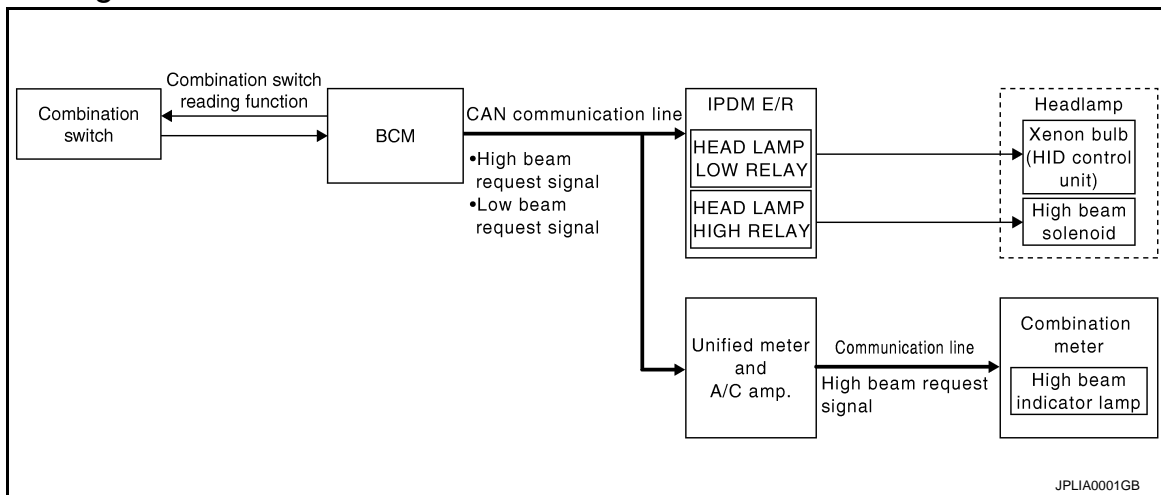
YES-2 >> Symptom remains: GO TO 4.

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

## SYSTEM DESCRIPTION

### HEADLAMP SYSTEM

#### System Diagram



#### System Description

INFOID:000000008159414

##### OUTLINE

- Mobile valve shade type is adopted. Xenon headlamp switches the high beam and the low beam with one xenon bulb each on right and left.
- Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay control function of IPDM E/R.

##### HEADLAMP BASIC 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 ON condition.

##### Headlamp ON condition

- Lighting switch 2ND
- Lighting switch PASS
- Lighting switch AUTO, and the auto light function ON judgment (with auto light system)
- IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low beam request signal.

##### HEADLAMP HI/LO SWITCHING 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 high beam switching condition.

##### High beam switching condition

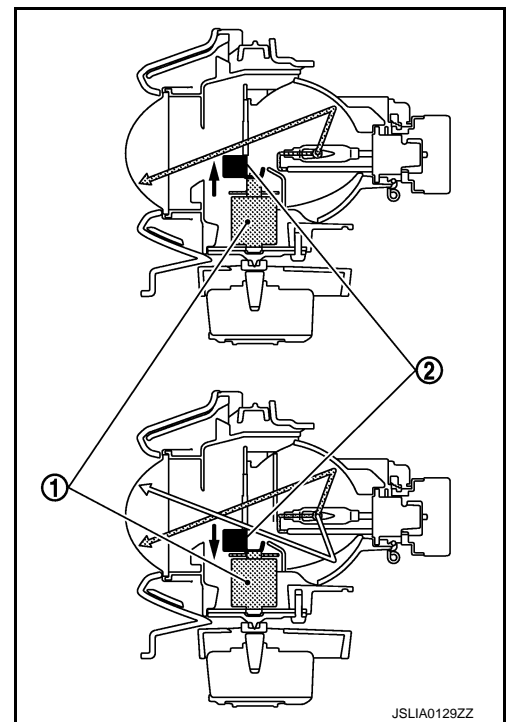
- Lighting switch HI with the headlamp ON
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

# HEADLAMP SYSTEM

[XENON TYPE]

## < SYSTEM DESCRIPTION >

- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (2) is switched to the high beam position.
- When the headlamp high relay is turned OFF, the current stops. The mobile valve shade returns to the low beam position automatically.





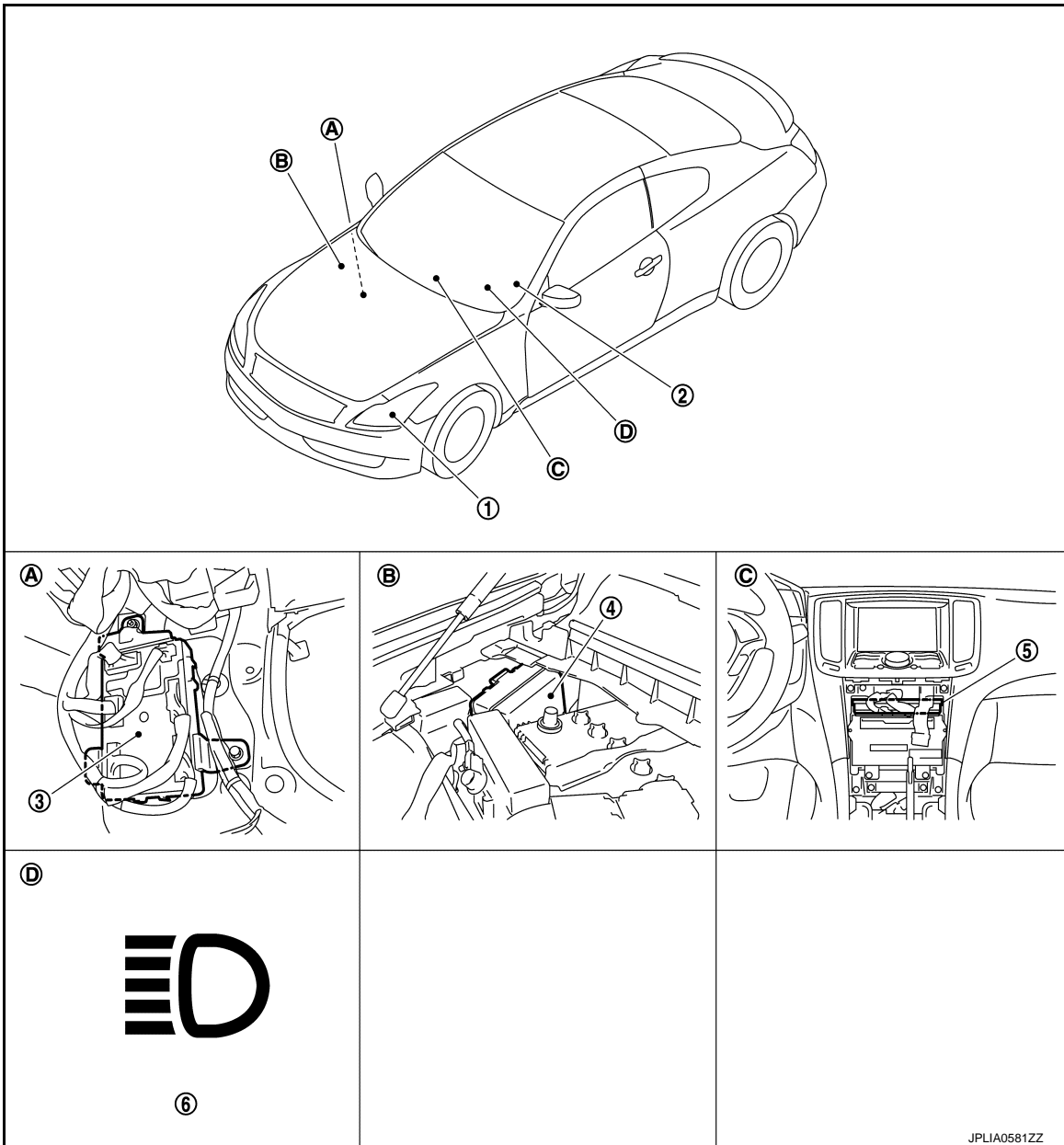
# HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Parts Location

INFOID:000000008159415



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

## Component Description

INFOID:000000008159416

Part	Description
BCM	<ul style="list-style-type: none"> <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).

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# HEADLAMP SYSTEM

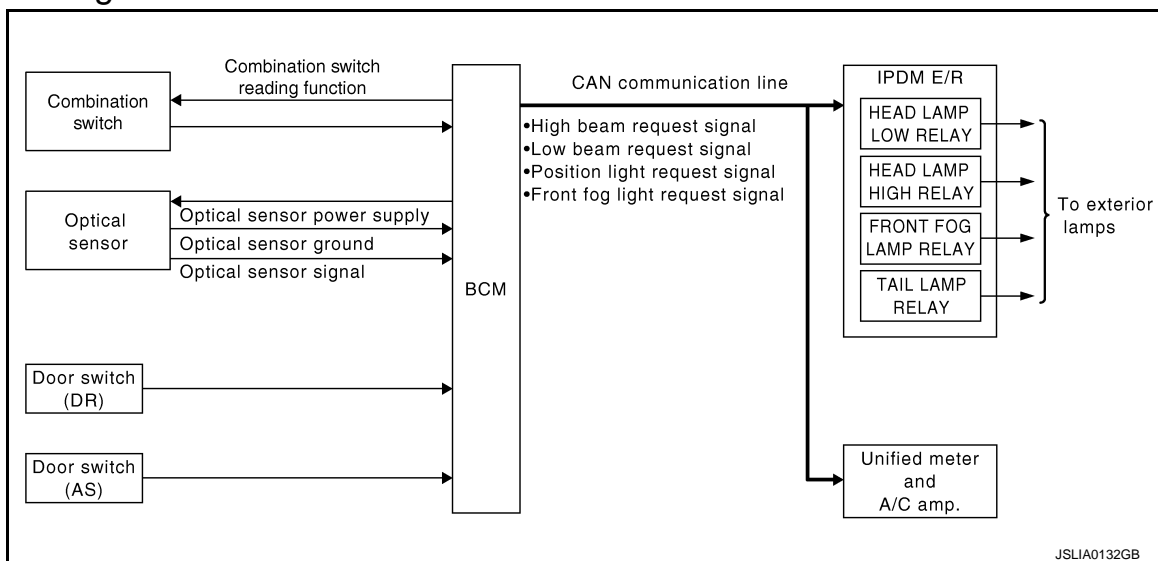
< SYSTEM DESCRIPTION >

[XENON TYPE]

Part	Description	
Combination switch (Lighting & turn signal switch)	Refer to <a href="#">BCS-7, "System Diagram"</a> .	
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.)].	
Headlamp assembly	<ul style="list-style-type: none"><li>• HID control unit</li><li>• Xenon bulb</li></ul>	Refer to <a href="#">EXL-41, "Description"</a> .
	High beam solenoid	Refer to <a href="#">EXL-37, "Description"</a> .

## AUTO LIGHT SYSTEM

### System Diagram



### System Description

INFOID:000000008159418

#### 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, side maker 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-26. "HEADLAMP : CONSULT Function \(BCM - HEAD LAMP\)".](#)

#### 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).

# AUTO LIGHT SYSTEM

[XENON TYPE]

## < SYSTEM DESCRIPTION >

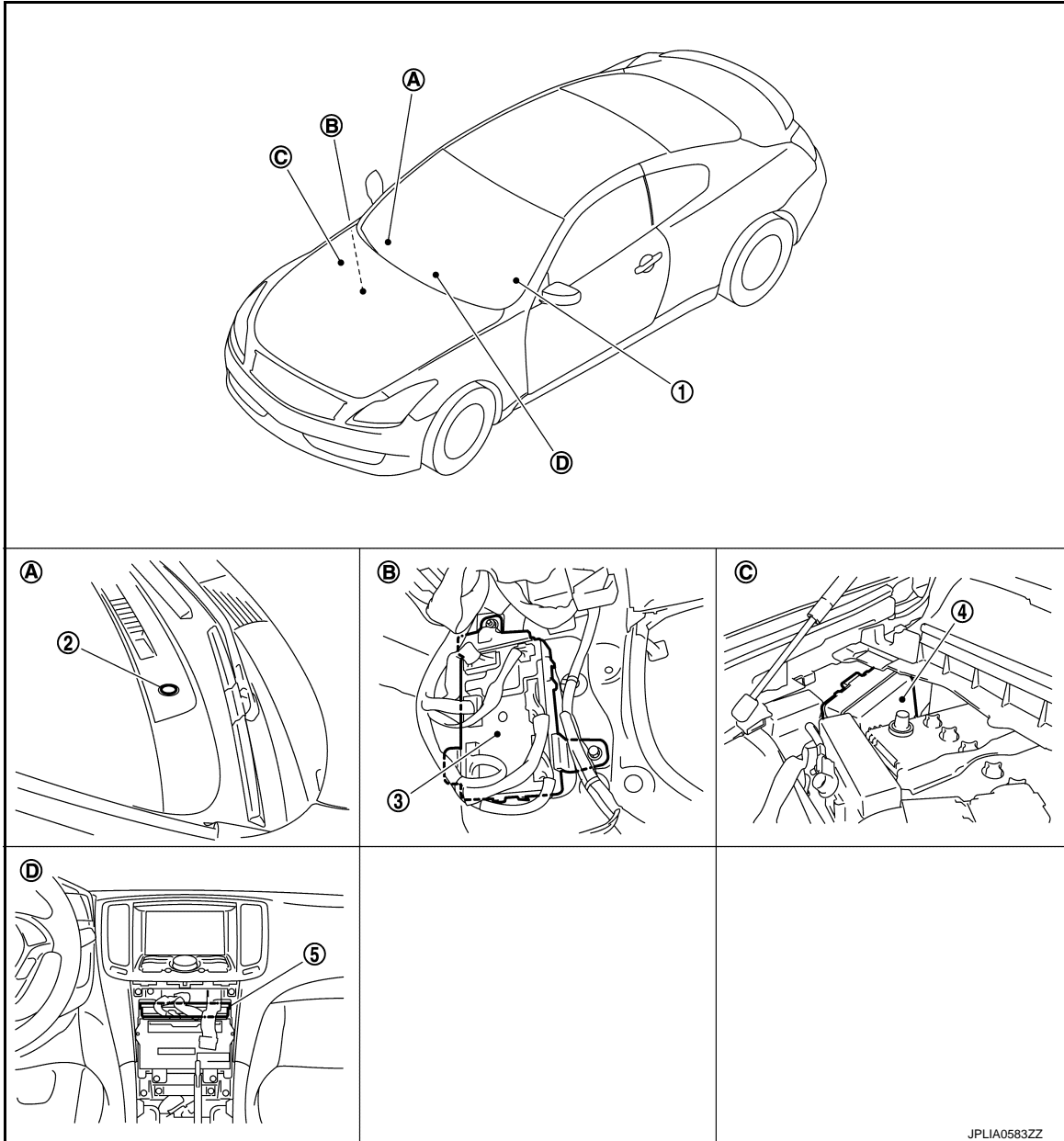
- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.
- \*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to [EXL-26, "HEAD-LAMP : CONSULT Function \(BCM - HEAD LAMP\)"](#).

### NOTE:

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

## Component Parts Location

INFOID:000000008159419



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

# AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Description

INFOID:000000008159420

Part	Description
BCM	<ul style="list-style-type: none"><li>• Detects 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></ul> Requests ON/OFF of each relay to IPDM E/R (with CAN communication).
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 <a href="#">BCS-7, "System Diagram"</a> .
Optical sensor	Refer to <a href="#">EXL-53, "Description"</a> .

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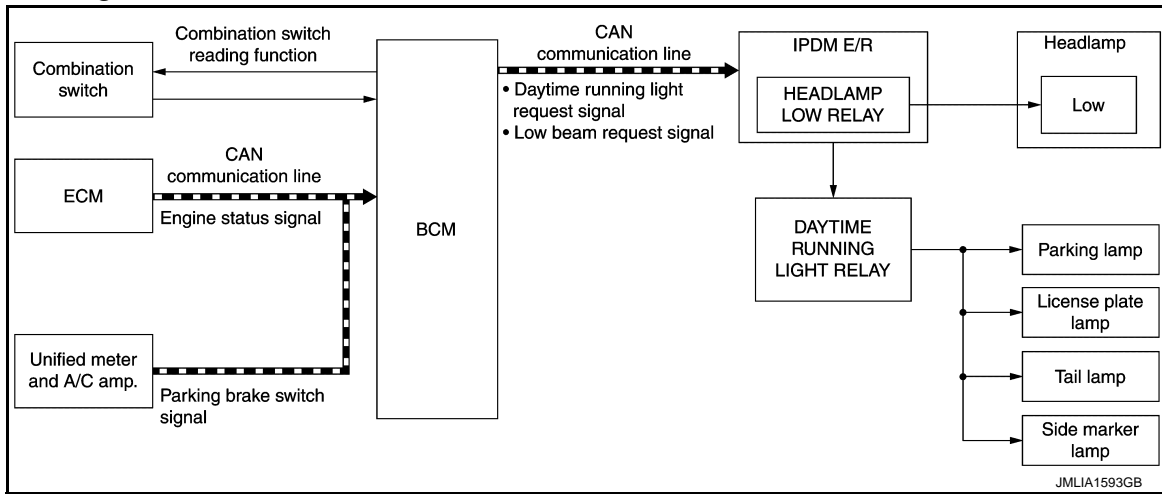
# DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## DAYTIME RUNNING LIGHT SYSTEM

### System Diagram



### System Description

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#### OUTLINE

- Turns the following exterior lamps ON as the daytime running light.
  - Headlamp (LO)
  - Parking, tail, license plate and side marker lamps.
- 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 vehicle condition depending on the following signals.
  - Engine status 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 daytime running light request signal and low beam 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.
- Lighting switch OFF.
- IPDM E/R turns the integrated headlamp low relay and daytime running light relay ON according to the daytime running light request signal and low beam request signal. And it turns each lamp ON.

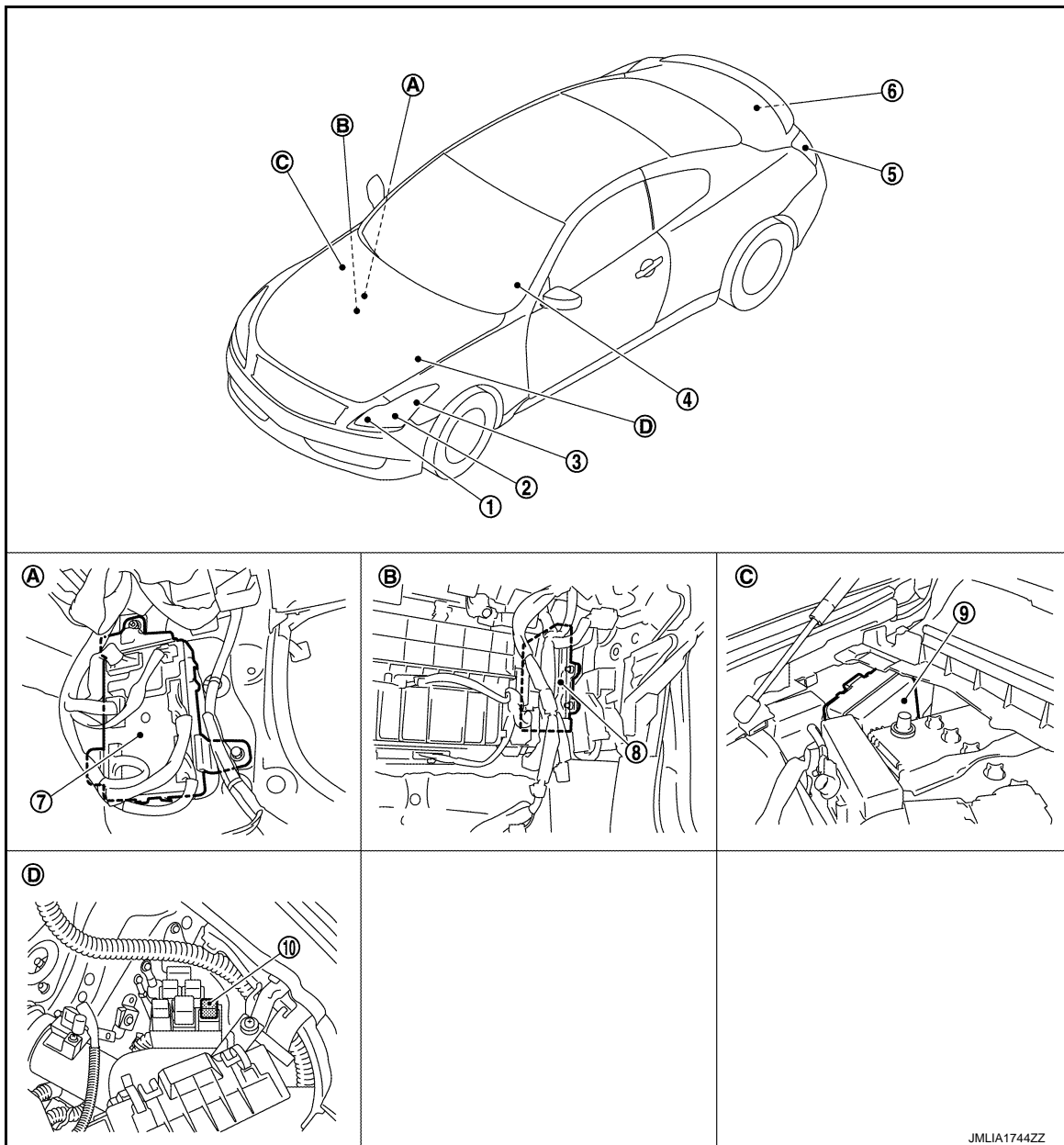
# DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Parts Location

INFOID:000000008159423



- |                                     |   |                                |
|-------------------------------------|---|--------------------------------|
| 1. Parking lamp                     | 2. Headlamp (LO)                          | 3. Front side marker lamp      |
| 4. Combination switch               | 5. • Tail lamp<br>• Rear side marker lamp | 6. License plate lamp          |
| 7. BCM                              | 8. ECM                                    | 9. IPDM E/R                    |
| 10. daytime running light relay     |   |                                |
| A. Dash side lower (Passenger side) | B. Over the glove box                     | C. Engine room dash panel (RH) |
| D. Engine room (LH)                 |   |                                |

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# DAYTIME RUNNING LIGHT SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Description

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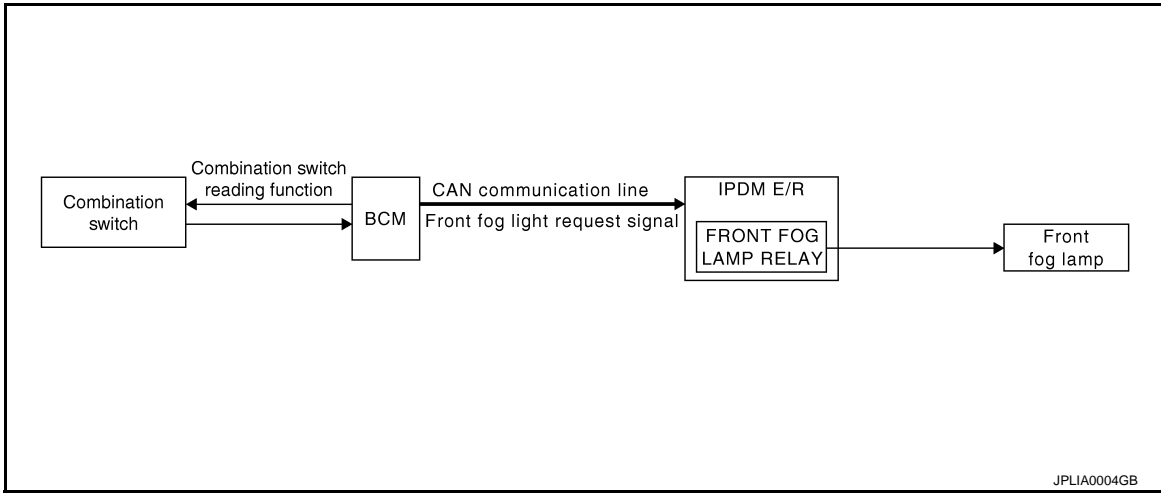
Part	Description
BCM	<ul style="list-style-type: none"><li>• Detects each switch condition with the combination switch reading function.</li><li>• Judges each lamps ON/OFF condition according to the vehicle condition. Requests the each relay ON to IPDM E/R (with CAN communication).</li></ul>
IPDM E/R	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 <a href="#">BCS-7, "System Diagram"</a> .
ECM	Transmits the engine status signal to BCM with CAN communication.



FRONT FOG LAMP SYSTEM

System Diagram

INFOID:000000008159425



System Description

INFOID:000000008159426

OUTLINE

Front fog lamp is integrated into the front combination lamp.

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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EXL

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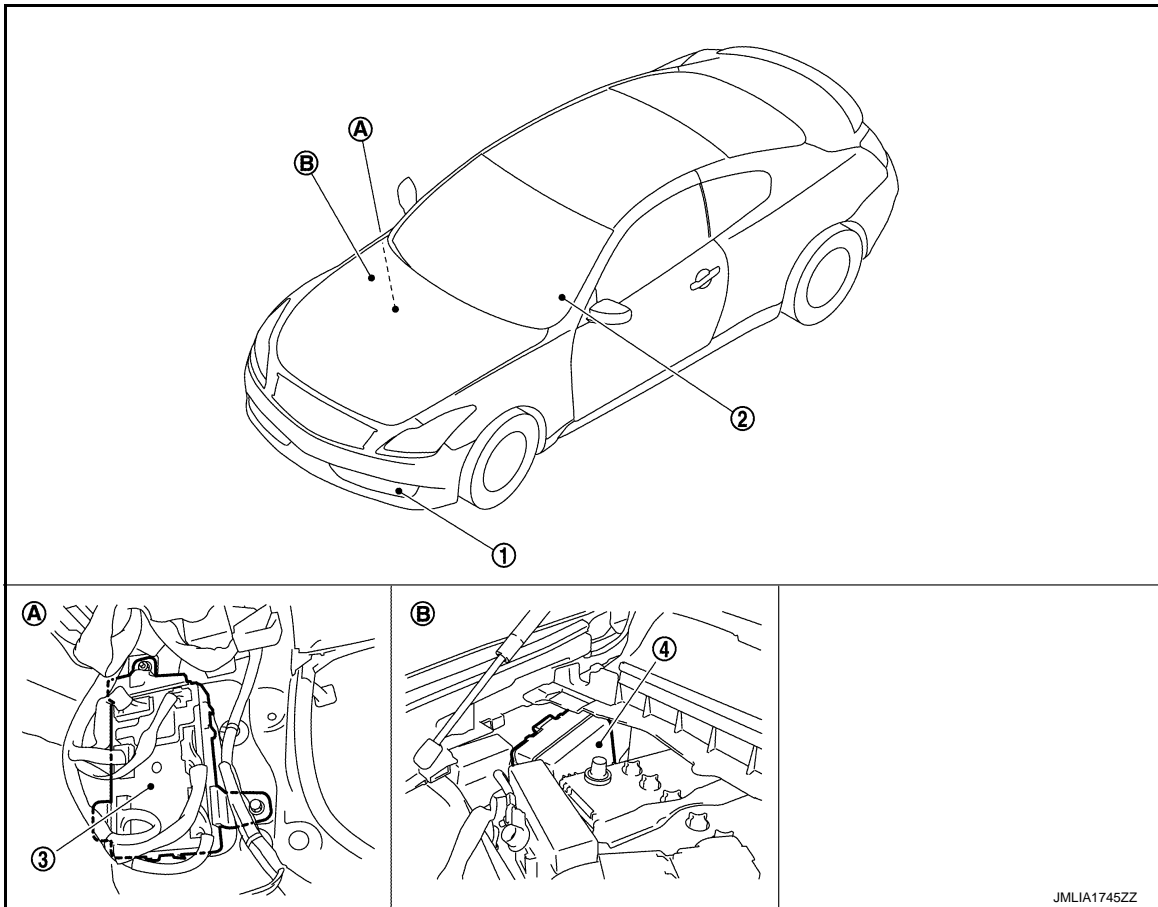
# FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Parts Location

INFOID:000000008159427



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

## Component Description

INFOID:000000008159428

Part	Description
BCM	<ul style="list-style-type: none"> <li>• Detects each switch condition by the combination switch reading function.</li> <li>• Judges the front fog lamp 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).
Combination switch (Lighting & turn signal switch)	Refer to <a href="#">BCS-7, "System Diagram"</a> .

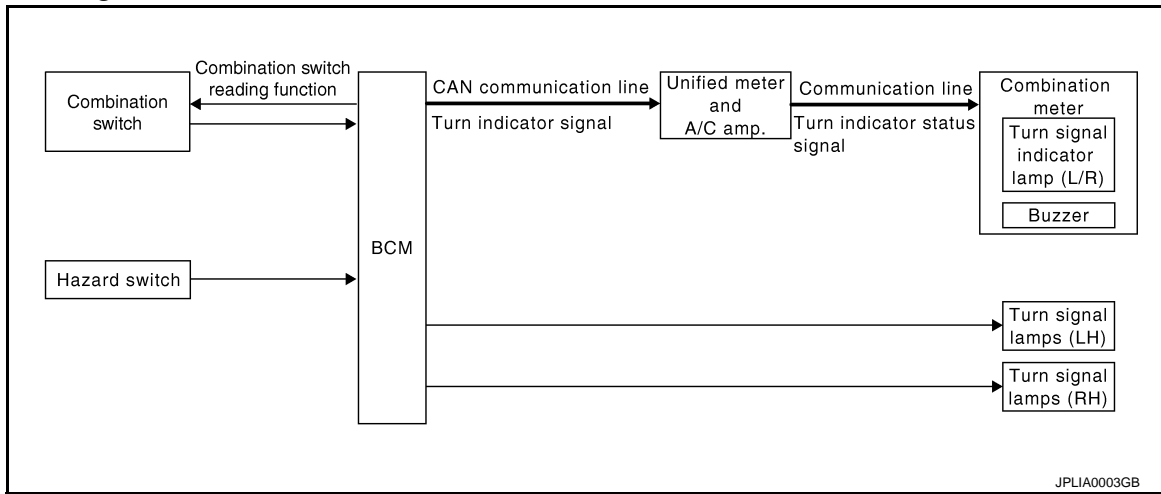
# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### System Diagram



### System Description

INFOID:000000008159430

#### 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 indicator signal to the combination meter (through 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 indicator status signal.

#### HIGH FLASHER OPERATION

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

#### NOTE:

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

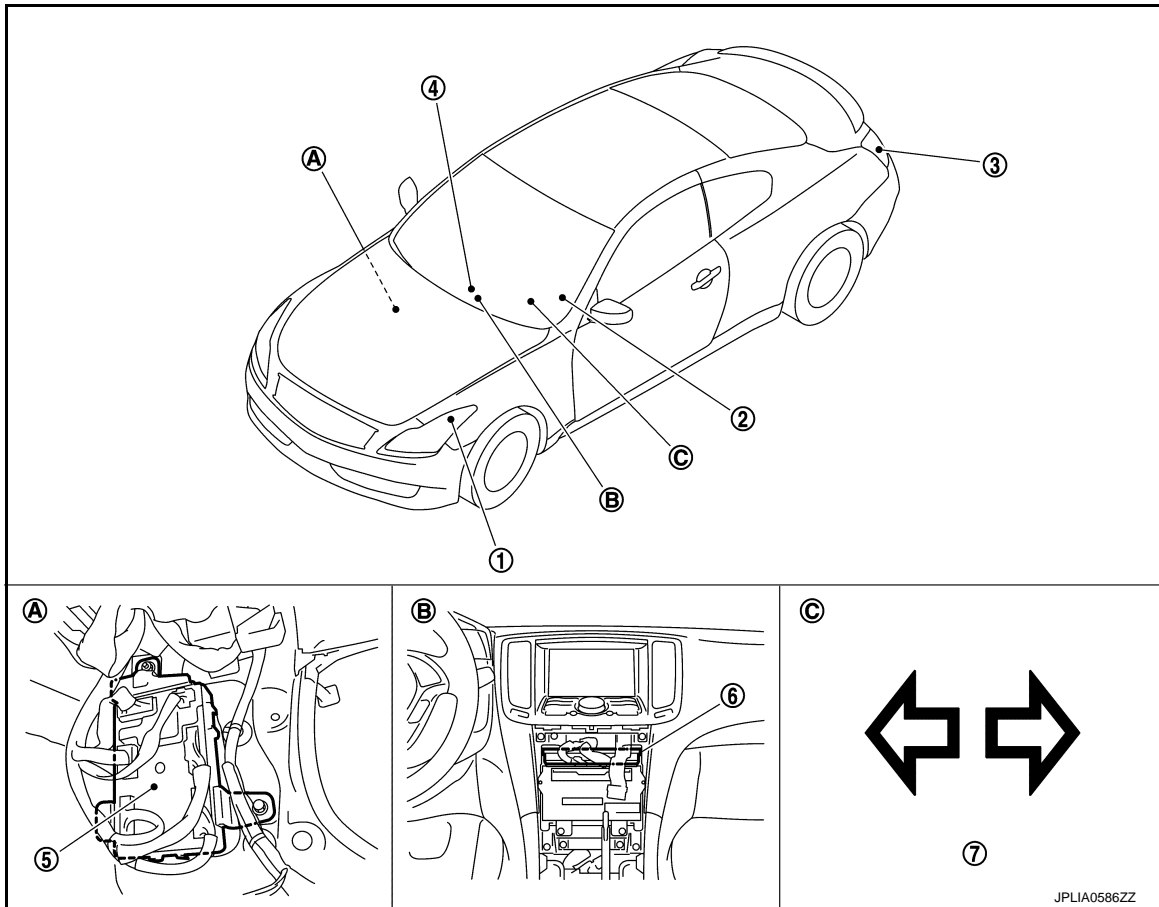
# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Parts Location

INFOID:000000008159431



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

## Component Description

INFOID:000000008159432

Part	Description
BCM	<ul style="list-style-type: none"> <li>• Detects 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> </ul> Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <a href="#">BCS-7, "System Diagram"</a> .
Hazard warning switch (Multifunction switch)	Refer to <a href="#">EXL-56, "Description"</a> .
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

< SYSTEM DESCRIPTION >

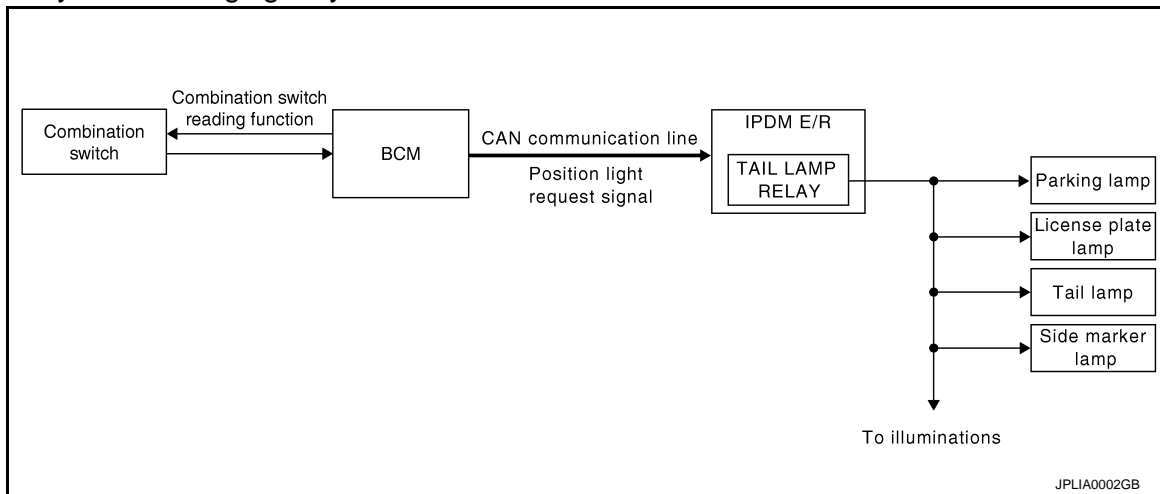
[XENON TYPE]

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

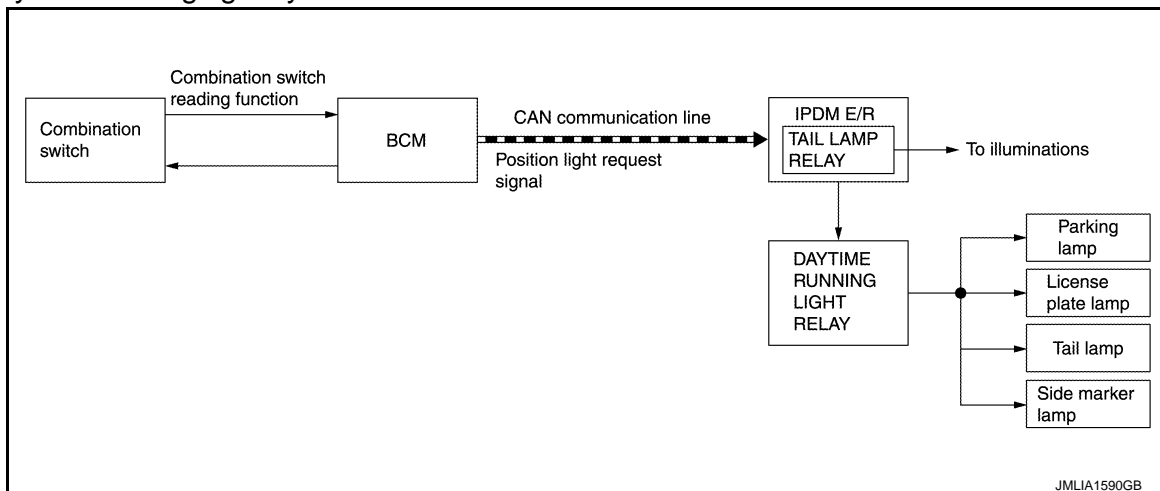
### System Diagram

INFOID:000000008159433

#### Without daytime running light system



#### With daytime running light system



### System Description

INFOID:000000008159434

#### 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, license plate, side marker and tail lamps ON according to the position light request signal.

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EXL

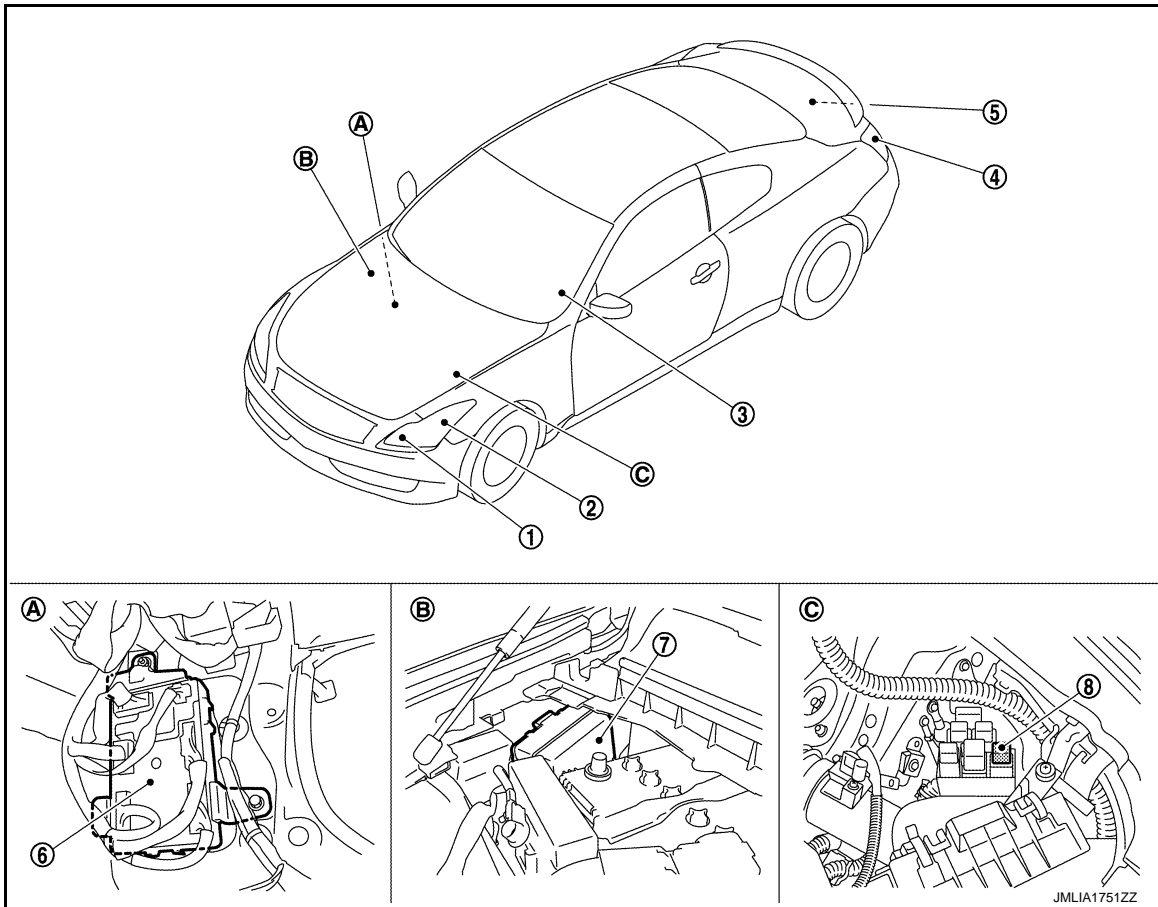
# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Parts Location

INFOID:000000008159435



- |   |                                 |                                |
|---|---------------------------------|--------------------------------|
| 1. Parking lamp                           | 2. Front side marker lamp       | 3. Combination switch          |
| 4. • Tail lamp<br>• Rear side marker lamp | 5. License plate lamp           | 6. BCM                         |
| 7. IPDM E/R                               | 8. Daytime running light relay* |                                |
| A. Dash side lower (passenger side)       | B. Engine room dash panel (RH)  | C. Engine room dash panel (RH) |

\*: With daytime running light

## Component Description

INFOID:000000008159436

Part	Description
BCM	<ul style="list-style-type: none"> <li>• Detects each switch condition by the combination switch reading function.</li> <li>• Judges the ON/OFF status of the parking, license plate, side marker and tail lamps according to the vehicle condition.</li> <li>- 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 <a href="#">BCS-7. "System Diagram"</a> .

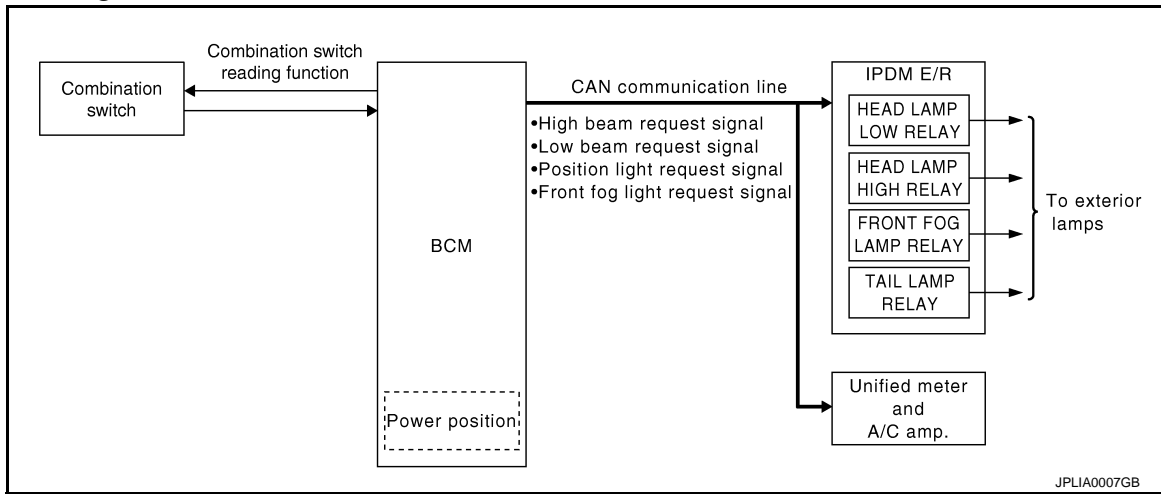
# EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## EXTERIOR LAMP BATTERY SAVER SYSTEM

### System Diagram



### System Description

INFOID:000000008159438

#### 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-11. "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 → 1ST or 2ND with the exterior lamp OFF.

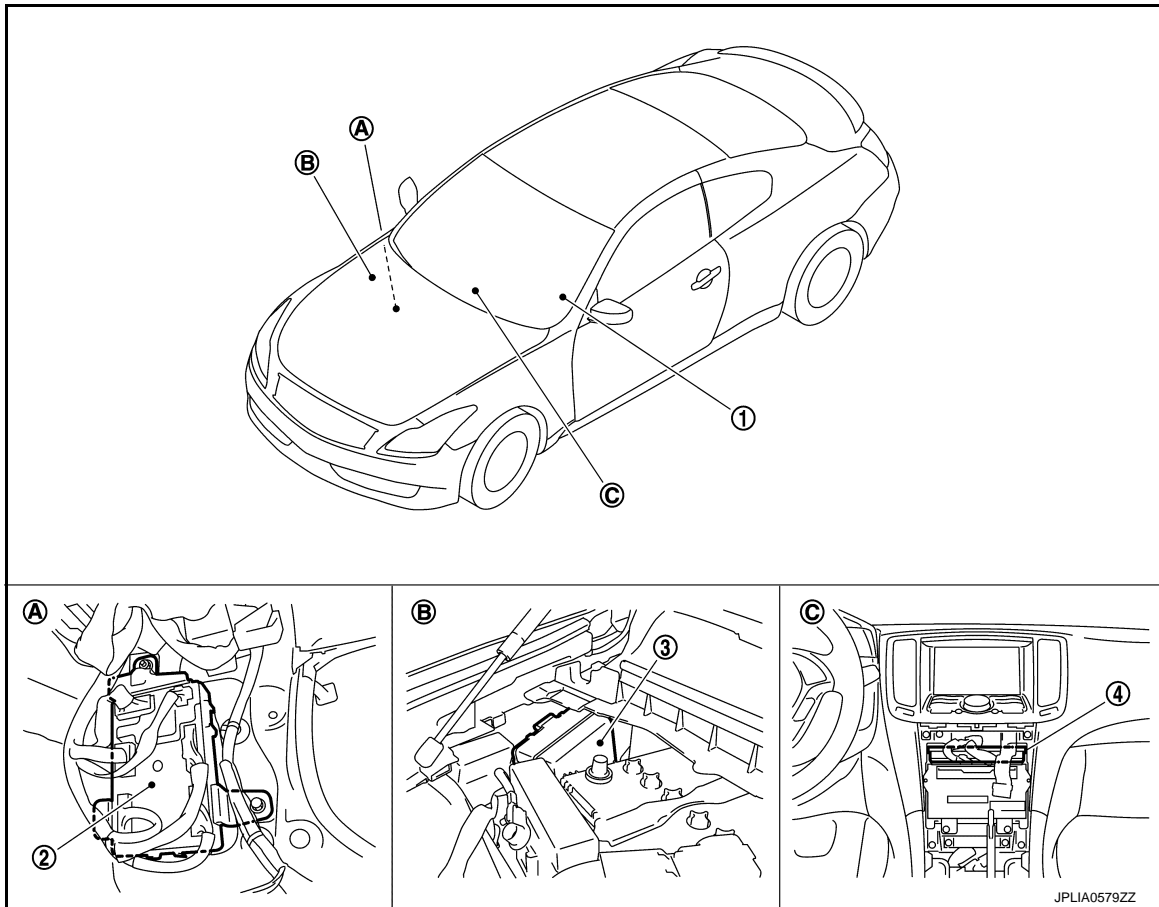
# EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

[XENON TYPE]

## Component Parts Location

INFOID:000000008159439



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

## Component Description

INFOID:000000008159440

Part	Description
BCM	<ul style="list-style-type: none"> <li>• Detects 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 <a href="#">BCS-7, "System Diagram"</a> .



# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

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

INFOID:0000000008833020

### 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	This function is not used even though it is displayed.

### 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		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	x	x	x
Rear window defogger	REAR DEFOGGER		x	x
Warning chime	BUZZER		x	x
Interior room lamp timer	INT LAMP	x	x	x
Exterior lamp	HEAD LAMP	x	x	x
Wiper and washer	WIPER	x	x	x
Turn signal and hazard warning lamps	FLASHER	x	x	x
—	AIR CONDITONER*			
<ul style="list-style-type: none"> <li>Intelligent Key system</li> <li>Engine start system</li> </ul>	INTELLIGENT KEY	x	x	x
Combination switch	COMB SW		x	
Body control system	BCM	x		
IVIS - NATS	IMMU		x	x
Interior room lamp battery saver	BATTERY SAVER	x	x	x
Trunk lid open	TRUNK		x	x
Vehicle security system	THEFT ALM	x	x	x
RAP system	RETAINED PWR		x	
Signal buffer system	SIGNAL BUFFER		x	x
TPMS	AIR PRESSURE MONITOR	x	x	x

#### NOTE:

\*: This item is displayed, but is not used.

### FREEZE FRAME DATA (FFD)

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

# DIAGNOSIS SYSTEM (BCM)

[XENON TYPE]

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power supply position status of the moment a particular DTC is detected	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		While turning power supply position from "OFF" to "LOCK"*
	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	The number of times that ignition switch is turned ON after DTC is detected <ul style="list-style-type: none"> <li>• The number is 0 when a malfunction is detected now.</li> <li>• The number increases like 1 → 2 → 3...38 → 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 (A/T models), and any of the following conditions are met.

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

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

## HEADLAMP

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

INFOID:000000008159442

### WORK SUPPORT

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

Service item	Setting item	Setting
BATTERY SAVER SET	On*	With the exterior lamp battery saver function
	Off	Without the exterior lamp battery saver function
ILL DELAY SET	MODE 1*	45 sec.
	MODE 2	Without the function
	MODE 3	30 sec.
	MODE 4	60 sec.
	MODE 5	90 sec.
	MODE 6	120 sec.
	MODE 7	150 sec.
	MODE 8	180 sec.
CUSTOM A/LIGHT SETTING	MODE 1*	Normal
	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.)

\*: Factory setting

## DATA MONITOR

### NOTE:

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

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

# DIAGNOSIS SYSTEM (BCM)

[XENON TYPE]

## < SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
RR FOG SW [On/Off]	<b>NOTE:</b> 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]	<b>NOTE:</b> This item is displayed, but cannot be monitored.
DOOR SW- RL [On/Off]	<b>NOTE:</b> This item is displayed, but cannot be monitored.
DOOR SW-BK [On/Off]	<b>NOTE:</b> This item is displayed, but cannot be monitored.
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.
HEAD LAMP	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
	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	<b>NOTE:</b> The item is indicated, but cannot be tested.
	Off	
DAYTIME RUNNING LIGHT	On	Transmits the low beam request signal and the daytime running light request signal with CAN communication to turn the headlamp (LO), parking, license plate and tail lamps ON.
	Off	Stops the low beam request signal and the daytime running light request signal transmission.
CORNERING LAMP	RH	<b>NOTE:</b> The item is indicated, but cannot be tested.
	LH	
	Off	
ILL DIM SIGNAL	On	<b>NOTE:</b> The item is indicated, but cannot be tested.
	Off	

## FLASHER

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

INFOID:000000008159443

## WORK SUPPORT

# DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

\*: Factory setting

## DATA MONITOR

### NOTE:

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

Monitor item [Unit]	Description
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 switch condition that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
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
FLASHER	RH	Outputs the voltage to blink the right side turn signal lamps.
	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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## DIAGNOSIS SYSTEM (IPDM E/R)

### Diagnosis Description

INFOID:000000008833021

#### 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.**
4. 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 [DLK-62, "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 style="list-style-type: none"> <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 ↔ HI 5 times
5	A/C compressor (magnet clutch)	ON ↔ OFF 5 times
6*	Cooling fan	MID for 5 seconds → HI for 5 seconds

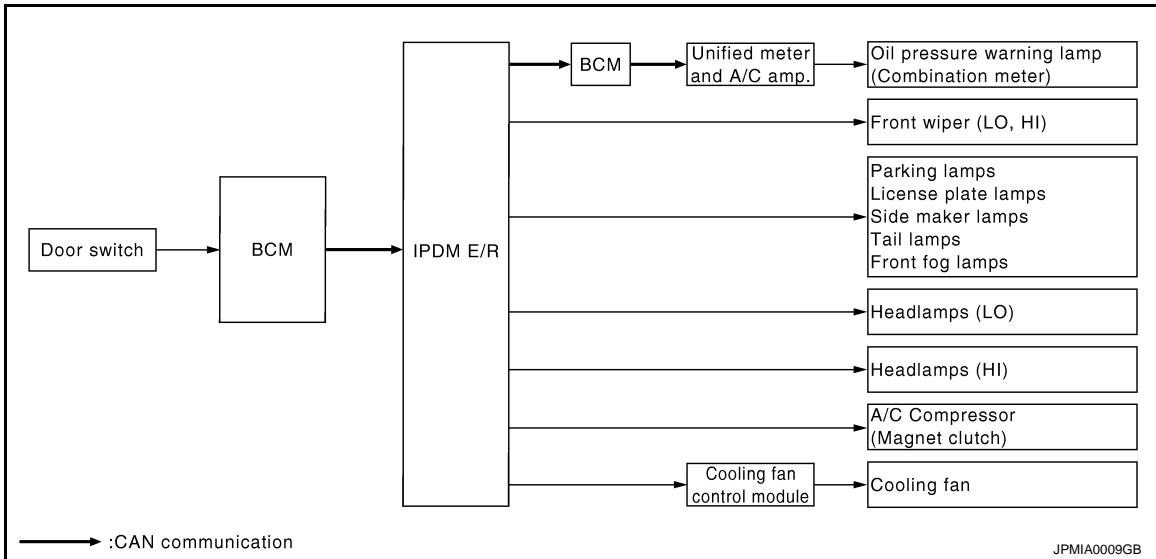
\*: Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

# DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[XENON TYPE]

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 <ul style="list-style-type: none"> <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?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Lamp or motor</li> <li>• Lamp or motor ground circuit</li> <li>• Harness or connector between IPDM E/R and applicable system</li> <li>• IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> <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 <ul style="list-style-type: none"> <li>• Magnet clutch</li> <li>• Harness or connector between IPDM E/R and magnet clutch</li> <li>• IPDM E/R</li> </ul>
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES <ul style="list-style-type: none"> <li>• Harness or connector between IPDM E/R and oil pressure switch</li> <li>• Oil pressure switch</li> <li>• IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• CAN communication signal between IPDM E/R and BCM</li> <li>• CAN communication signal between BCM and unified meter and A/C amp.</li> <li>• Combination meter</li> </ul>

# DIAGNOSIS SYSTEM (IPDM E/R)

[XENON TYPE]

< SYSTEM DESCRIPTION >

Symptom	Inspection contents	Possible cause
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	<p style="text-align: center;">YES</p> <ul style="list-style-type: none"> <li>• ECM signal input circuit</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		<p style="text-align: center;">NO</p> <ul style="list-style-type: none"> <li>• Cooling fan</li> <li>• Harness or connector between cooling fan and cooling fan control module</li> <li>• Cooling fan control module</li> <li>• Harness or connector between IPDM E/R and cooling fan control module</li> <li>• Cooling fan relay</li> <li>• Harness or connector between IPDM E/R and cooling fan relay</li> <li>• IPDM E/R</li> </ul>

## CONSULT Function (IPDM E/R)

INFOID:000000008833022

### 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-114. "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)

< SYSTEM DESCRIPTION >

[XENON 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.	A
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.	B
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.	C
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 clutch interlock switch (M/T models) or shift position (A/T models) judged by IPDM E/R.	D
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.	E
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.	F
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.	G
S/L RLY -REQ [Off/On]		<b>NOTE:</b> The item is indicated, but not monitored.	H
S/L STATE [LOCK/UNLOCK/UNKWN]		<b>NOTE:</b> The item is indicated, but not monitored.	I
DTRL REQ [Off/On]		<b>NOTE:</b> The item is indicated, but not monitored.	J
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.	K
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.	L
HL WASHER REQ [Off/On]		<b>NOTE:</b> The item is indicated, but not monitored.	M
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.	N
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.	O
CRNRNG LMP REQ [Off/On]		<b>NOTE:</b> The item is indicated, but not monitored.	P

## ACTIVE TEST

Test item

Test item	Operation	Description	
CORNERING LAMP	Off	<b>NOTE:</b> The item is indicated, but cannot be tested.	
	LH		
	RH		
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.	
FRONT WIPER	Off	OFF	
	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
MOTOR FAN	1	OFF
	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.
	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	<b>NOTE:</b> The item is indicated, but cannot be tested.
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	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.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

## DTC/CIRCUIT DIAGNOSIS

### POWER SUPPLY AND GROUND CIRCUIT

#### BCM (BODY CONTROL MODULE)

#### BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000008833023

#### 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	K
	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.
3. Check voltage between BCM harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
BCM		Ground Battery voltage
Connector	Terminal	
M118	1	
M119	11	

#### 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.

BCM		Ground	Continuity
Connector	Terminal		
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

INFOID:000000008833024

#### 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]

Signal name	Fuses and fusible link No.
Battery power supply	C
	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.

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

## 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		Ground	Continuity
Connector	Terminal		
E5	12		Existed
E6	41		

## Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

# HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

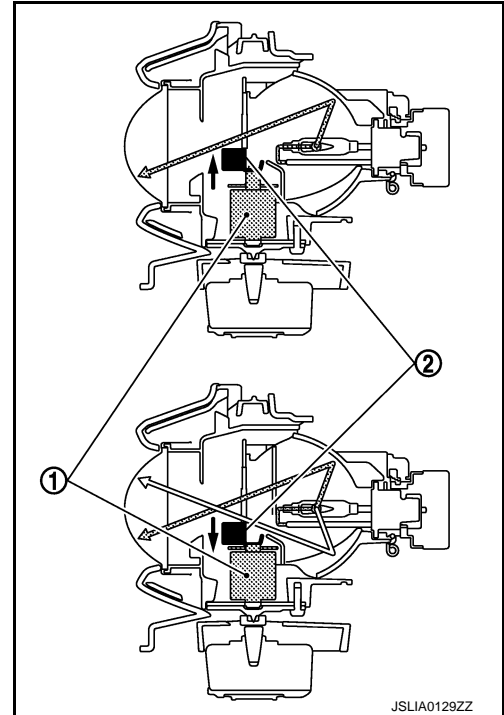
## HEADLAMP (HI) CIRCUIT

### Description

INFOID:000000008159448

The high beam solenoid drives the mobile valve shade. And the mobile valve shade switches the high beam and low beam of headlamp.

- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (2) is switched to the high beam position.
- When the headlamp high relay is turned OFF, the current stops. The mobile valve shade returns to the low beam position automatically.



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### Component Function Check

INFOID:000000008159449

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

##### IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-9, "Diagnosis Description"](#).
2. Check that the headlamp switches to the high beam.

##### CONSULT ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With operating the test items, check that the headlamp switches to the high beam.

**Hi** : Headlamp switches to the high beam.

**Off** : Headlamp OFF

##### NOTE:

HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

Does the headlamp switch to the high beam?

- YES >> Headlamp (HI) circuit is normal.  
NO >> Refer to [EXL-37, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159450

#### 1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

##### 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.

# HEADLAMP (HI) CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Terminals			Test item	Voltage (Approx.)	
(+) (+)		(-) (-)			
IPDM E/R			EXTERNAL LAMPS		
Connector	Terminal				
RH	E8	89	Ground	Hi	Battery voltage
					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.
3. Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector.

IPDM E/R		Front combination lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E8	E28	7	Existed
LH		90	E58	

Does continuity exist?

YES >> Replace the front combination lamp.

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 FRONT COMBINATION 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		Ground	Continuity
Connector	Terminal		
RH	E8		Not existed
LH			

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.)

# HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

## HEADLAMP (LO) CIRCUIT

### Description

INFOID:000000008159451

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-41, "Description"](#).

### Component Function Check

INFOID:000000008159452

#### 1. CHECK HEADLAMP (LO) OPERATION

##### IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-9, "Diagnosis Description"](#).
2. Check that the headlamp is turned ON.

##### CONSULT ACTIVE TEST

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

**Lo** : Headlamp ON

**Off** : Headlamp OFF

##### Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to [EXL-39, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159453

#### 1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

##### 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	Voltage (Approx.)
(+)	(-)			
IPDM E/R			EXTERNAL LAMPS	Battery voltage
Connector	Terminal			
RH	E8	83	Lo	Battery voltage
LH		84	Off	0 V
			Lo	Battery voltage
			Off	0 V

##### Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

#### 2. CHECK HEADLAMP (LO) 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.

# HEADLAMP (LO) CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R		Front combination lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E8	83	E28	Existed
LH		84	E58	

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		Ground	Continuity
Connector	Terminal		
RH	E8	83	Not existed
LH		84	

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 GROUND OPEN CIRCUIT

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

Front combination lamp		Ground	Continuity
Connector	Terminal		
RH	E28	3	Existed
LH	E58	3	

Does continuity exist?

YES >> Perform the xenon headlamp diagnosis. Refer to [EXL-41, "Description"](#).

NO >> Repair the harnesses or connectors.



## XENON HEADLAMP

### Description

INFOID:000000008159454

### OUTLINE

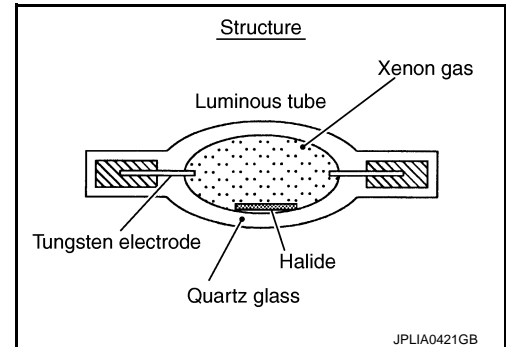
- The lamp light source is by the arch discharge by applying high voltage into the xenon gas-filled bulb instead of the halogen bulb filament.
- Sight becomes more natural and brighter because the amount of light are gained adequately and the color of light is sunshine-like white.
- The xenon bulb drops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

### ILLUMINATION PRINCIPLE

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

#### NOTE:

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



### PRECAUTIONS FOR TROUBLE DIAGNOSIS

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

#### WARNING:

- **Never touch the harness, HID control unit, the inside and metal part of lamp when turning the headlamp ON or operating the 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

INFOID:000000008159455

#### 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 >> GO TO 2.

#### 2. CHECK HID CONTROL UNIT

Install the normal HID control unit to the applicable headlamp. Check that the lamp is turned ON.

Is the headlamp turned ON?

## XENON HEADLAMP

[XENON TYPE]

### < DTC/CIRCUIT DIAGNOSIS >

---

- YES >> Replace HID control unit.
- NO >> GO TO 3.

### 3.CHECK XENON HEADLAMP HOUSING ASSEMBLY

---

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

#### Is the headlamp turned ON?

- YES >> Replace the front combination lamp. (Xenon headlamp housing voltage converter malfunctions.)
- NO >> Xenon headlamp is normal. Check the headlamp control system.

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

### Component Function Check

INFOID:000000008159456

#### 1. CHECK DAYTIME RUNNING LIGHT OPERATION

##### ⊗ IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to [PCS-9, "Diagnosis Description"](#).
2. Check that the parking lamp and tail lamp are turned ON.

##### Ⓜ CONSULT ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With operating the test item, check that parking lamp and tail lamp are turned ON.

**TAIL : Parking lamp and tail lamp ON**

**Off : Parking lamp and tail lamp OFF**

Are parking lamp and tail lamp turned ON?

- YES >> Daytime running light relay circuit is normal.  
 NO >> Refer to [EXL-43, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159457

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

Check that the following fuse is not fusing.

Unit	Location	Fuse No.	Capacity
Daytime running light relay	IPDM E/R	#59	10 A

Is the fuse fusing?

- YES >> Replace the fuse after repairing the applicable circuit.  
 NO >> GO TO 2.

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

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

Terminals		Voltage (Approx.)
(+)	(-)	
Daytime running light relay		Ground
Connector	Terminal	
E53	1	
	3	Battery voltage

Is the measurement value normal?

- YES >> GO TO 3.  
 NO >> Repair harnesses or connectors.

#### 3. CHECK DAYTIME RUNNING LIGHT RELAY

Check the daytime running light relay. Refer to [EXL-44, "Component Inspection"](#).

Is the daytime running light relay normal?

- YES >> GO TO 4.  
 NO >> Replace daytime running light relay.

#### 4. CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OUTPUT

##### Ⓜ CONSULT ACTIVE TEST

1. Turn the ignition switch OFF.
2. Install the daytime running light relay.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
M  
N  
O  
P

EXL

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

[XENON TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

3. Turn the ignition switch ON.
4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
5. With operating the test item, check voltage between the IPDM E/R harness connector and the ground.

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
IPDM E/R		EXTERNAL LAMPS	0 V
Connector	Terminal		
E9	105	TAIL	0 V
		Off	Battery voltage

### Is the measurement value normal?

- YES >> Check the parking lamp circuit. Refer to [EXL-48, "Diagnosis Procedure"](#).  
 Fixed at 0 V >> GO TO 5.  
 Fixed at battery voltage >> Replace IPDM E/R.

## 5. CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OPEN CIRCUIT

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

IPDM E/R		Daytime running light relay		Continuity
Connector	Terminal	Connector	Terminal	
E9	105	E53	2	Existed

### Does continuity exist?

- YES >> GO TO 6.  
 NO >> Repair the harnesses or connectors.

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

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E9	105		Not existed

### Does continuity exist?

- YES >> Repair the harnesses or connectors.  
 NO >> Replace IPDM E/R.

## Component Inspection

INFOID:000000008159458

## 1. CHECK DAYTIME RUNNING LIGHT RELAY

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

Daytime running light relay		Condition	Continuity
Terminal		Voltage	
5	3	Apply	Existed
		Not Apply	Not existed

### Does continuity exist?

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

YES >> Daytime running light relay is normal.  
NO >> Replace daytime running light relay.

A

B

C

D

E

F

G

H

I

J

K

**EXL**

M

N

O

P

# FRONT FOG LAMP CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

## FRONT FOG LAMP CIRCUIT

### Component Function Check

INFOID:000000008159459

#### 1. CHECK FRONT FOG LAMP OPERATION

##### ⊗ IPDM E/R AUTO ACTIVE TEST

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

##### Ⓟ CONSULT ACTIVE TEST

1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
2. With operating the test items, Check that the front fog lamp is turned ON.

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

##### Is the front fog lamp turned ON?

- YES >> Front fog lamp circuit is normal.  
NO >> Refer to [EXL-46, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159460

#### 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	15 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 combination lamp connector.
2. Check continuity between the IPDM E/R harness connector and the ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
RH	E8	86	Not existed
LH		87	

##### 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

##### Ⓟ CONSULT ACTIVE TEST

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

# FRONT FOG LAMP CIRCUIT

[XENON TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

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

Terminals			Test item	Voltage (Approx.)
(+)		(-)		
IPDM E/R			EXTERNAL LAMPS	Battery voltage
Connector	Terminal			
RH	E8	86	Fog	0 V
LH		87	Off	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 lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E8	86	E29 1	Existed
LH		87	E59 1	

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			Ground	Continuity
Connector	Terminal			
RH	E29	2	Ground	Existed
LH	E59	2		

Does continuity exist?

YES >> Refer to [GI-43. "Intermittent Incident"](#).

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:000000008159461

#### 1. CHECK PARKING LAMP OPERATION

##### IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to [PCS-9, "Diagnosis Description"](#).
2. Check that the parking lamp is turned ON.

##### 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-48, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159462

#### 1. CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.
2. Check that the following fuse is not fusing.

Unit	Location	Fuse No.	Capacity
<ul style="list-style-type: none"><li>• Parking lamp</li><li>• Front side marker lamp</li></ul>	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		Ground	Continuity
Connector	Terminal		
RH	E9	91	Not existed
LH		92	

##### 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 AND FRONT SIDE MARKER LAMP

Check the applicable lamp bulb.

##### Is the bulb normal?

- YES >> GO TO 4.  
NO >> Replace the bulb.

#### 4. CHECK PARKING LAMP OUTPUT VOLTAGE

##### CONSULT ACTIVE TEST

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



# PARKING LAMP CIRCUIT

[XENON TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

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

Terminals			Test item	Voltage (Approx.)
(+)		(-)		
IPDM E/R			EXTERNAL LAMPS	Battery voltage
Connector	Terminal			
RH	E9	91	TAIL	0 V
LH		92	TAIL	0 V
			Off	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 combination lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E9	E28	8	Existed
LH		92	E58	

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			Ground	Continuity
Connector	Terminal			
RH	E28	4	Ground	Existed
LH	E58	4		

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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# TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

## TURN SIGNAL LAMP CIRCUIT

### Description

INFOID:000000008159463

BCM performs the high flasher operation 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:000000008159464

#### 1. CHECK TURN SIGNAL LAMP

##### Ⓟ 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 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-50, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159465

#### 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

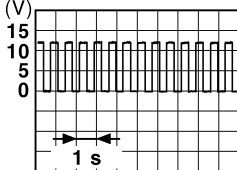
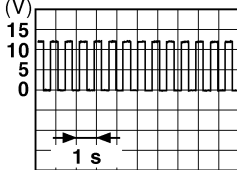
##### Ⓟ CONSULT ACTIVE TEST

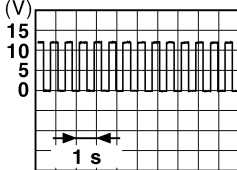
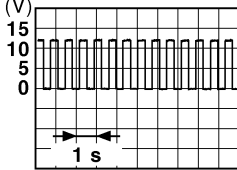
1. Turn the ignition switch OFF.
2. Disconnect the front combination lamp connector or the rear combination lamp connector.
3. Turn the ignition switch ON.
4. Select "FLASHER" of BCM (FLASHER) active test item.
5. With operating the turn signal switch, check the voltage between the BCM harness connector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

# TURN SIGNAL LAMP CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

Terminals			Test item	Voltage (Approx.)
(+)	(-)			
BCM			FLASHER	Voltage (Approx.)
Connector	Terminal			
RH	M119	17	RH	 <small>PKID0926E</small>
Off		Ground		0 V
LH	M119	18	LH	 <small>PKID0926E</small>
Off		Ground		0 V

Terminals			Test item	Voltage (Approx.)
(+)	(-)			
BCM			FLASHER	Voltage (Approx.)
Connector	Terminal			
RH	M120	20	RH	 <small>PKID0926E</small>
Off		Ground		0 V
LH	M120	25	LH	 <small>PKID0926E</small>
Off		Ground		0 V

**Is the measurement value normal?**

- 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.

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EXL

# TURN SIGNAL LAMP CIRCUIT

[XENON TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

Front combination lamp

BCM		Front combination lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	M119	17	E28	Existed
LH		18	E58	

Rear combination lamp

BCM		Rear combination lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	M120	20	B67	Existed
LH		25	B60	

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.

Front

BCM		Ground	Continuity
Connector	Terminal		
RH	M119	17	Not existed
LH		18	

Rear

BCM		Ground	Continuity
Connector	Terminal		
RH	M120	20	Not existed
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 voltage between the BCM harness connector and the front combination lamp or the rear combination lamp and the ground.

Front combination lamp

Front combination lamp		Ground	Continuity
Connector	Terminal		
RH	E28	4	Existed
LH	E58	4	

Rear combination lamp

Rear combination lamp		Ground	Continuity
Connector	Terminal		
RH	B67	3	Existed
LH	B60	3	

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

OPTICAL SENSOR

Description

INFOID:000000008159466

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

Component Function Check

INFOID:000000008159467

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT DATA MONITOR

1. Turn the ignition switch ON.
2. 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 SENSOR	Optical sensor	When illuminating	3.1 V or more *
		When shutting off light	0.6 V or less

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

Is the item status normal?

- YES >> Optical sensor is normal.  
 NO >> Refer to [EXL-53, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008159468

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.

Terminals		Voltage (Approx.)
(+)	(-)	
Optical sensor		Ground
Connector	Terminal	
M94	1	

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.

Terminals		Voltage (Approx.)
(+)	(-)	
Optical sensor		Ground
Connector	Terminal	
M94	3	

Is the measurement value normal?

- YES >> GO TO 3.  
 NO >> GO TO 6.

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EXL

# OPTICAL SENSOR

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

## 3. CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
Optical sensor		Optical sensor	
Connector	Terminal		
M94	2	Ground	
		When illuminating	3.1 V or more *
		When shutting off light	0.6 V or less

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

Is the measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

## 4. CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
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.

Optical sensor		Ground	Continuity
Connector	Terminal		
M94	1		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

## 6. CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

## 7. CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

# OPTICAL SENSOR

[XENON TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
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		Ground	Continuity
Connector	Terminal		
M94	2		Not existed

### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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# HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

## HAZARD SWITCH

### Description

INFOID:000000008159469

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

### Component Function Check

INFOID:000000008159470

#### 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	Condition		Monitor status
HAZARD SW	Hazard switch	While pressing the switch	On
		While not pressing the switch	Off

##### Is the item status normal?

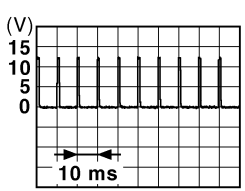
- YES >> Hazard switch circuit is normal.  
 NO >> Refer to [EXL-56, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159471

#### 1. CHECK HAZARD SWITCH SIGNAL INPUT

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

Terminals		Condition	Voltage (Approx.)
(+)	(-)		
BCM		Hazard switch	0 V
Connector	Terminal		
M122	110	While pressing the switch	
		While not pressing the switch	
	Ground		

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##### Is the measurement value normal?

- YES >> Replace BCM.  
 NO >> GO TO 2.

#### 2. CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. 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.



# HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Multifunction switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
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.

Multifunction switch		Ground	Continuity
Connector	Terminal		
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.

Multifunction switch		Ground	Continuity
Connector	Terminal		
M72	1		Existed

Does continuity exist?

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

NO >> Repair the harnesses or connectors.

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# TAIL LAMP CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

## TAIL LAMP CIRCUIT

### Component Function Check

INFOID:000000008159472

#### 1.CHECK TAIL LAMP OPERATION

##### ⊗ IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to [PCS-9, "Diagnosis Description"](#).
2. Check that the tail lamp is turned ON.

##### Ⓟ CONSULT ACTIVE TEST

1. 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**

##### Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

NO >> Refer to [EXL-58, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159473

#### 1.CHECK TAIL LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
<ul style="list-style-type: none"><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.

#### 2.CHECK TAIL LAMP OUTPUT VOLTAGE

##### Ⓟ CONSULT ACTIVE TEST

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

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
IPDM E/R		EXTERNAL LAMPS	Battery voltage
Connector	Terminal		
E5	7	TAIL	
		Off	0 V

##### 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

[XENON TYPE]

## < DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R		Rear combination lamp		Continuity	
Connector	Terminal	Connector	Terminal		
RH	E5	7	B67	2	Existed
LH			B60	2	

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 combination lamp			Ground	Continuity
Connector	Terminal			
RH	B67	3		Existed
LH	B60	3		

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

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# LICENSE PLATE LAMP CIRCUIT

[XENON TYPE]

< DTC/CIRCUIT DIAGNOSIS >

## LICENSE PLATE LAMP CIRCUIT

### Component Function Check

INFOID:000000008159474

#### 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

#### ⊗ IPDM E/R AUTO ACTIVE TEST

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

#### Ⓟ 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-60, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000008159475

### 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

1. 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.

IPDM E/R		License plate lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E5	B93	1	Existed
LH		B92	1	

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 lamp			Ground	Continuity
Connector	Terminal			
RH	B93	2	Existed	
LH	B92	2		

Does continuity exist?

- YES >> Replace the license plate lamp.  
NO >> Repair the harnesses or connectors.

# HEADLAMP SYSTEM


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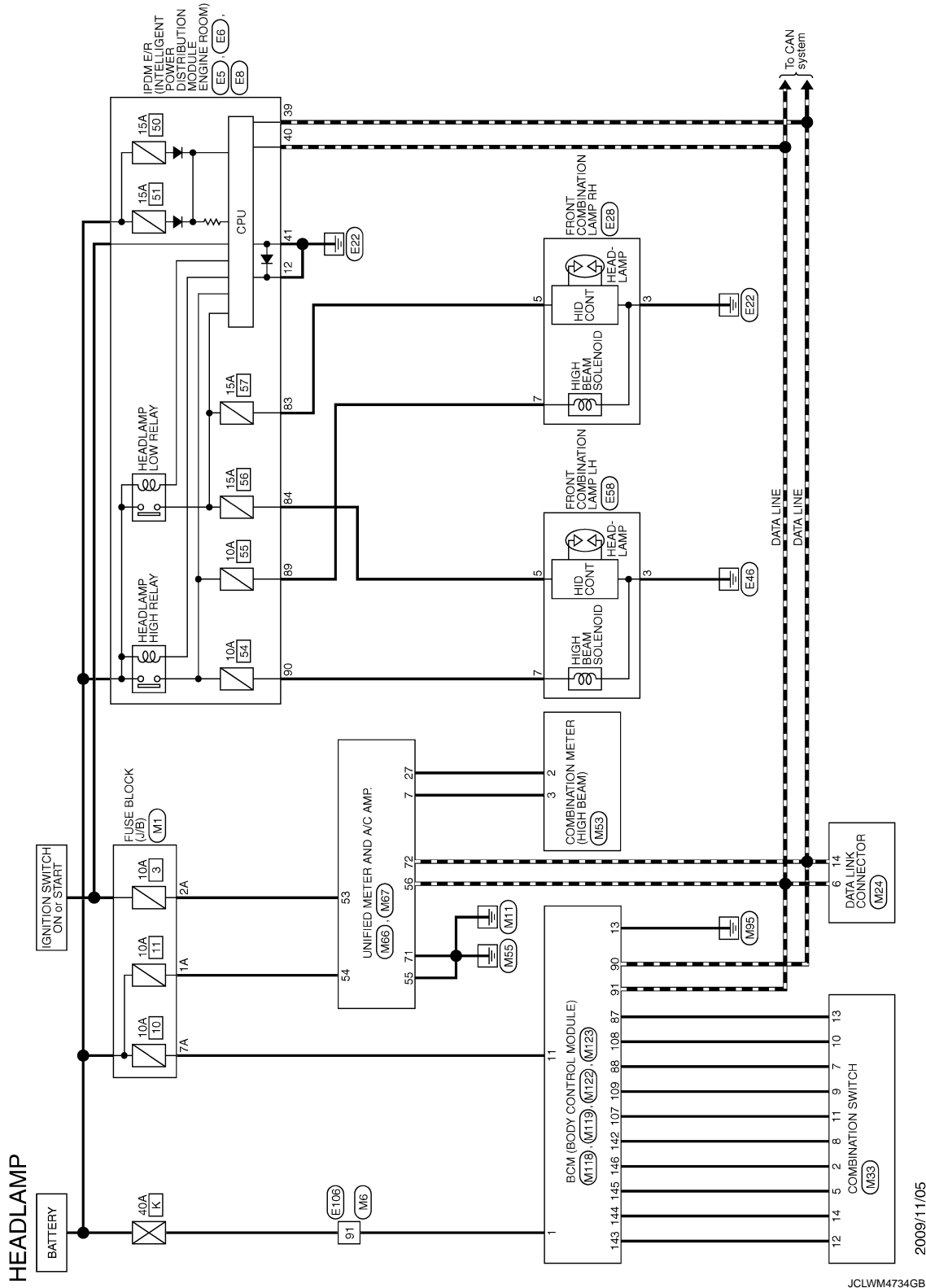
[XENON TYPE]

## HEADLAMP SYSTEM

### Wiring Diagram - HEADLAMP -

INFOID:000000008159476

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



2009/11/05

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# AUTO LIGHT SYSTEM


[XENON TYPE]

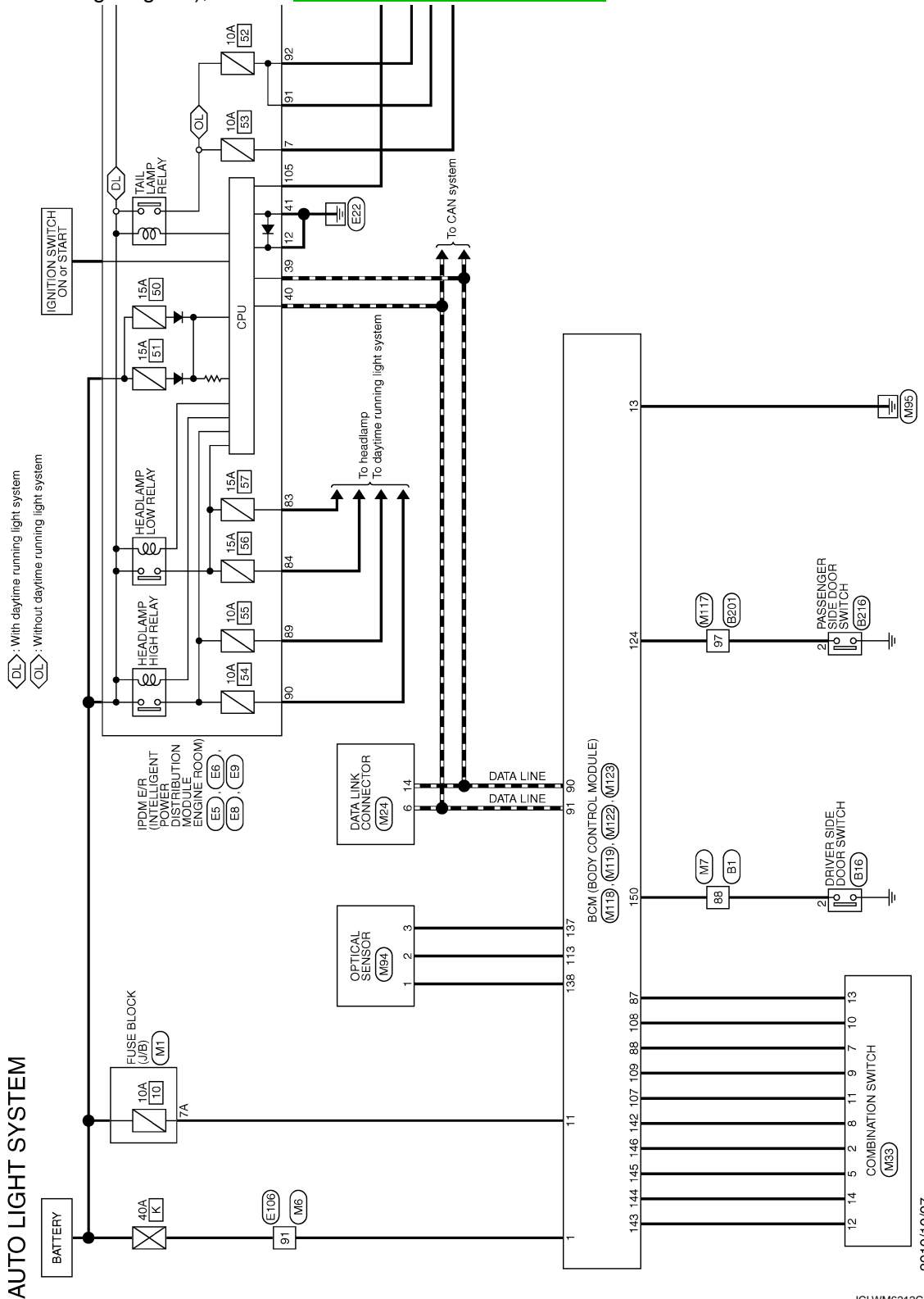
< DTC/CIRCUIT DIAGNOSIS >

## AUTO LIGHT SYSTEM

### Wiring Diagram - AUTO LIGHT SYSTEM -

INFOID:000000008159477

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



2010/10/07

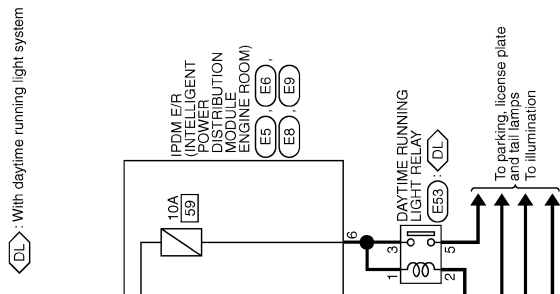
JCLWM6212GB

# AUTO LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

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JCLWM6213GB

# DAYTIME RUNNING LIGHT SYSTEM


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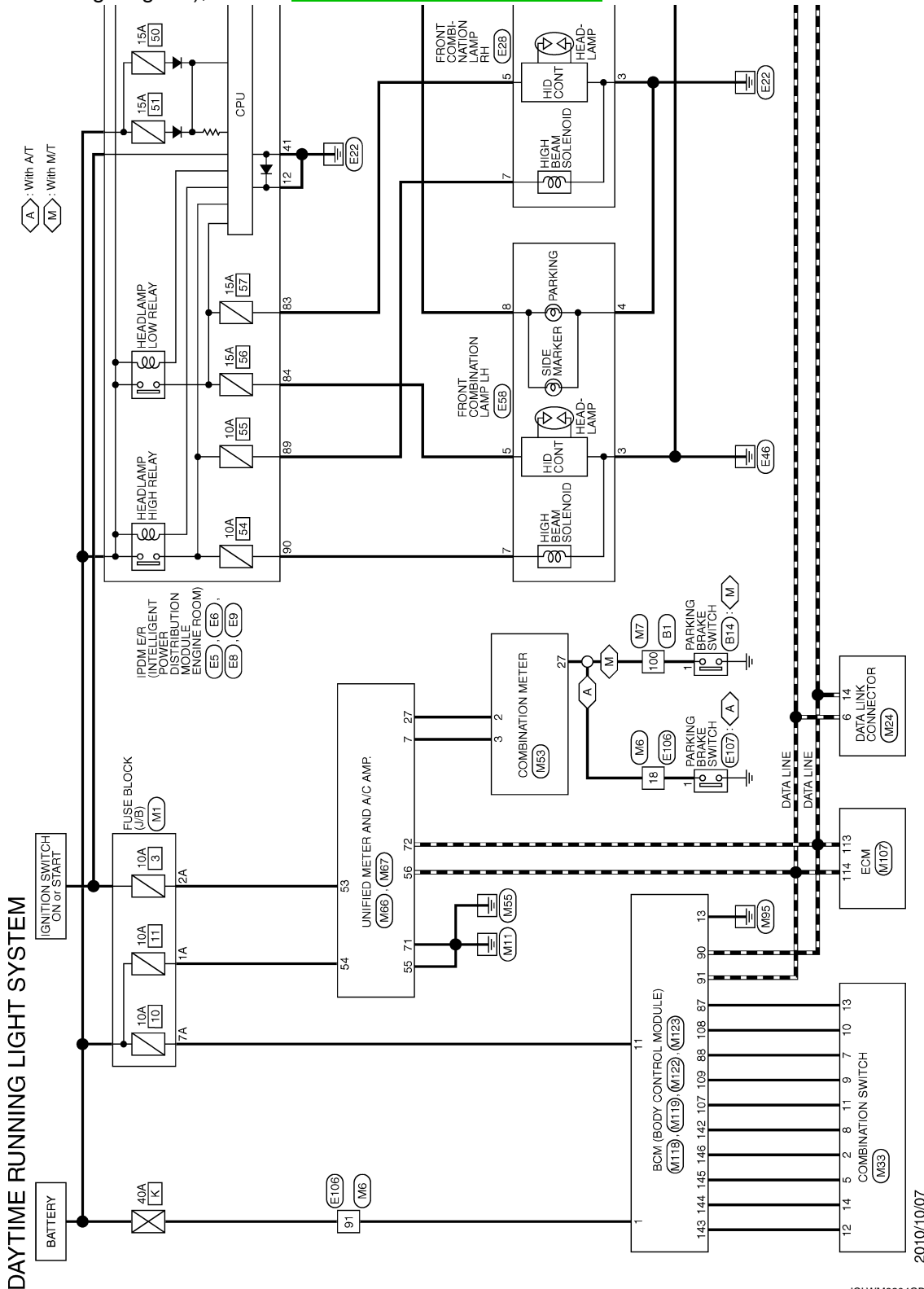
[XENON TYPE]

## DAYTIME RUNNING LIGHT SYSTEM

### Wiring Diagram - DAYTIME LIGHT SYSTEM -

INFOID:000000008159478

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

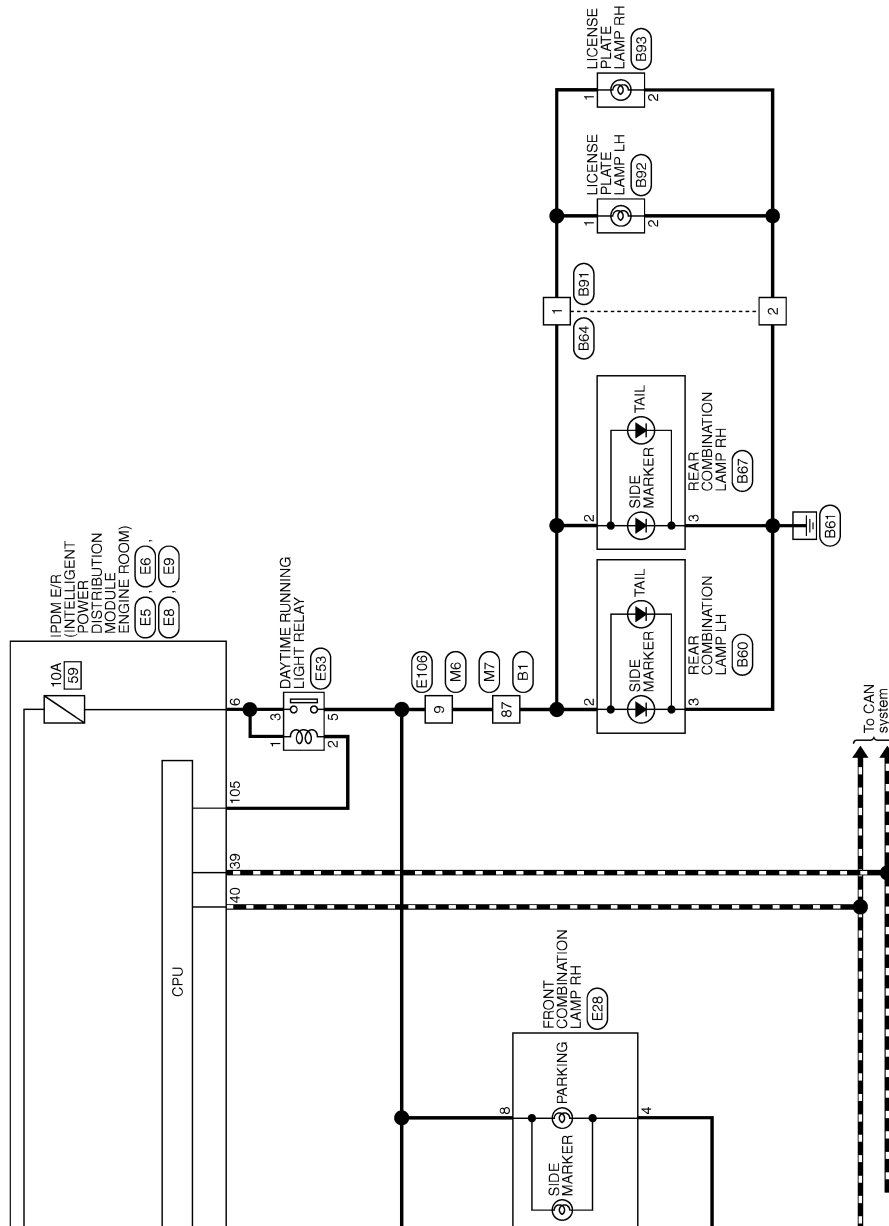




# DAYTIME RUNNING LIGHT SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



JCLWM6205GB

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# FRONT FOG LAMP SYSTEM


< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

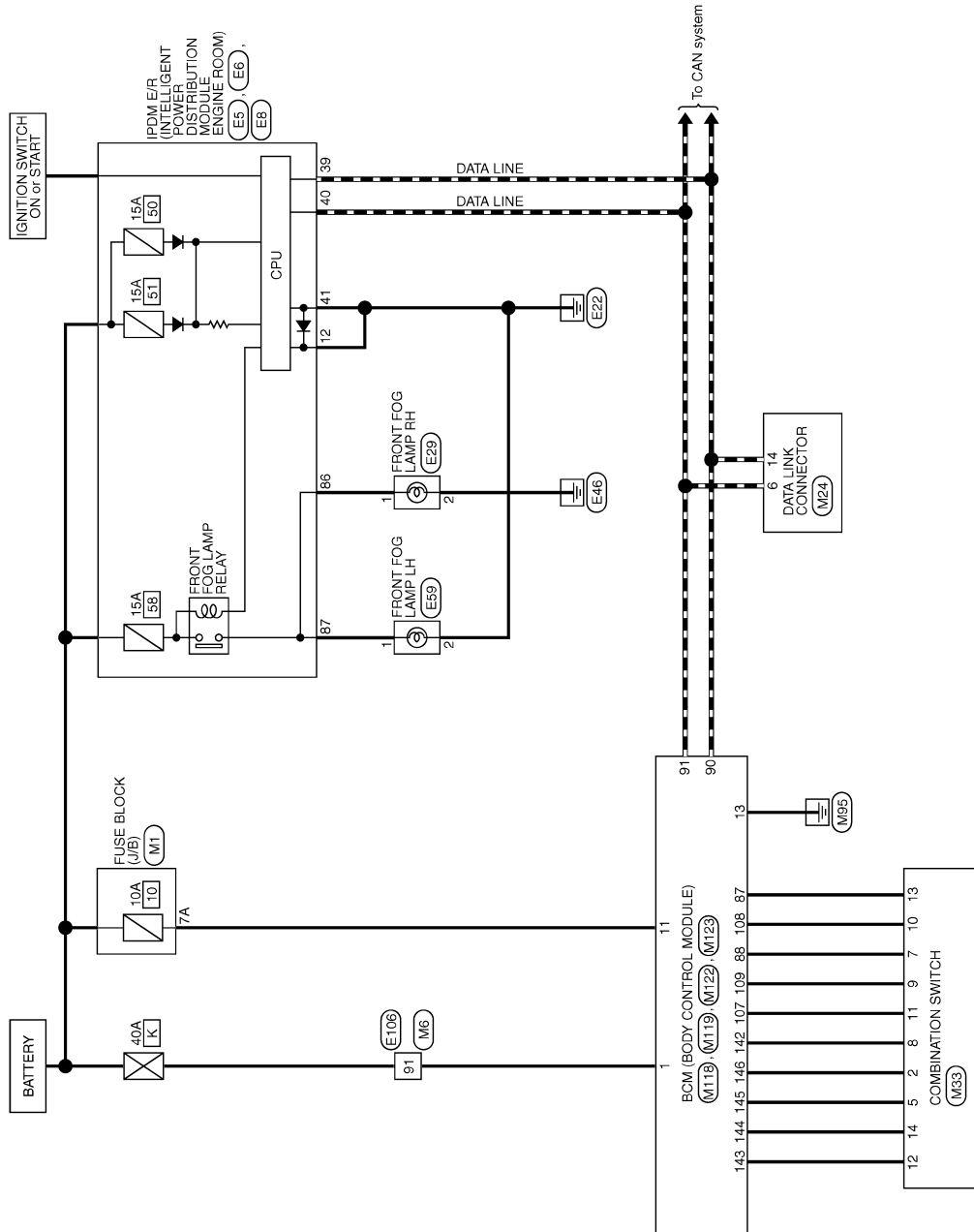
## FRONT FOG LAMP SYSTEM

### Wiring Diagram - FRONT FOG LAMP -

INFOID:000000008159479

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

FRONT FOG LAMP



2010/10/07

JCLWM6219GB

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM


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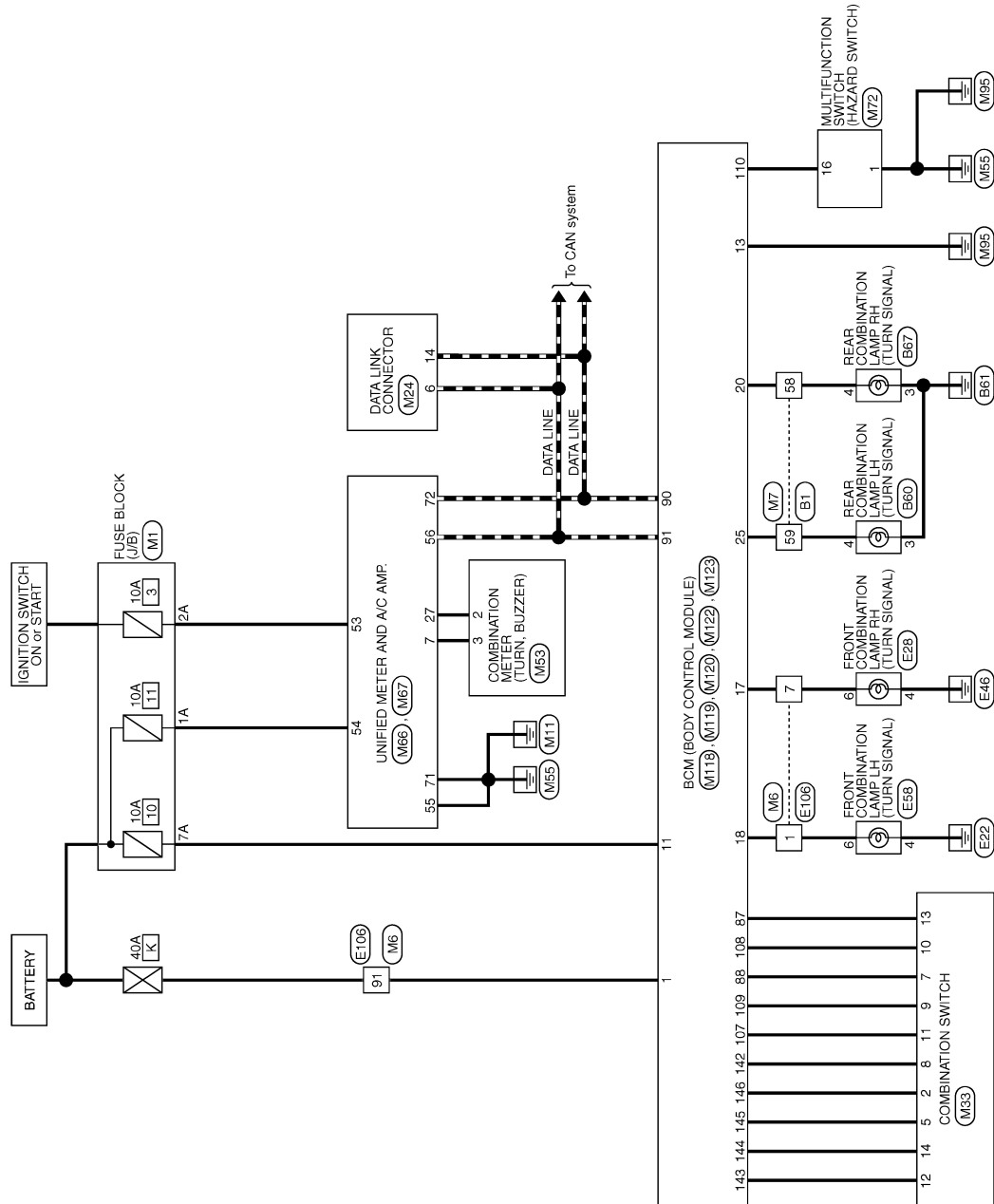
## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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

INFOID:000000008159480

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

### TURN SIGNAL AND HAZARD WARNING LAMPS



2010/10/07

JCLWM6223GB

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# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM


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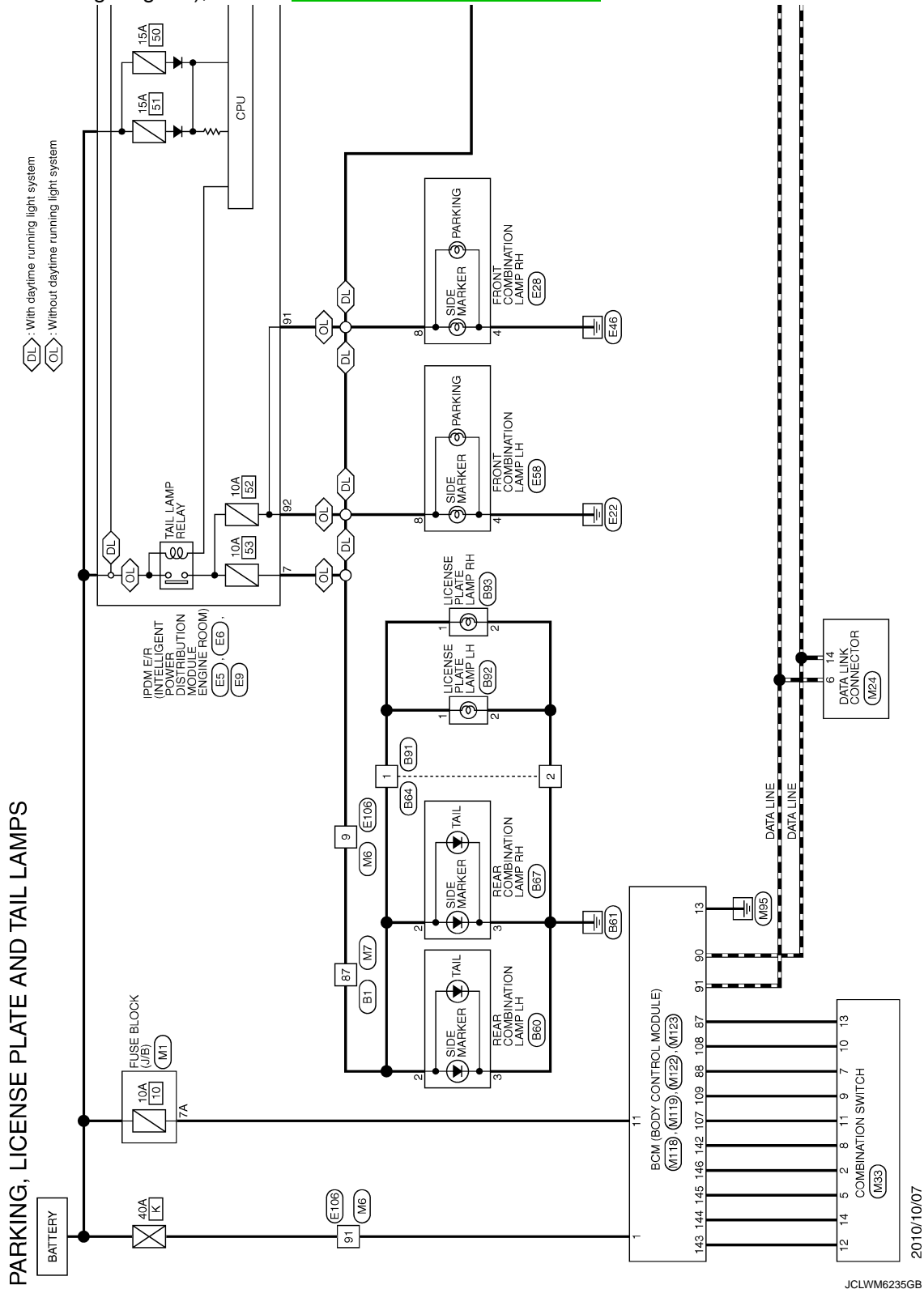
[XENON TYPE]

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### Wiring Diagram - PARKING LICENSE PLATE AND TAIL LAMPS -

INFOID:000000008159481

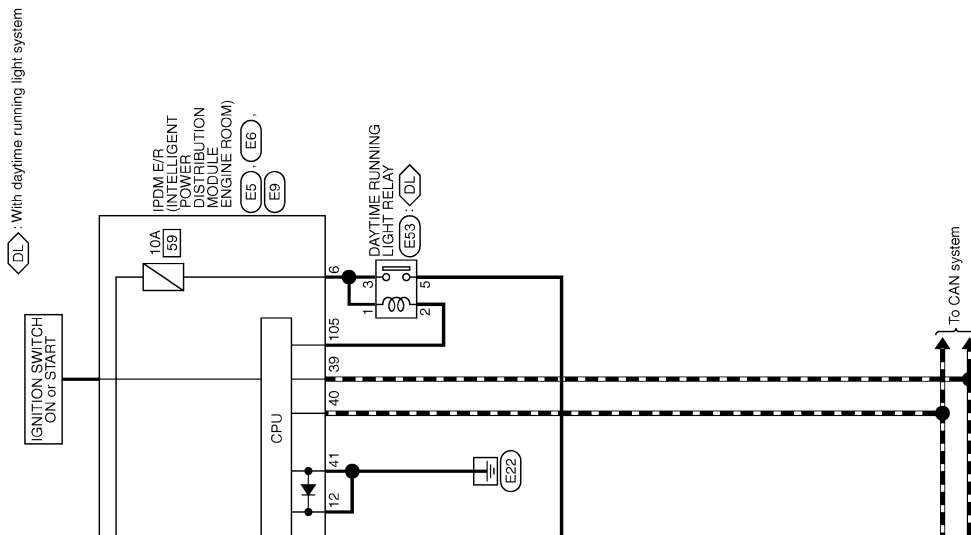
For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



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# STOP LAMP


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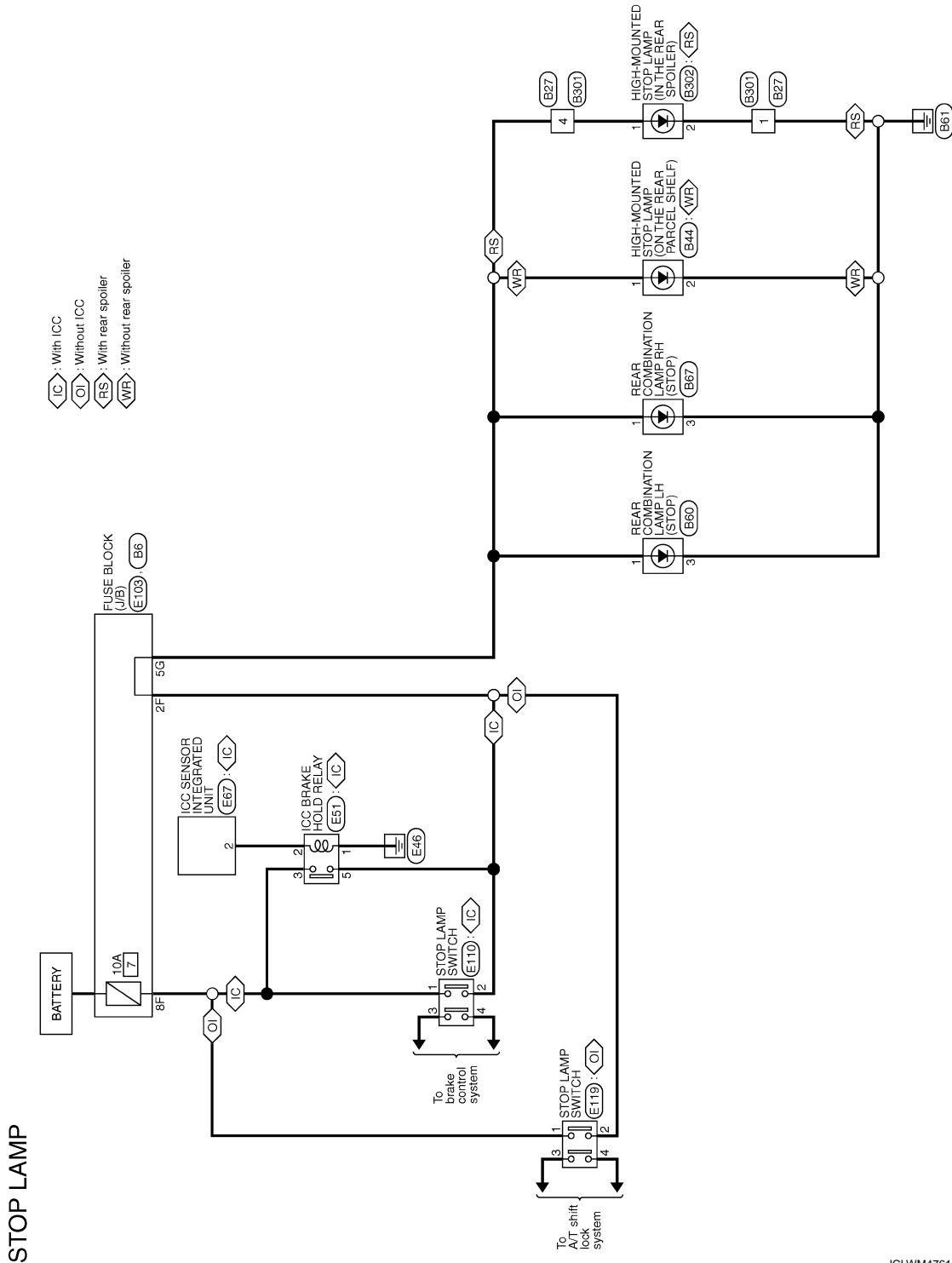
[XENON TYPE]

## STOP LAMP

### Wiring Diagram - STOP LAMP -

INFOID:000000008159482

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



2009/11/05

JCLWM4761GB

# BACK-UP LAMP


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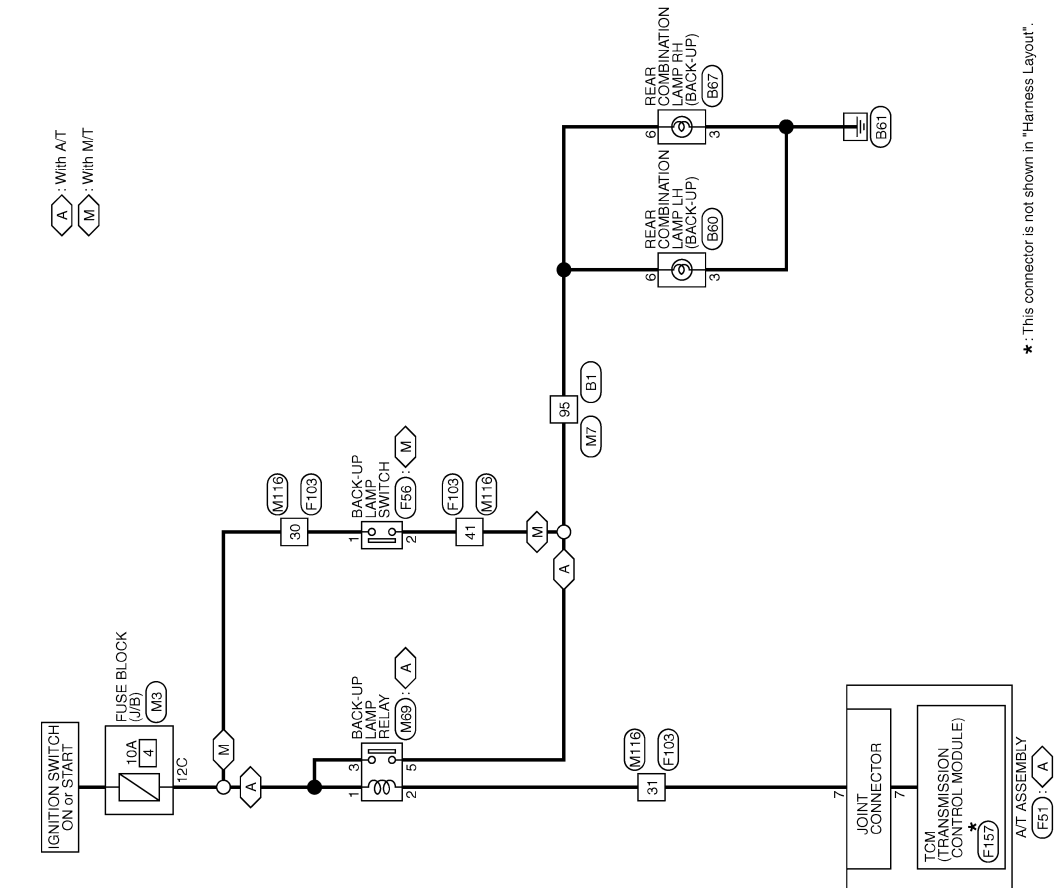
[XENON TYPE]

## BACK-UP LAMP

### Wiring Diagram - BACK-UP LAMP -

INFOID:000000008159483

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".

BACK-UP LAMP

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EXL

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

## ECU DIAGNOSIS INFORMATION

### BCM (BODY CONTROL MODULE)

#### Reference Value

INFOID:000000008833025

#### 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
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT/AUTO	Off
	Front wiper switch INT/AUTO	On
FR WIPER STOP	Front wiper is not in STOP position	Off
	Front wiper is in STOP position	On
INT VOLUME	Wiper volume dial is in a dial position 1 - 7	Wiper volume dial position
TURN SIGNAL R	Other than turn signal switch RH	Off
	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status	
DOOR SW-RR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	A
DOOR SW-RL	<b>NOTE:</b> The item is indicated, but not monitored.	Off	B
DOOR SW-BK	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
CDL LOCK SW	Other than power door lock switch LOCK	Off	C
	Power door lock switch LOCK	On	
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off	D
	Power door lock switch UNLOCK	On	
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off	
	Driver door key cylinder LOCK position	On	E
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off	
	Driver door key cylinder UNLOCK position	On	F
KEY CYL SW-TR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
HAZARD SW	Hazard switch is OFF	Off	
	Hazard switch is ON	On	G
REAR DEF SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
TR CANCEL SW	Trunk lid opener cancel switch OFF	Off	H
	Trunk lid opener cancel switch ON	On	
TR/BD OPEN SW	Trunk lid opener switch OFF	Off	I
	While the trunk lid opener switch is turned ON	On	
TRNK/HAT MNTR	Trunk lid closed	Off	J
	Trunk lid opened	On	
REVERSE SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
RKE-LOCK	LOCK button of the Intelligent Key is not pressed	Off	
	LOCK button of the Intelligent Key is pressed	On	
RKE-UNLOCK	UNLOCK button of the Intelligent Key is not pressed	Off	EXL
	UNLOCK button of the Intelligent Key is pressed	On	
RKE-TR/BD	TRUNK OPEN button of the Intelligent Key is not pressed	Off	
	TRUNK OPEN button of the Intelligent Key is pressed	On	M
RKE-PANIC	PANIC button of the Intelligent Key is not pressed	Off	
	PANIC button of the Intelligent Key is pressed	On	N
RKE-P/W OPEN	UNLOCK button of the Intelligent Key is not pressed	Off	
	UNLOCK button of the Intelligent Key is pressed and held	On	O
RKE-MODE CHG	LOCK/UNLOCK button of the Intelligent Key is not pressed and held simultaneously	Off	
	LOCK/UNLOCK button of the Intelligent Key is pressed and held simultaneously	On	P
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V	
	Dark outside of the vehicle	Close to 0 V	
REQ SW -DR	Driver door request switch is not pressed	Off	
	Driver door request switch is pressed	On	
REQ SW -AS	Passenger door request switch is not pressed	Off	
	Passenger door request switch is pressed	On	

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status
REQ SW -RR	<b>NOTE:</b> The item is indicated, but not monitored.	Off
REQ SW -RL	<b>NOTE:</b> The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Trunk lid opener request switch is not pressed	Off
	Trunk lid opener request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	<b>NOTE:</b> The item is indicated, but not monitored.	Off
ACC RLY -F/B	<b>NOTE:</b> The item is indicated, but not monitored.	Off
CLUCH SW	The clutch pedal is not depressed	Off
	The clutch pedal is depressed	On
BRAKE SW 1	The brake pedal is depressed when No. 7 fuse is blown	Off
	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
	The brake pedal is depressed	On
DETE/CANCL SW	<ul style="list-style-type: none"> <li>• Selector lever in P position (Except M/T models)</li> <li>• The clutch pedal is depressed (M/T models)</li> </ul>	Off
	<ul style="list-style-type: none"> <li>• Selector lever in any position other than P (Except M/T models)</li> <li>• The clutch pedal is not depressed (M/T models)</li> </ul>	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	<b>NOTE:</b> The item is indicated, but not monitored.	Off
S/L -UNLOCK	<b>NOTE:</b> The item is indicated, but not monitored.	Off
S/L RELAY-F/B	<b>NOTE:</b> The item is indicated, but not monitored.	Off
UNLK 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
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
	Selector lever in P position	On
SFT PN -IPDM	<ul style="list-style-type: none"> <li>• Selector lever in any position other than P and N (Except M/T models)</li> <li>• The clutch pedal is not depressed (M/T models)</li> </ul>	Off
	<ul style="list-style-type: none"> <li>• Selector lever in P or N position</li> <li>• The clutch pedal is depressed</li> </ul>	On
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status	
ENGINE STATE	Engine stopped	Stop	A
	While the engine stalls	Stall	
	At engine cranking	Crank	B
	Engine running	Run	
S/L LOCK-IPDM	<b>NOTE:</b> The item is indicated, but not monitored.	Off	C
S/L UNLK-IPDM	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
S/L RELAY-REQ	<b>NOTE:</b> The item is indicated, but not monitored.	Off	D
VEH SPEED 1	While driving	Equivalent to speedometer reading	E
VEH SPEED 2	While driving	Equivalent to speedometer reading	
DOOR STAT-DR	Driver door is locked	LOCK	F
	Wait with selective UNLOCK operation (60 seconds)	READY	
	Driver door is unlocked	UNLOCK	G
DOOR STAT-AS	Passenger door is locked	LOCK	H
	Wait with selective UNLOCK operation (60 seconds)	READY	
	Passenger door is unlocked	UNLOCK	I
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Selector lever is in the P position except for M/T models)	Reset	J
	Ignition switch is ON	Set	K
PRMT ENG STRT	The engine start is prohibited	Reset	
	The engine start is permitted	Set	J
PRMT RKE STRT	<b>NOTE:</b> The item is indicated, but not monitored.	Reset	
KEY SW -SLOT	The Intelligent Key is not inserted into key slot	Off	K
	The Intelligent Key is inserted into key slot	On	
RKE OPE COUN1	During the operation of the Intelligent Key	Operation frequency of the Intelligent Key	EXL
RKE OPE COUN2	<b>NOTE:</b> The item is indicated, but not monitored.	—	
CONFIRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet	M
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done	N
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet	O
	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done	P
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet	
	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done	
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet	
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done	

## BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

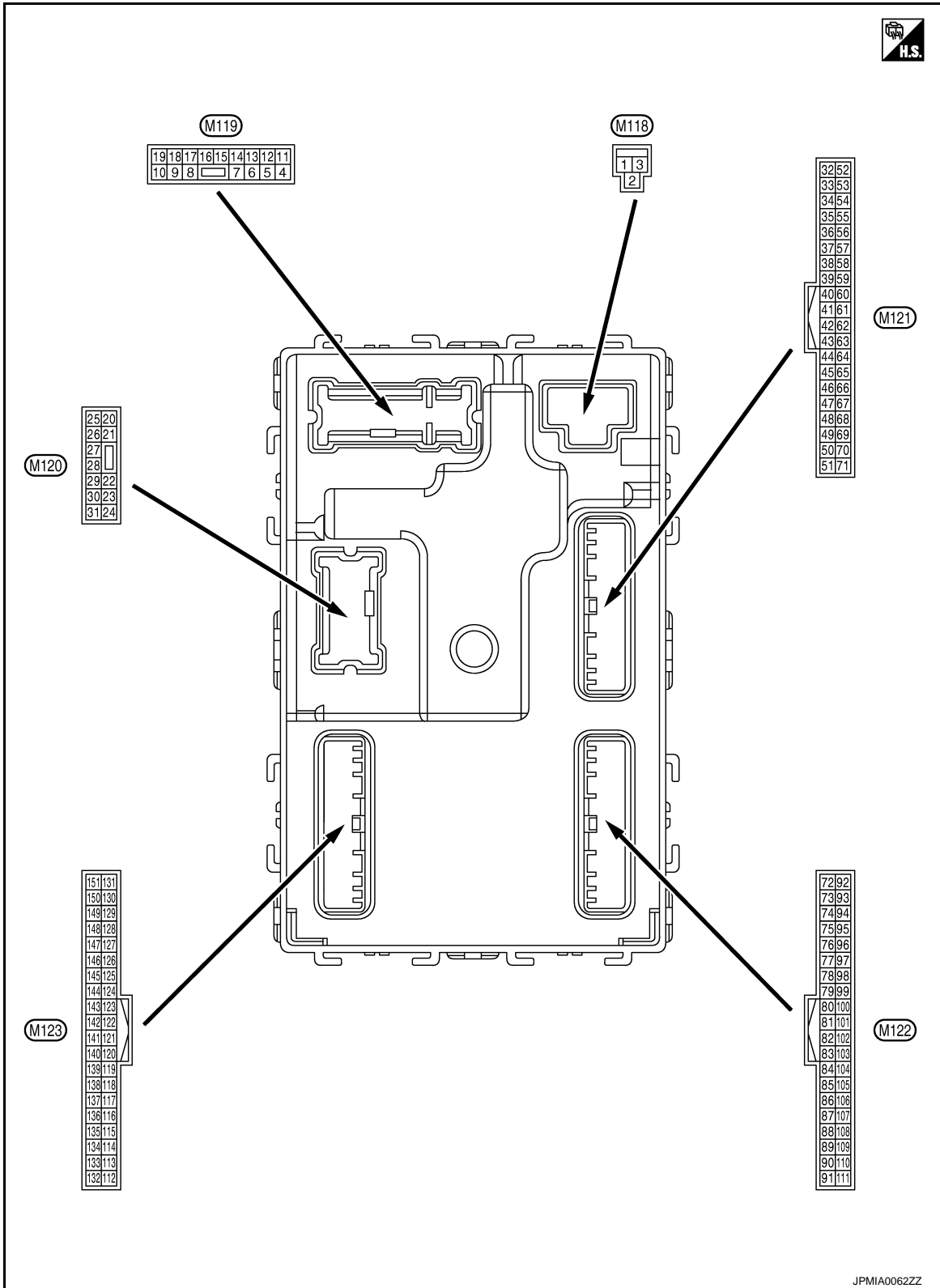
Monitor Item	Condition	Value/Status
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
	The ID of fourth Intelligent Key is registered to BCM	Done
TP 3	The ID of third Intelligent Key is not registered to BCM	Yet
	The ID of third Intelligent Key is registered to BCM	Done
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet
	The ID of second Intelligent Key is registered to BCM	Done
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet
	The ID of first Intelligent 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 REGST FR1	ID of front RH tire transmitter is registered	Done
	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	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

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

## TERMINAL LAYOUT



## PHYSICAL VALUES

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

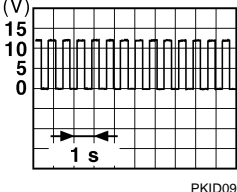
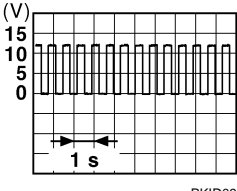
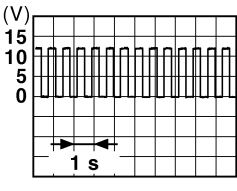
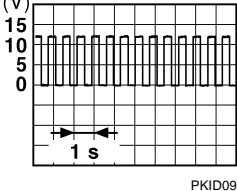
[XENON TYPE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (Y)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		12 V
3 (BG)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		12 V
4 (LG)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply)		0 V
				Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply)		12 V
5 (P)	Ground	Passenger door UN- LOCK	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Ac- tuator is not activated)	0 V
7 (SB)	Ground	Step lamp	Output	Step lamp	ON	0 V
					OFF	12 V
8 (V)	Ground	All doors, fuel lid LOCK	Output	All doors, fuel lid	LOCK (Actuator is activated)	12 V
					Other than LOCK (Actuator is not activated)	0 V
9 (G)	Ground	Driver door, fuel lid UNLOCK	Output	Driver door, fuel lid	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0 V
14 (W)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	OFF	0 V
					ON	
15 (BG)	Ground	ACC indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
					ACC	0 V

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch OFF 0 V
				Turn signal switch RH	
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch OFF 0 V
				Turn signal switch LH	
19 (V)	Ground	Interior room lamp control	Output	Interior room lamp	OFF 12 V
				ON	0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch OFF 0 V
				Turn signal switch RH	
23 (LG)	Ground	Trunk lid open	Output	Trunk lid	OPEN (Trunk lid opener actuator is activated) 12 V
				Other than OPEN (Trunk lid opener actuator is not activated)	0 V
25 (Y)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch OFF 0 V
				Turn signal switch LH	
30 (P)	Ground	Trunk room lamp	Output	Trunk room lamp	ON 0 V
				OFF	12 V

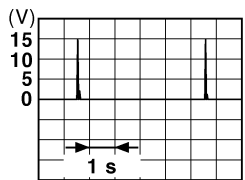
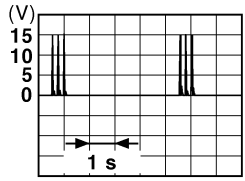
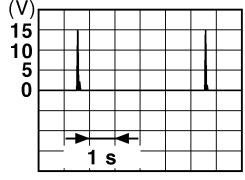
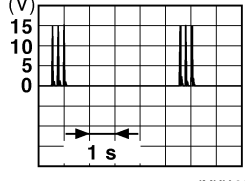
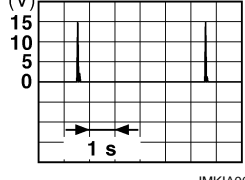
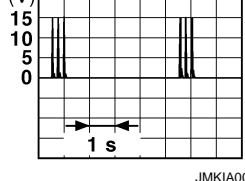
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EXL

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

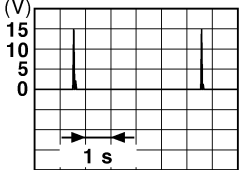
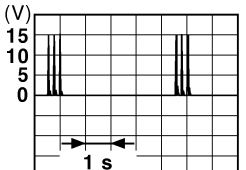
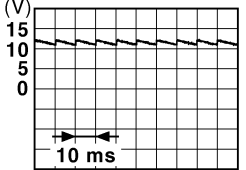
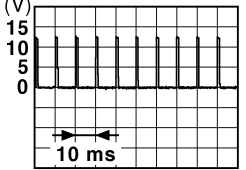
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
34 (SB)	Ground	Trunk room antenna (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment  <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment  <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	
35 (V)	Ground	Trunk room antenna (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment  <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment  <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	
38 (B)	Ground	Rear bumper anten- na (-)	Output	When the trunk lid opener re- quest switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area  <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area  <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
39 (W)	Ground	Rear bumper antenna (+)	Output	When Intelligent Key is in the antenna detection area	 <small>JMKIA0062GB</small>
				When the trunk lid opener request switch is operated with ignition switch OFF	 <small>JMKIA0063GB</small>
47 (Y)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC
				OFF or ACC	12 V
				ON	0 V
50 (BG)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (Trunk lid is closed)
				OFF (Trunk lid is closed)	 <small>JPMIA0011GB</small>
				ON (Trunk lid is opened)	0 V
52 (R)	Ground	Starter relay control	Output	Ignition switch ON (A/T models)	When selector lever is in P or N position
				Ignition switch ON (A/T models)	When selector lever is not in P or N position
				Ignition switch ON (M/T models)	When the clutch pedal is depressed
				Ignition switch ON (M/T models)	When the clutch pedal is not depressed
				When selector lever is in P or N position	12 V
				When selector lever is not in P or N position	0 V
				When the clutch pedal is depressed	Battery voltage
				When the clutch pedal is not depressed	0 V
60 (BR)	Ground	Push-button ignition switch (Push switch)	Input	Push-button ignition switch (Push switch)	Pressed
				Push-button ignition switch (Push switch)	Not pressed
				Pressed	0 V
				Not pressed	Battery voltage
61 (SB)	Ground	Trunk lid opener request switch	Input	Trunk lid opener request switch	ON (Pressed)
				Trunk lid opener request switch	OFF (Not pressed)
				ON (Pressed)	0 V
				OFF (Not pressed)	 <small>JPMIA0016GB</small>
				OFF (Not pressed)	1.0 V
64 (G)	Ground	Intelligent Key warning buzzer (Engine room)	Output	Intelligent Key warning buzzer (Engine room)	Sounding
				Intelligent Key warning buzzer (Engine room)	Not sounding
				Sounding	0 V
				Not sounding	12 V

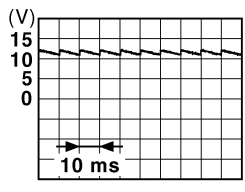
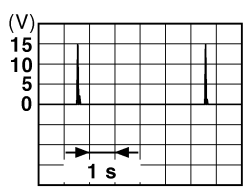
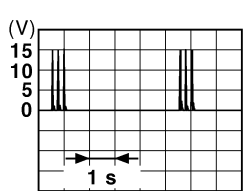
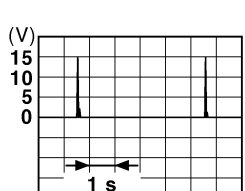
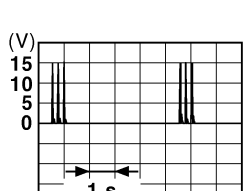
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

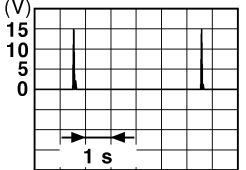
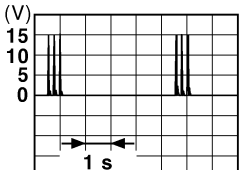
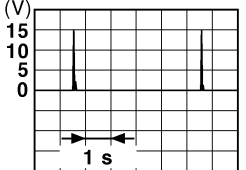
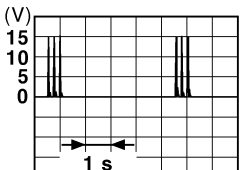
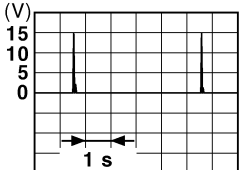
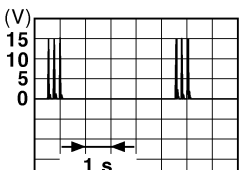
[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
67 (GR)	Ground	Trunk lid opener switch	Input	Trunk lid open- er switch	Pressed	0 V
				Not pressed	 <p style="text-align: center;">11.8 V</p>	
72 (R)	Ground	Room antenna 2 (-) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	
				When Intelligent Key is not in the passenger compart- ment		
73 (G)	Ground	Room antenna 2 (+) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	
				When Intelligent Key is not in the passenger compart- ment		

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
74 (SB)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia0062GB</p>
				When the passenger door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia0063GB</p>
75 (BR)	Ground	Passenger door antenna (+)	Output	When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia0062GB</p>
				When the passenger door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia0063GB</p>
76 (V)	Ground	Driver door antenna (-)	Output	When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia0062GB</p>
				When the driver door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia0063GB</p>

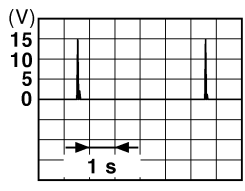
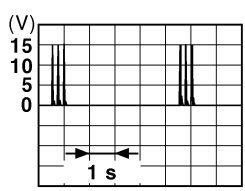
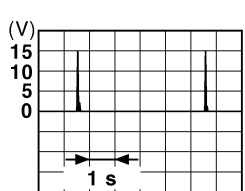
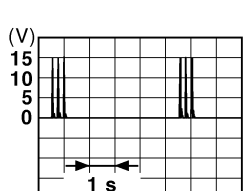
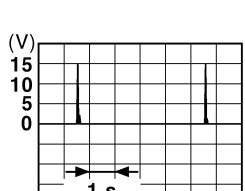
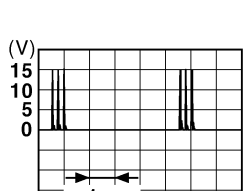
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# BCM (BODY CONTROL MODULE)

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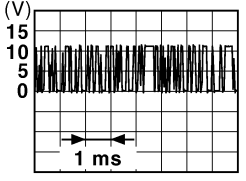
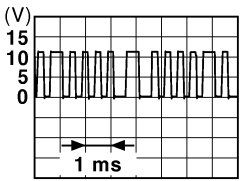
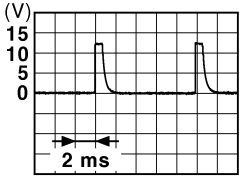
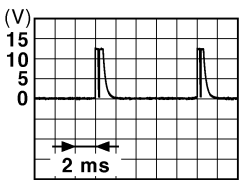
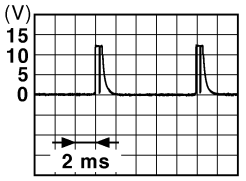
[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
77 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>
78 (Y)	Ground	Room antenna 1 (-) (Instrument panel)	Output	When Intelligent Key is in the passenger compartment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>
79 (BR)	Ground	Room antenna 1 (+) (Instrument panel)	Output	When Intelligent Key is in the passenger compartment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82 (SB)	Ground	Ignition relay [Fuse block (J/B)] control	Output	Ignition switch	OFF or ACC ON	0 V 12 V
83 (Y)	Ground	Remote keyless entry receiver communication	Input/ Output	During waiting		 <p style="text-align: right; font-size: small;">JMKIA0064GB</p>
				When operating either button on the Intelligent Key		 <p style="text-align: right; font-size: small;">JMKIA0065GB</p>
87 (Y)	Ground	Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper volume dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Front fog lamp switch ON (Wiper volume dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0037GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switches OFF	<ul style="list-style-type: none"> <li>• Wiper volume dial 1</li> <li>• Wiper volume dial 2</li> <li>• Wiper volume dial 6</li> <li>• Wiper volume dial 7</li> </ul>  <p style="text-align: right; font-size: small;">JPMIA0040GB</p> <p style="text-align: center;">1.3 V</p>

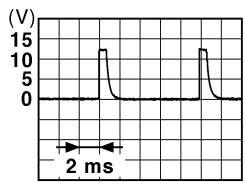
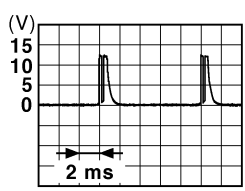

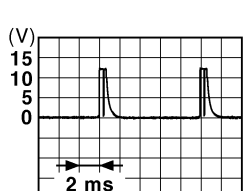
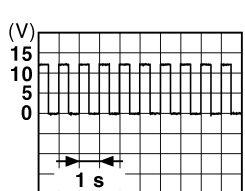
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

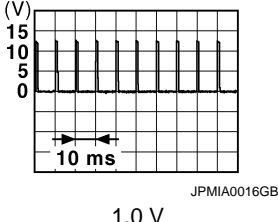
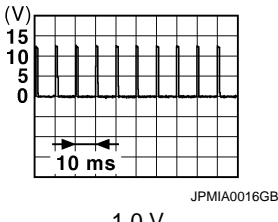
[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
88 (BG)	Ground	Combination switch INPUT 3	Input	Combination switch	<p>All switches OFF (Wiper volume dial 4)</p>  <p style="text-align: right;">1.4 V</p>
					<p>Lighting switch HI (Wiper volume dial 4)</p>  <p style="text-align: right;">1.3 V</p>
					<p>Lighting switch 2ND (Wiper volume dial 4)</p>  <p style="text-align: right;">1.3 V</p>
					<p>Any of the conditions below with all switches OFF</p> <ul style="list-style-type: none"> <li>• Wiper volume dial 1</li> <li>• Wiper volume dial 2</li> <li>• Wiper volume dial 3</li> </ul>  <p style="text-align: right;">1.3 V</p>
90 (P)	Ground	CAN-L	Input/ Output	—	—
91 (L)	Ground	CAN-H	Input/ Output	—	—
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	<p>OFF</p> <p style="text-align: right;">12 V</p>
				Blinking	 <p style="text-align: right;">6.5 V</p>
93 (GR)	Ground	ON indicator lamp	Output	Ignition switch	<p>OFF (LOCK indicator is not illuminated)</p> <p style="text-align: right;">Battery voltage</p>
					0 V

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

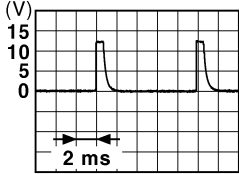




Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
95 (BG)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	12 V
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output	—		12 V
99 (R) <sup>*1</sup> (BR) <sup>*2</sup>	Ground	Selector lever P position switch (A/T models)	Input	Selector lever	P position	0 V
					Any position other than P	12 V
		ASCD clutch switch (M/T models)		ASCD clutch switch	OFF (Clutch pedal is depressed)	0 V
					ON (Clutch pedal is not depressed)	12 V
100 (Y)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	
101 (P)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	
102 (BG)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
103 (P)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		12 V

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

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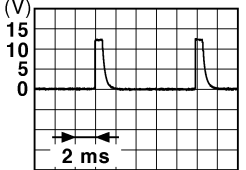

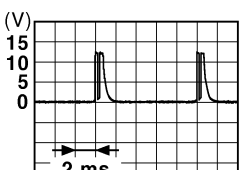
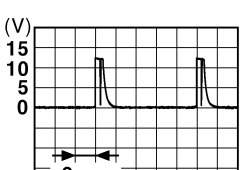
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper volume dial 4)	All switches OFF	 <small>JPMIA0041GB</small> 1.4 V
					Turn signal switch LH	 <small>JPMIA0037GB</small> 1.3 V
					Turn signal switch RH	 <small>JPMIA0036GB</small> 1.3 V
					Front wiper switch LO	 <small>JPMIA0038GB</small> 1.3 V
					Front washer switch ON	 <small>JPMIA0039GB</small> 1.3 V



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	All switches OFF (Wiper volume dial 4)  <p>1.4 V</p>
					Lighting switch AUTO (Wiper volume dial 4)  <p>1.3 V</p>
					Lighting switch 1ST (Wiper volume dial 4)  <p>1.3 V</p>
					Any of the conditions below with all switches OFF <ul style="list-style-type: none"> <li>• Wiper volume dial 1</li> <li>• Wiper volume dial 5</li> <li>• Wiper volume dial 6</li> </ul>  <p>1.3 V</p>

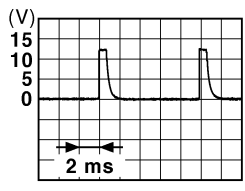
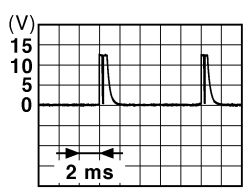
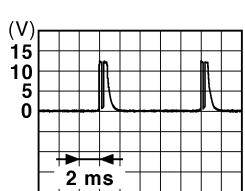
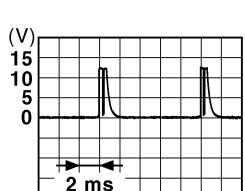
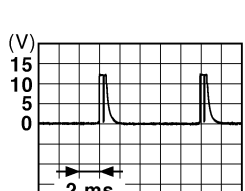
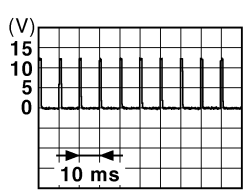
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

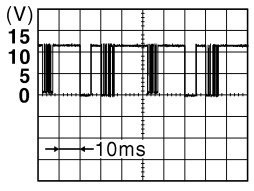
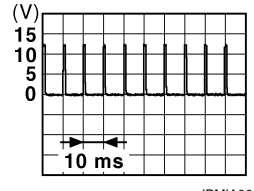
[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
109 (W)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper volume dial 4)	All switches OFF	 <small>JPMIA0041GB</small> 1.4 V
					Lighting switch PASS	 <small>JPMIA0037GB</small> 1.3 V
					Lighting switch 2ND	 <small>JPMIA0036GB</small> 1.3 V
					Front wiper switch INT/ AUTO	 <small>JPMIA0038GB</small> 1.3 V
					Front wiper switch HI	 <small>JPMIA0040GB</small> 1.3 V
					ON	0 V
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	 <small>JPMIA0012GB</small> 1.1 V

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
112 (R)	Ground	Rain sensor serial link	Input/ Output	Ignition switch ON	 8.7 V
113 (BG)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle Close to 5 V
				Ignition switch ON	When dark outside of the vehicle Close to 0 V
114 (R)	Ground	Clutch interlock switch	Input	Clutch interlock switch	OFF (Clutch pedal is not depressed) 0 V
				Clutch interlock switch	ON (Clutch pedal is depressed) Battery voltage
116 (SB)	Ground	Stop lamp switch 1	Input	—	Battery voltage
118 (BR)	Ground	Stop lamp switch 2 (Without ICC)	Input	Stop lamp switch	OFF (Brake pedal is not depressed) 0 V
				Stop lamp switch	ON (Brake pedal is depressed) Battery voltage
		Stop lamp switch 2 (With ICC)		Stop lamp switch OFF (Brake pedal is not depressed) and ICC brake hold relay OFF	0 V
				Stop lamp switch ON (Brake pedal is depressed) or ICC brake hold relay ON	Battery voltage
119 (SB)	Ground	Driver side door lock assembly (Unlock sensor)	Input	Driver door	 LOCK status (Unlock sensor switch OFF) 1.1 V
				Driver door	UNLOCK status (Unlock switch sensor ON) 0 V
121 (SB)	Ground	Key slot switch	Input	When the Intelligent Key is inserted into key slot	12 V
				When the Intelligent Key is not inserted into key slot	0 V
123 (V)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC 0 V
				Ignition switch	ON Battery voltage

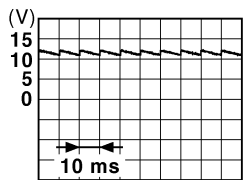
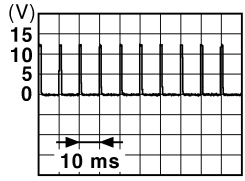
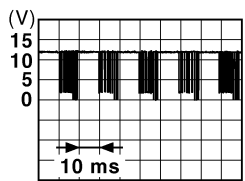
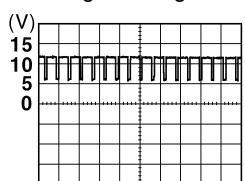
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EXL

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

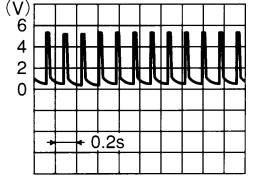

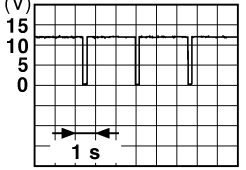
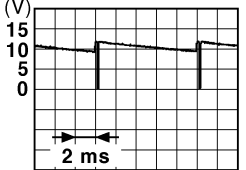

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
124 (R)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	 <small>JPMIA0011GB</small> 11.8 V
					ON (Door open)	0 V
129 (BG)	Ground	Trunk lid opener cancel switch	Input	Trunk lid open- er cancel switch	CANCEL	 <small>JPMIA0012GB</small> 1.1 V
					ON	0 V
132 (V)	Ground	Power window switch communication	Input/ Output	Ignition switch ON	Ignition switch ON	 <small>JPMIA0013GB</small> 10.2 V
					Ignition switch OFF or ACC	12 V
133 (L)	Ground	Push-button ignition switch illumination	Output	Push-button ig- nition switch il- lumination	ON (Tail lamps OFF)	9.5 V
					ON (Tail lamps ON)	<p><b>NOTE:</b> The pulse width of this wave is varied by the illumination bright-ening/dimming level.</p>  <small>JPMIA0159GB</small>
					OFF	0 V
134 (LG)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage
					ON	0 V
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON	Ignition switch ON	0 V
138 (V)	Ground	Receiver and sensor power supply	Output	Ignition switch	OFF	0 V
					ACC or ON	5.0 V

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
139 (L)	Ground	Tire pressure receiver communication	Input/ Output	Ignition switch ON	Standby state	 <small>OCC3881D</small>
					When receiving the signal from the transmitter	 <small>OCC3880D</small>
140*1 (B)	Ground	Selector lever P/N position	Input	Selector lever	P or N position	12 V
					Except P and N positions	0 V
141 (W)	Ground	Security indicator lamp	Output	Security indicator lamp	ON	0 V
					Blinking	 <small>JPMIA0014GB</small> 11.3 V
					OFF	12 V
142 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper volume dial 4)	All switches OFF	0 V
					Lighting switch 1ST	 <small>JPMIA0031GB</small> 10.7 V
					Lighting switch HI	
					Lighting switch 2ND	
					Turn signal switch RH	
143 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switches OFF (Wiper volume dial 4)	0 V
					Front wiper switch HI (Wiper volume dial 4)	 <small>JPMIA0032GB</small> 10.7 V
					Any of the conditions below with all switches OFF <ul style="list-style-type: none"> <li>• Wiper volume dial 1</li> <li>• Wiper volume dial 2</li> <li>• Wiper volume dial 3</li> <li>• Wiper volume dial 6</li> <li>• Wiper volume dial 7</li> </ul>	

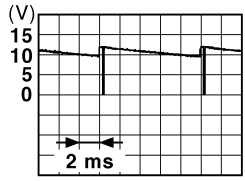
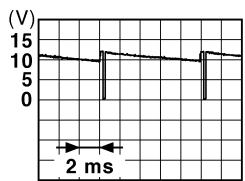
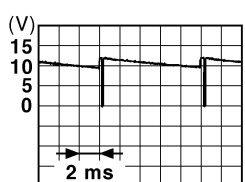
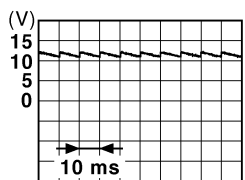
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EXL

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switches OFF (Wiper volume dial 4)	0 V
					Front washer switch ON (Wiper volume dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0033GB</p>
					Any of the conditions below with all switches OFF	
					<ul style="list-style-type: none"> <li>• Wiper volume dial 1</li> <li>• Wiper volume dial 5</li> <li>• Wiper volume dial 6</li> </ul>	
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper volume dial 4)	All switches OFF	0 V
					Front wiper switch INT/ AUTO	 <p style="text-align: right; font-size: small;">JPMIA0034GB</p>
					Front wiper switch LO	
					Lighting switch AUTO	10.7 V
146 (SB)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper volume dial 4)	All switches OFF	0 V
					Front fog lamp switch ON	 <p style="text-align: right; font-size: small;">JPMIA0035GB</p>
					Lighting switch 2ND	
					Lighting switch PASS	
					Turn signal switch LH	10.7 V
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p>
						ON (Door open)
151 (G)	Ground	Rear window defogger relay control	Output	Rear window defogger	Active	0 V
						Not activated

- \*1: A/T models
- \*2: M/T models

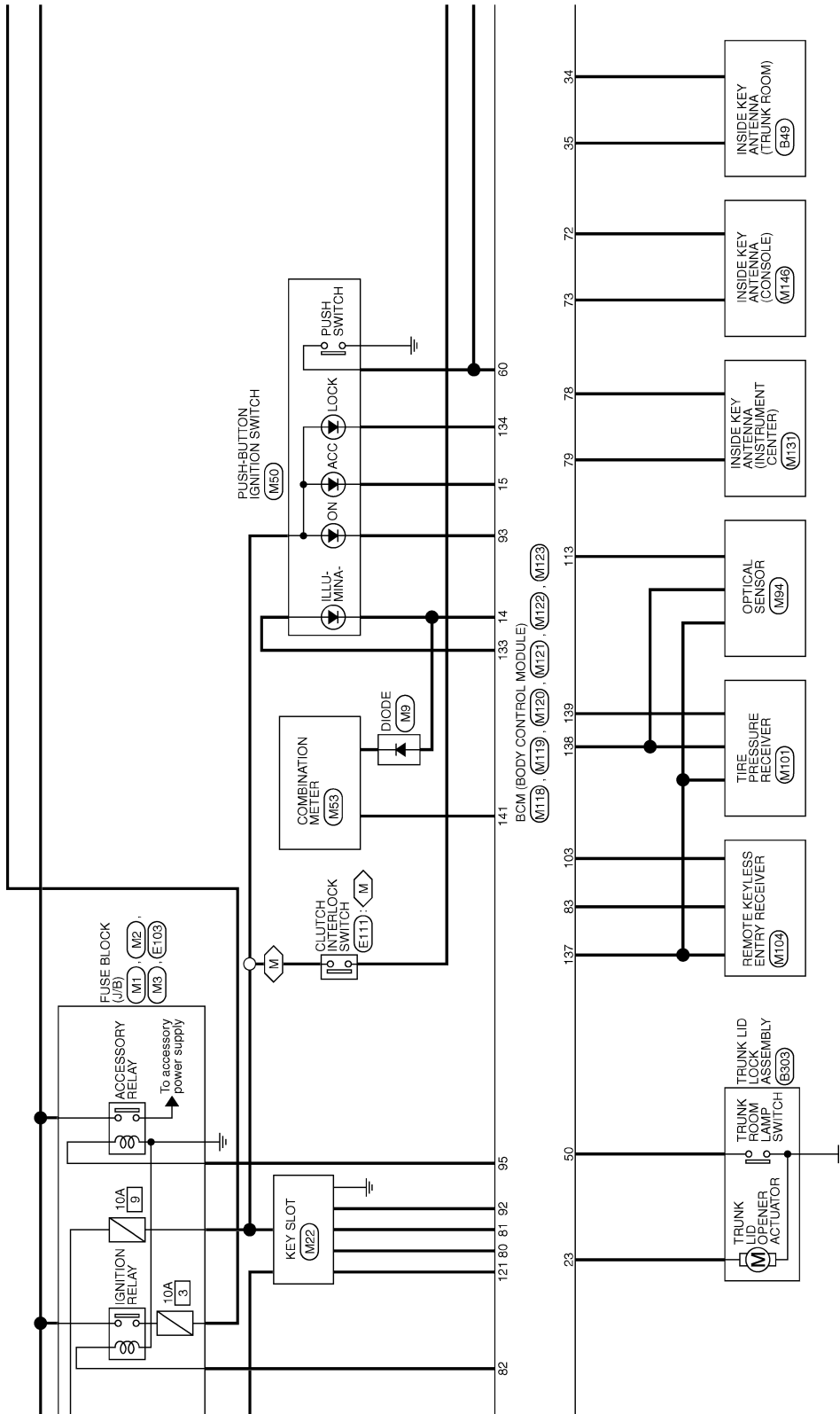


# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

M : With M/T



JRMWC4424GB

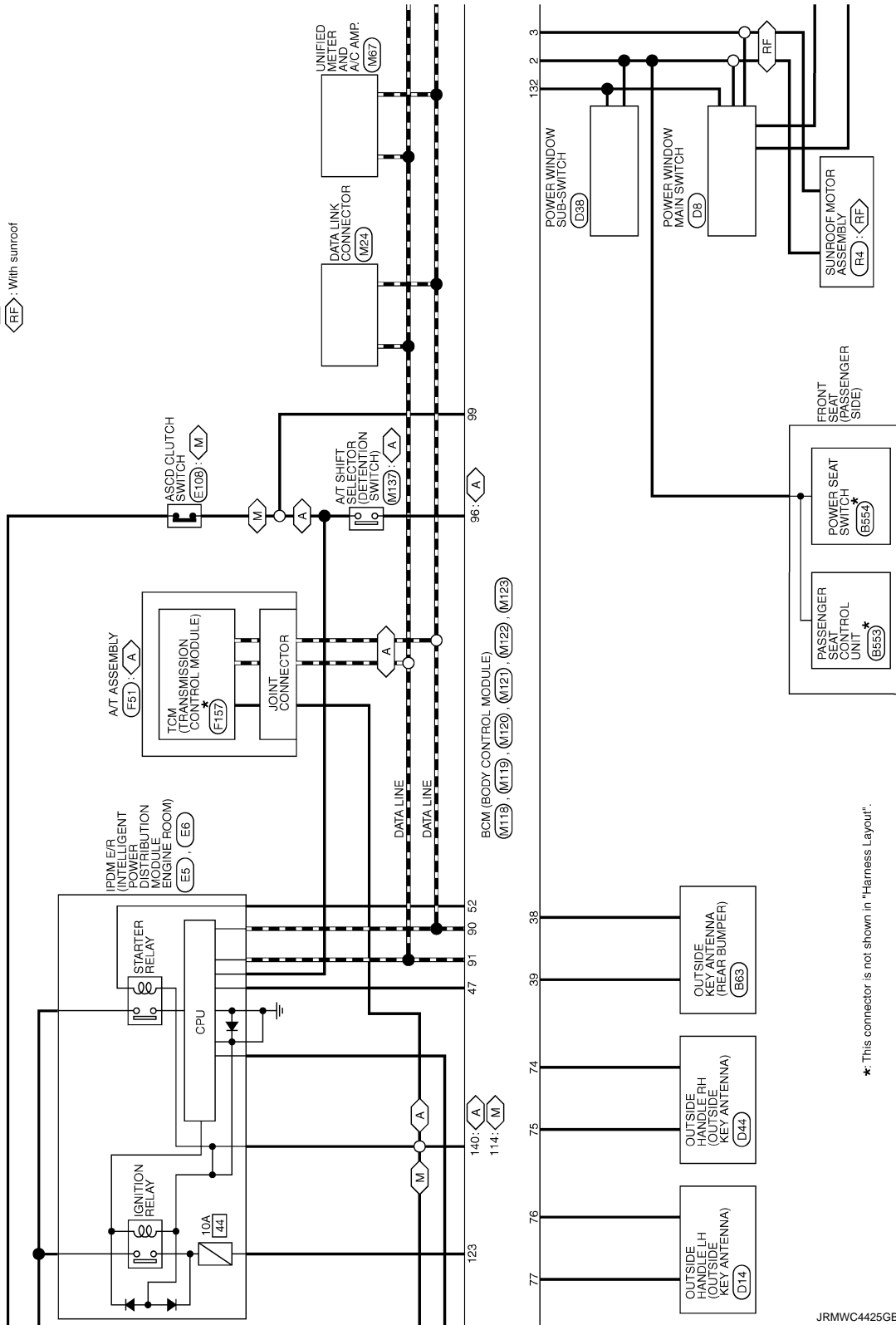


# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

A : With A/T  
M : With M/T  
RF : With sunroof



\*: This connector is not shown in "Harness Layout".

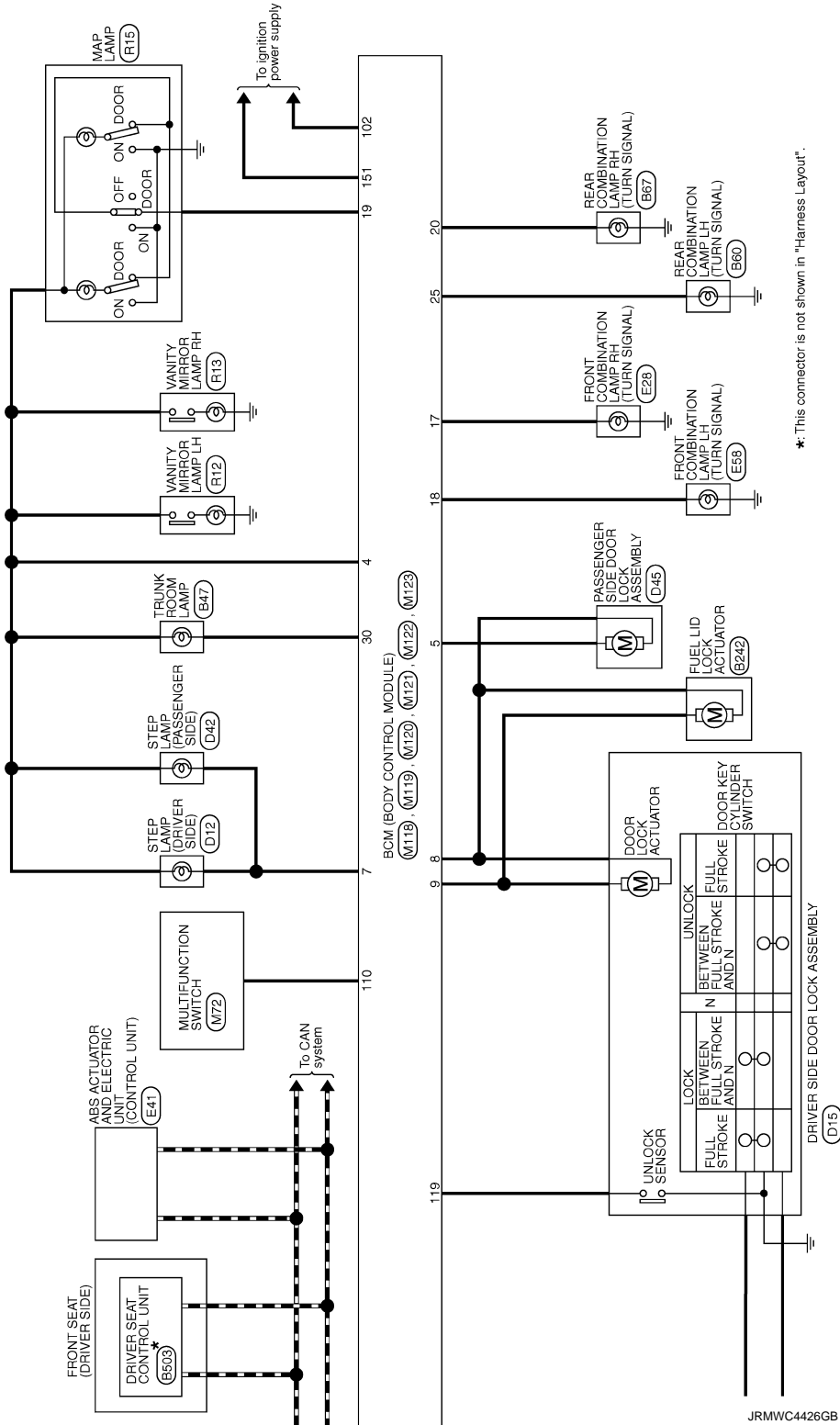
JRMWC4425GB

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



## Fail-safe

INFOID:000000008833027

### FAIL-SAFE CONTROL BY DTC

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

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Display contents of CONSULT	Fail-safe	Cancellation	
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC	A
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC	B
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC	B
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC	B
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch ON → OFF	C
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent <ul style="list-style-type: none"> <li>• Starter control relay signal</li> <li>• Starter relay status signal</li> </ul>	D
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> <li>• Starter motor relay control signal</li> <li>• Starter relay status signal (CAN)</li> </ul>	E
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled <ul style="list-style-type: none"> <li>• IGN relay (IPDM E/R) control signal: OFF (12 V)</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>	F
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 <ul style="list-style-type: none"> <li>• Power position changes to ACC</li> <li>• Receives engine status signal (CAN)</li> </ul>	G
B2617: BCM	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal	H
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal	H
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization	I
B26E8: CLUTCH SW	Inhibit engine cranking	When any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>• Status 1                             <ul style="list-style-type: none"> <li>- Clutch switch signal (CAN from ECM): ON</li> <li>- Clutch interlock switch signal: OFF (0 V)</li> </ul> </li> <li>• Status 2                             <ul style="list-style-type: none"> <li>- Clutch switch signal (CAN from ECM): OFF</li> <li>- Clutch interlock switch signal: ON (Battery voltage)</li> </ul> </li> </ul>	J

## DTC Inspection Priority Chart

INFOID:000000008833028

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	M
2	<ul style="list-style-type: none"> <li>• U1000: CAN COMM</li> <li>• U1010: CONTROL UNIT(CAN)</li> </ul>	N
3	<ul style="list-style-type: none"> <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>	O

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Priority	DTC
4	<ul style="list-style-type: none"> <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/CLUTCH SW</li> <li>• B2605: PNP/CLUTCH SW</li> <li>• B2608: STARTER RELAY</li> <li>• B260A: IGNITION RELAY</li> <li>• B260F: ENG STATE SIG LOST</li> <li>• B2614: BCM</li> <li>• B2615: BCM</li> <li>• B2616: BCM</li> <li>• B2617: BCM</li> <li>• B2618: BCM</li> <li>• B261A: PUSH-BTN IGN SW</li> <li>• B261E: VEHICLE TYPE</li> <li>• B26E8: CLUTCH SW</li> <li>• B26EA: KEY REGISTRATION</li> <li>• C1729: VHCL SPEED SIG ERR</li> <li>• U0415: VEHICLE SPEED</li> </ul>
5	<ul style="list-style-type: none"> <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] RL</li> <li>• C1734: CONTROL UNIT</li> </ul>
6	<ul style="list-style-type: none"> <li>• B2621: INSIDE ANTENNA</li> <li>• B2622: INSIDE ANTENNA</li> <li>• B2623: INSIDE ANTENNA</li> </ul>

## DTC Index

INFOID:000000008833029

### 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 [EXL-25, "COMMON 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	Refer- ence page
No DTC is detected. further testing may be required.	—	—	—	—	—
U1000: CAN COMM	—	—	—	—	<a href="#">BCS-36</a>
U1010: CONTROL UNIT(CAN)	—	—	—	—	<a href="#">BCS-37</a>
U0415: VEHICLE SPEED	—	—	—	—	<a href="#">BCS-38</a>
B2190: NATS ANTENNA AMP	×	—	—	—	<a href="#">SEC-51</a>

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON 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	Refer- ence page	
B2191: DIFFERENCE OF KEY	×	—	—	—	<a href="#">SEC-54</a>	A
B2192: ID DISCORD BCM-ECM	×	—	—	—	<a href="#">SEC-55</a>	B
B2193: CHAIN OF BCM-ECM	×	—	—	—	<a href="#">SEC-57</a>	
B2195: ANTI-SCANNING	×	—	—	—	<a href="#">SEC-58</a>	C
B2553: IGNITION RELAY	—	×	—	—	<a href="#">PCS-48</a>	
B2555: STOP LAMP	—	×	—	—	<a href="#">SEC-59</a>	D
B2556: PUSH-BTN IGN SW	—	×	×	—	<a href="#">SEC-61</a>	
B2557: VEHICLE SPEED	×	×	×	—	<a href="#">SEC-63</a>	
B2560: STARTER CONT RELAY	×	×	×	—	<a href="#">SEC-64</a>	E
B2562: LOW VOLTAGE	—	×	—	—	<a href="#">BCS-39</a>	
B2601: SHIFT POSITION	×	×	×	—	<a href="#">SEC-65</a>	F
B2602: SHIFT POSITION	×	×	×	—	<a href="#">SEC-68</a>	
B2603: SHIFT POSI STATUS	×	×	×	—	<a href="#">SEC-70</a>	
B2604: PNP/CLUTCH SW	×	×	×	—	<a href="#">SEC-73</a>	G
B2605: PNP/CLUTCH SW	×	×	×	—	<a href="#">SEC-75</a>	
B2608: STARTER RELAY	×	×	×	—	<a href="#">SEC-77</a>	
B260A: IGNITION RELAY	×	×	×	—	<a href="#">PCS-50</a>	H
B260F: ENG STATE SIG LOST	×	×	×	—	<a href="#">SEC-79</a>	
B2614: BCM	—	×	×	—	<a href="#">PCS-52</a>	I
B2615: BCM	—	×	×	—	<a href="#">PCS-54</a>	
B2616: BCM	—	×	×	—	<a href="#">PCS-56</a>	
B2617: BCM	×	×	×	—	<a href="#">SEC-83</a>	J
B2618: BCM	×	×	×	—	<a href="#">PCS-58</a>	
B261A: PUSH-BTN IGN SW	—	×	×	—	<a href="#">PCS-59</a>	K
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	<a href="#">SEC-85</a>	
B2621: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-55</a>	EXL
B2622: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-57</a>	
B2623: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-59</a>	
B26E8: CLUTCH SW	×	×	×	—	<a href="#">SEC-80</a>	M
B26EA: KEY REGISTRATION	—	×	× (Turn ON for 15 seconds)	—	<a href="#">SEC-82</a>	
C1704: LOW PRESSURE FL	—	—	—	×	<a href="#">WT-19</a>	N
C1705: LOW PRESSURE FR	—	—	—	×		
C1706: LOW PRESSURE RR	—	—	—	×		
C1707: LOW PRESSURE RL	—	—	—	×		
C1708: [NO DATA] FL	—	—	—	×	<a href="#">WT-21</a>	O
C1709: [NO DATA] FR	—	—	—	×		
C1710: [NO DATA] RR	—	—	—	×		
C1711: [NO DATA] RL	—	—	—	×		

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

[XENON 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	Refer- ence page
C1716: [PRESSDATA ERR] FL	—	—	—	×	<a href="#">WT-24</a>
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	<a href="#">WT-25</a>
C1734: CONTROL UNIT	—	—	—	×	<a href="#">WT-26</a>

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

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

### Reference Value

INFOID:000000008833030

### 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 %
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND HI or AUTO (Light is illuminated)		On
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		<ul style="list-style-type: none"> <li>• Front fog lamp switch ON</li> <li>• Daytime running light activated (Only for Canada)</li> </ul>	On
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	Stop
		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	Off
		Front wiper stops at fail-safe operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
PUSH SW	Release the push-button ignition switch		Off
	Press the push-button ignition switch		On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N (A/T models)	Off
		Release clutch pedal (M/T models)	
	Ignition switch ON	Selector lever in P or N position (A/T models)	On
		Depress clutch pedal (M/T models)	

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Monitor Item	Condition	Value/Status
ST RLY CONT	Ignition switch ON	Off
	At engine cranking	On
IHBT RLY -REQ	Ignition switch ON	Off
	At engine cranking	On
ST/INHI RLY	Ignition switch ON	Off
	At engine cranking	INHI ON → ST ON
	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	UNKWN
DETENT SW	Ignition switch ON <ul style="list-style-type: none"> <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 <b>NOTE:</b> Fixed On for M/T models	On
S/L RLY -REQ	<b>NOTE:</b> The item is indicated, but not monitored.	Off
S/L STATE	<b>NOTE:</b> The item is indicated, but not monitored.	UNLOCK
DTRL REQ	<b>NOTE:</b> The item is indicated, but not monitored.	Off
OIL P SW	Ignition switch OFF, ACC or engine running	Open
	Ignition switch ON	Close
HOOD SW	Close the hood	Off
	Open the hood	On
HL WASHER REQ	<b>NOTE:</b> The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	<ul style="list-style-type: none"> <li>• Panic alarm is activated</li> <li>• Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM</li> </ul>	On
HORN CHIRP	Not operating	Off
	Door locking with Intelligent Key (horn chirp mode)	On
CRNRNG LMP REQ	<b>NOTE:</b> The item is indicated, but not monitored.	Off

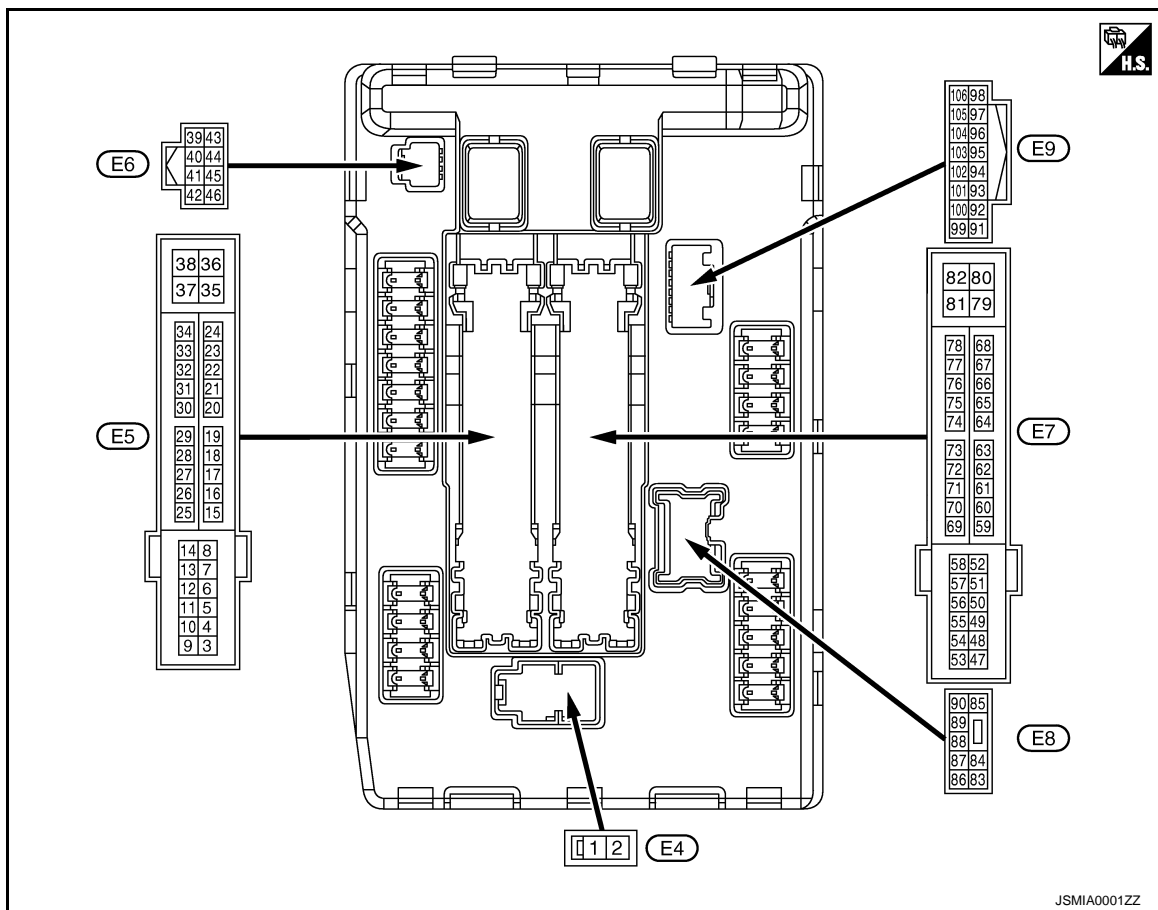


# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

## TERMINAL LAYOUT



## PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
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 (V)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch LO	Battery voltage
5 (L)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch HI	Battery voltage
6*4 (SB)	Ground	Daytime running light relay	Input	Ignition switch OFF		Battery voltage
7 (R)	Ground	Tail, license plate lamps & illuminations	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
13 (Y)	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
				<ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
16 (LG)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V
					Any position other than front wiper stop position	Battery voltage
19 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Battery voltage	
25 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Battery voltage	
26*1 (R)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V	
				Ignition switch ON	Battery voltage	
27 (BG)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC	Battery voltage	
				Ignition switch ON	0 V	
28 (L)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch	0 V	
				Release the push-button ignition switch	Battery voltage	
30 (GR)	Ground	Starter relay control	Input	A/T models	Selector lever in any position other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ignition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition switch 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 (Y)	Ground	Cooling fan relay control	Input	Ignition switch OFF or ACC	0 V	
				Ignition switch ON	0.7 V	
43*2 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	Press the selector button (selector lever P)	Battery voltage
					<ul style="list-style-type: none"> <li>• Selector lever in any position other than P</li> <li>• Release the selector button (selector lever P)</li> </ul>	0 V
44 (LG)	Ground	Horn relay control	Input	The horn is deactivated	Battery voltage	
				The horn is activated	0 V	
45 (G)	Ground	Anti theft horn relay control	Input	The horn is deactivated	Battery voltage	
				The horn is activated	0 V	
46 (W)	Ground	Starter relay control	Input	A/T models	Selector lever in any position other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ignition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

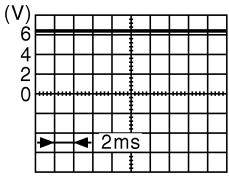
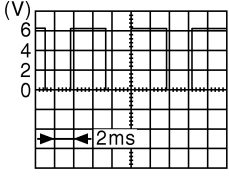
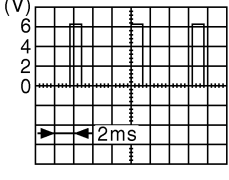
[XENON TYPE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)	
48 (BR)	Ground	A/C relay power supply	Output	Engine run- ning	A/C switch OFF	0 V	A
					A/C switch ON (A/C compressor is oper- ating)	Battery voltage	B
49 (BG)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	C
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning igni- tion switch OFF)</li> </ul>		Battery voltage	D
51 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	E
				Ignition switch ON		Battery voltage	F
53 (W)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	F
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning igni- tion switch OFF)</li> </ul>		Battery voltage	G
54 (P)	Ground	Throttle control motor re- lay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	H
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning igni- tion switch OFF)</li> </ul>		Battery voltage	I
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage	J
56 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	K
				Ignition switch ON		Battery voltage	
57 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	EXL
				Ignition switch ON		Battery voltage	
58*2 (GR)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	M
				Ignition switch ON		Battery voltage	
69 (BR)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage	N
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning igni- tion switch OFF)</li> </ul>		0 - 1.5 V	
70 (BG)	Ground	Throttle control motor re- lay control	Output	Ignition switch ON → OFF		0 -1.0 V ↓ Battery voltage ↓ 0 V	P
				Ignition switch ON		0 - 1.0 V	
73*3 (P)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
				Ignition switch ON		Battery voltage	

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
74 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
75 (SB)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
					Engine running	Battery voltage
76 (Y)	Ground	Power generation command signal	Output	Ignition switch ON		 <p style="text-align: center;">6.3 V</p>
				40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <p style="text-align: center;">3.8 V</p>
				80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <p style="text-align: center;">1.4 V</p>
77 (R)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		0 - 1.0 V
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83 (R)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
84 (P)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V
					<ul style="list-style-type: none"> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V
					<ul style="list-style-type: none"> <li>• Front fog lamp switch ON</li> <li>• Daytime running light activated (Only for Canada)</li> </ul>	Battery voltage
88 (G)	Ground	Washer pump power sup- ply	Output	Ignition switch ON		Battery voltage
89 (BR)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					<ul style="list-style-type: none"> <li>• Lighting switch HI</li> <li>• Lighting switch PASS</li> </ul>	Battery voltage
90 (LG)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					<ul style="list-style-type: none"> <li>• Lighting switch HI</li> <li>• Lighting switch PASS</li> </ul>	Battery voltage
91 (P)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
92 (BG)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 - 5 V
104 (LG)	Ground	Hood switch	Input	Close the hood		Battery voltage
				Open the hood		0 V
105*5 (L)	Ground	Daytime running light relay control	Output	<ul style="list-style-type: none"> <li>• Parking lamp</li> <li>• License plate lamp</li> <li>• Tail lamp</li> </ul>	Turned OFF	Battery voltage
					Turned ON	0 V

- \*1: Only for the models with ICC system
- \*2: A/T models only
- \*3: M/T models only
- \*4: Models with daytime running light system

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
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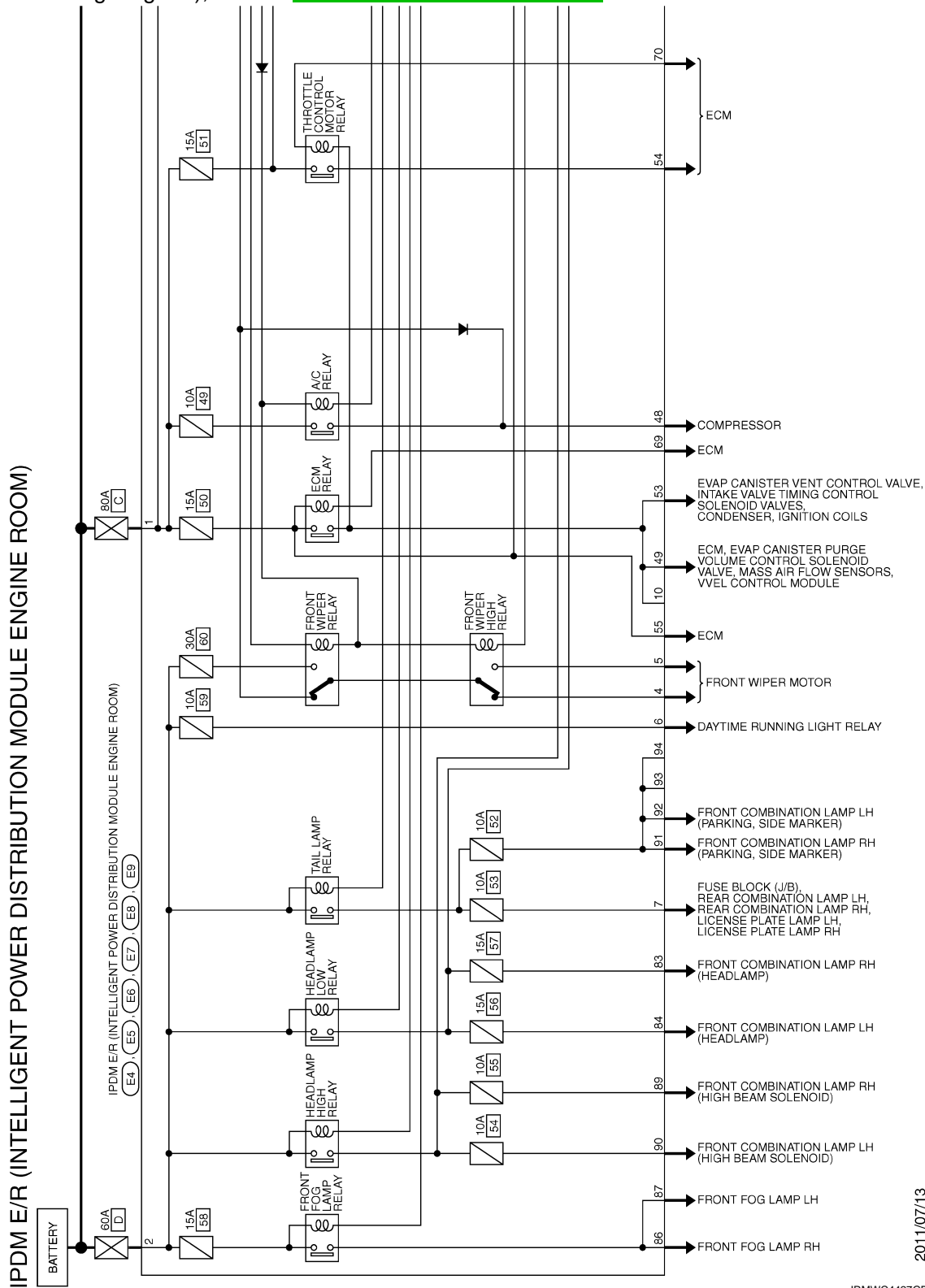
< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

## Wiring Diagram - IPDM E/R -

INFOID:000000008833031

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



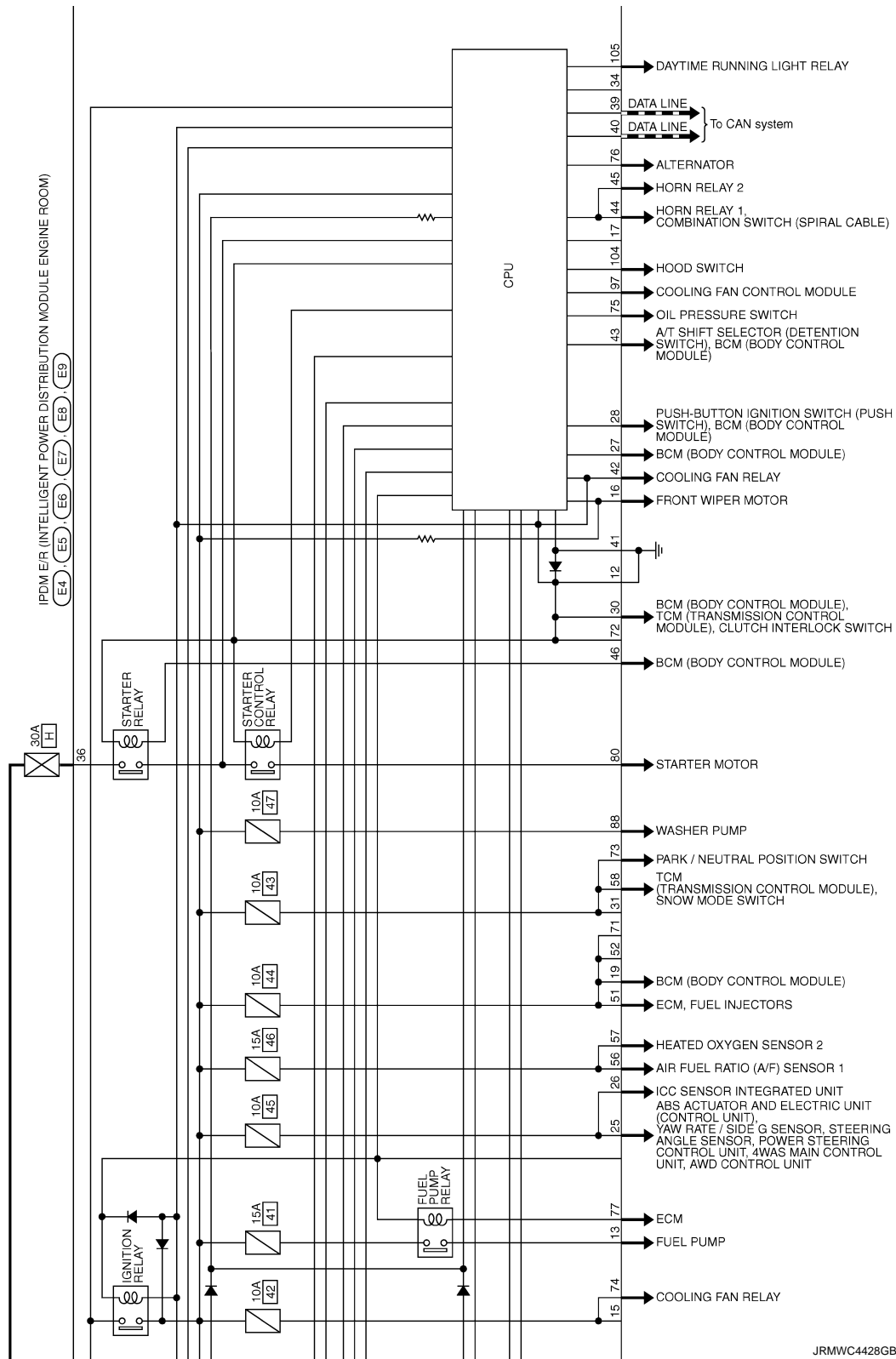
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JRMWC4427GB

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

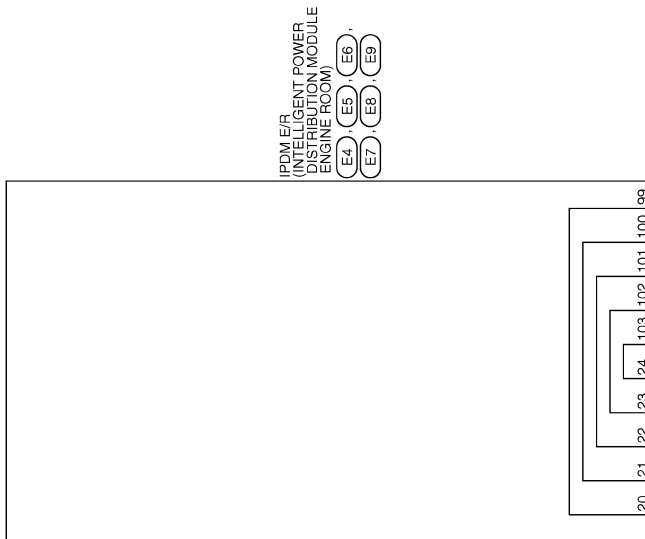
< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]



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JRMWC4429GB

### Fail-safe

INFOID:000000008833032

### CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM



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

< ECU DIAGNOSIS INFORMATION >

[XENON TYPE]

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 style="list-style-type: none"> <li>• Parking lamps</li> <li>• Side maker lamp</li> <li>• License plate lamps</li> <li>• Illuminations</li> <li>• Tail lamps</li> </ul>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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>
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 coil circuit.
- 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		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition relay excitation coil side		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	<ul style="list-style-type: none"> <li>• Detects DTC "B2098: IGN RELAY ON"</li> <li>• Turns ON the tail lamp relay for 10 minutes</li> </ul>
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	The front wiper stop position signal does not change for 10 seconds.

**NOTE:**

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

[XENON TYPE]

## < ECU DIAGNOSIS INFORMATION >

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:000000008833033

#### 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 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
  - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

×: Applicable

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	<a href="#">PCS-14</a>
B2098: IGN RELAY ON	×	<a href="#">PCS-15</a>
B2099: IGN RELAY OFF	—	<a href="#">PCS-16</a>
B210B: START CONT RLY ON	—	<a href="#">SEC-88</a>
B210C: START CONT RLY OFF	—	<a href="#">SEC-89</a>
B210D: STARTER RELAY ON	—	<a href="#">SEC-90</a>
B210E: STARTER RELAY OFF	—	<a href="#">SEC-91</a>
B210F: INTRLCK/PNP SW ON	—	<a href="#">SEC-93</a>
B2110: INTRLCK/PNP SW OFF	—	<a href="#">SEC-95</a>

# EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

## SYMPTOM DIAGNOSIS

### EXTERIOR LIGHTING SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000008159493

**CAUTION:**

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

Symptom		Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	<ul style="list-style-type: none"> <li>Fuse</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>Front combination lamp (High beam solenoid)</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <a href="#">EXL-37</a> .
	Both sides	<b>Symptom diagnosis</b> "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to <a href="#">EXL-118</a> .	
High beam indicator lamp is not turned ON. (Headlamp switches to the high beam.)		<ul style="list-style-type: none"> <li>Combination meter</li> <li>Unified meter and A/C amp.</li> </ul>	<ul style="list-style-type: none"> <li>Unified meter and A/C amp. Data monitor "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) Active test "HEADLAMP"</li> </ul>
Headlamp does not switch to the low beam.	One side	Front combination lamp (High beam solenoid)	—
	Both sides	<ul style="list-style-type: none"> <li>Combination switch</li> <li>Harness between the combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-76</a> .
		High beam request signal	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	—
Headlamp is not turned ON.	One side	<ul style="list-style-type: none"> <li>Fuse</li> <li>Xenon bulb</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <a href="#">EXL-39</a> .
	Both sides	<b>Symptom diagnosis</b> "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <a href="#">EXL-119</a> .	
Headlamp is not turned OFF.	When the ignition switch is turned ON		
	The ignition switch is turned OFF (After activating the battery saver).	IPDM E/R	—
Headlamp is not turned ON/OFF with the lighting switch AUTO.			
	<ul style="list-style-type: none"> <li>Combination switch</li> <li>Harness between the combination switch and BCM</li> <li>BCM</li> </ul>		Combination switch Refer to <a href="#">BCS-76</a> .
		<ul style="list-style-type: none"> <li>Optical sensor</li> <li>Harness between the optical sensor and BCM</li> <li>BCM</li> </ul>	Optical sensor Refer to <a href="#">EXL-53</a> .

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# EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symptom		Possible cause	Inspection item
Front fog lamp is not turned ON.	One side	<ul style="list-style-type: none"> <li>• Front fog lamp bulb</li> <li>• Harness between IPDM E/R and the front fog lamp</li> <li>• IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <a href="#">EXL-46</a> .
	Both side	<b>Symptom diagnosis</b> "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to <a href="#">EXL-121</a> .	
Front fog lamp is not turned ON.		Refer to <a href="#">EXL-121</a> .	
Parking lamp is not turned ON.		<ul style="list-style-type: none"> <li>• Parking lamp bulb</li> <li>• Harness between daytime running light relay and the front combination lamp</li> </ul>	Parking lamp circuit Refer to <a href="#">EXL-48</a> .
Tail lamp is not turned ON.		<ul style="list-style-type: none"> <li>• Harness between daytime running light relay and the rear combination lamp</li> <li>• Rear combination lamp</li> </ul>	Tail lamp circuit Refer to <a href="#">EXL-58</a> .
License plate lamp is not turned ON.		<ul style="list-style-type: none"> <li>• License plate lamp bulb</li> <li>• Harness between daytime running light relay and the license plate lamp</li> </ul>	License plate lamp circuit Refer to <a href="#">EXL-60</a> .
Tail lamp and the license plate lamp are not turned ON.		<ul style="list-style-type: none"> <li>• Fuse</li> <li>• Harness between daytime running light relay and the rear combination lamp</li> </ul>	Tail lamp circuit Refer to <a href="#">EXL-58</a> .
<ul style="list-style-type: none"> <li>• Parking lamp, the tail lamp and the license plate lamp are not turned ON.</li> <li>• Parking lamp, the tail lamp and the license plate lamp are not turned OFF.</li> </ul> (Each illumination is turned ON/OFF.)		<b>Symptom diagnosis</b> "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to <a href="#">EXL-120</a> .	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation.)	<ul style="list-style-type: none"> <li>• Harness between BCM and each turn signal lamp</li> <li>• Turn signal lamp bulb</li> </ul>	Turn signal lamp circuit Refer to <a href="#">EXL-50</a> .
	Indicator lamp is included	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between the combination switch and BCM</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-76</a> .
Turn signal indicator lamp does not blink. (The turn signal indicator lamp is normal.)	One side	Combination meter	—
	Both sides (Always)	<ul style="list-style-type: none"> <li>• Turn signal indicator lamp signal</li> <li>- Unified meter and A/C amp.</li> <li>- BCM</li> <li>• Combination meter</li> </ul>	<ul style="list-style-type: none"> <li>• Unified meter and A/C amp.</li> <li>Data monitor "TURN IND"</li> <li>• BCM (FLASHER)</li> <li>Active test "FLASHER"</li> </ul>
	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	<ul style="list-style-type: none"> <li>• The combination meter power supply and the ground circuit</li> <li>• Combination meter</li> </ul>	Combination meter Power supply and the ground circuit Refer to <a href="#">MWI-51</a> .
<ul style="list-style-type: none"> <li>• Hazard warning lamp does not activate.</li> <li>• Hazard warning lamp continues activating.</li> </ul> (Turn signal is normal.)		<ul style="list-style-type: none"> <li>• Hazard switch</li> <li>• Harness between the hazard switch and BCM</li> <li>• BCM</li> </ul>	Hazard switch Refer to <a href="#">EXL-56</a> .

# NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

## NORMAL OPERATING CONDITION

### Description

INFOID:000000008159494

#### 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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EXL

# BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

## BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

### Description

INFOID:000000008159495

The headlamp (both sides) does not switch to the high beam when setting to the lighting switch HI or PASS.

### Diagnosis Procedure

INFOID:000000008159496

#### 1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to [BCS-76, "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
HL HI REQ	Lighting switch (2ND)	HI or PASS	On
		Except for HI or PASS	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

#### 3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to [EXL-37](#).

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

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

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

### Description

INFOID:000000008159497

The headlamps (both sides) are not turned ON in any condition.

### Diagnosis Procedure

INFOID:000000008159498

#### 1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to [BCS-76. "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

 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
		OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

#### 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to [EXL-39](#).

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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EXL

# 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:000000008159499

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

### Diagnosis Procedure

INFOID:000000008159500

#### 1. SYMPTOM CONFIRMATION

Turn the lighting switch 1ST.

Are each illumination turned ON?

- YES >> GO TO 4.
- NO >> GO TO 2.

#### 2. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to [BCS-76. "Symptom Table"](#).

Is the combination switch normal?

- YES >> GO TO 3.
- NO >> Repair or replace the malfunctioning part.

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

Ⓢ 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 REQ	Lighting switch	1ST	On
		OFF	Off

Is the item status normal?

- YES >> Replace IPDM E/R.
- NO >> Replace BCM.

#### 4. DAYTIME RUNNING LIGHT RELAY CIRCUIT INSPECTION

Check the daytime running light relay circuit. Refer to [EXL-43. "Component Function Check"](#).

Is the daytime running light relay circuit normal?

- YES >> Check the parking lamp circuit. Refer to [EXL-48. "Diagnosis Procedure"](#).
- NO >> Repair or replace the malfunctioning part.



# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

## BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

### Description

INFOID:000000008159501

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

### Diagnosis Procedure

INFOID:000000008159502

#### 1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to [BCS-76. "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

 CONSULT 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 (Lighting switch 2ND)	ON	On
		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-46](#).

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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EXL

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000008159503

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.

#### Precaution for Battery Service

INFOID:000000008159504

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

#### Precautions For Xenon Headlamp Service

INFOID:000000008159505

**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.

# PRECAUTIONS

< PRECAUTION >

[XENON TYPE]

- 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.).

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# HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

## PERIODIC MAINTENANCE

### HEADLAMP AIMING ADJUSTMENT

#### Description

INFOID:000000008159506

#### PREPARATION BEFORE ADJUSTING

##### NOTE:

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

Before performing aiming adjustment, check the following.

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

##### NOTE:

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

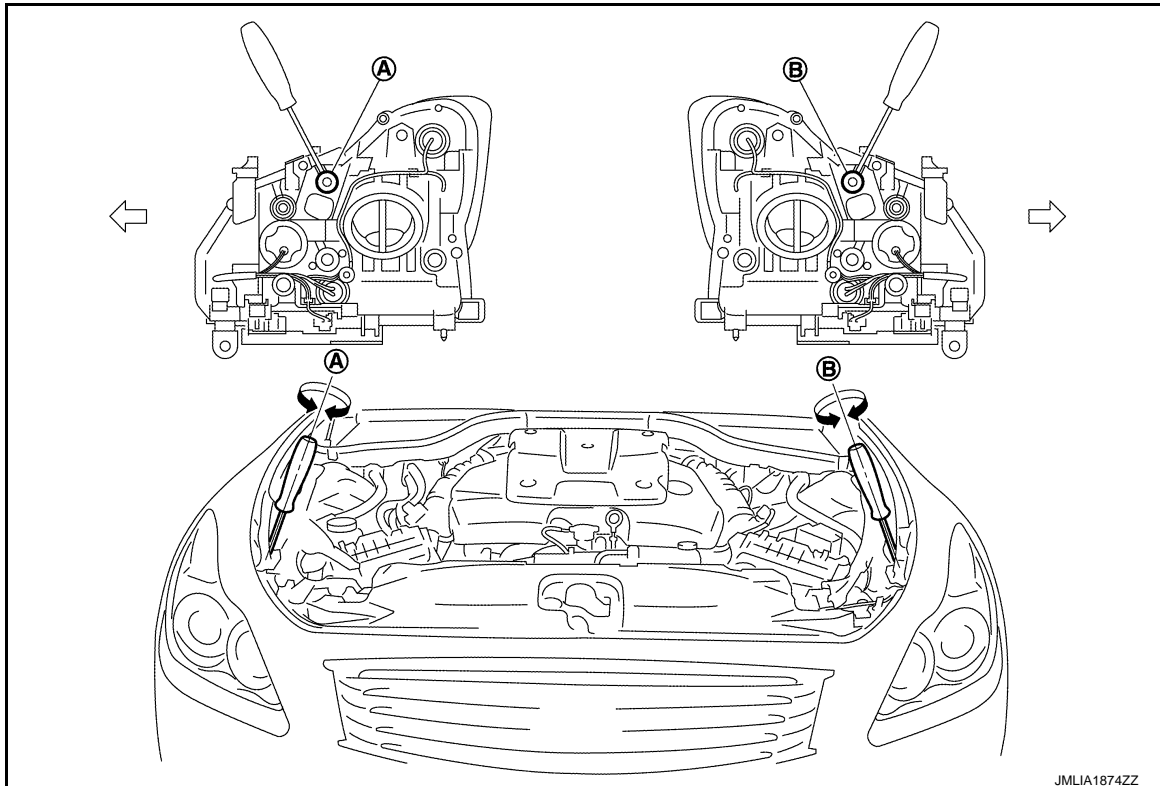
- Wipe out dirt on the headlamp.

##### CAUTION:

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

- Ride alone on the driver seat.

#### AIMING ADJUSTMENT SCREW



A Headlamp (RH) adjustment screw    B. Headlamp (LH) adjustment screw

↔: Vehicle center

Adjustment screw	Screw driver rotation	Facing direction
A    Headlamp (RH)	Clockwise	UP
	Counterclockwise	DOWN

# HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

Adjustment screw	Screw driver rotation	Facing direction
B Headlamp (LH)	Clockwise	UP
	Counterclockwise	DOWN

## Aiming Adjustment Procedure

INFOID:000000008159507

- Place the screen.

**NOTE:**

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

- Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the headlamp center and the screen.

- Start the engine. Turn the headlamp (LO) ON.

**NOTE:**

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

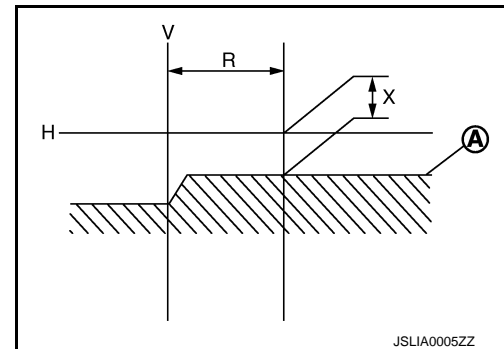
**CAUTION:**

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

- 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 ± 175 mm (13.78 ± 6.89 in)**

Low beam distribution on the screen

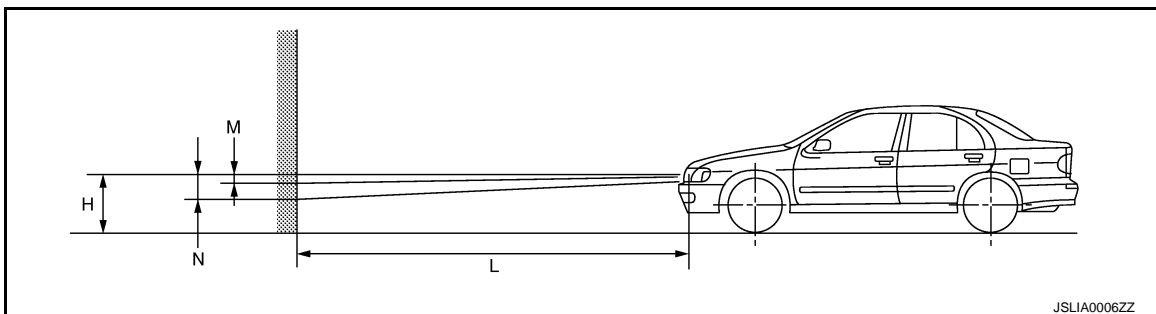


- Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

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]

## FRONT FOG LAMP AIMING ADJUSTMENT

### Description

INFOID:000000008159508

### PREPARATION BEFORE ADJUSTING

#### NOTE:

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

Before performing aiming adjustment, check the following.

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

#### NOTE:

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

- Wipe out dirt on the headlamp.

#### CAUTION:

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

- Ride alone on the driver seat.

### AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

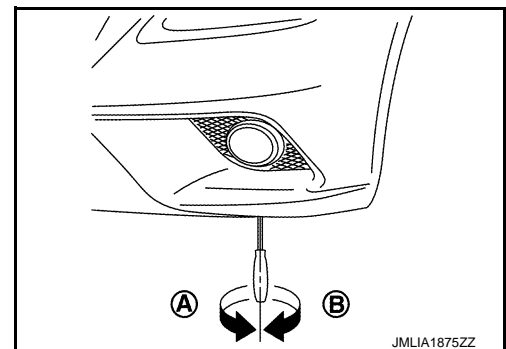
A: UP

B: DOWN

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

#### NOTE:

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



### Aiming Adjustment Procedure

INFOID:000000008159509

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.**

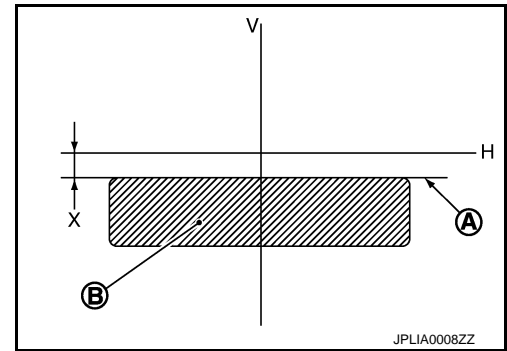
4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 200 mm (7.87 in).

# FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

Front fog lamp light distribution on the screen



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

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EXL

# FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

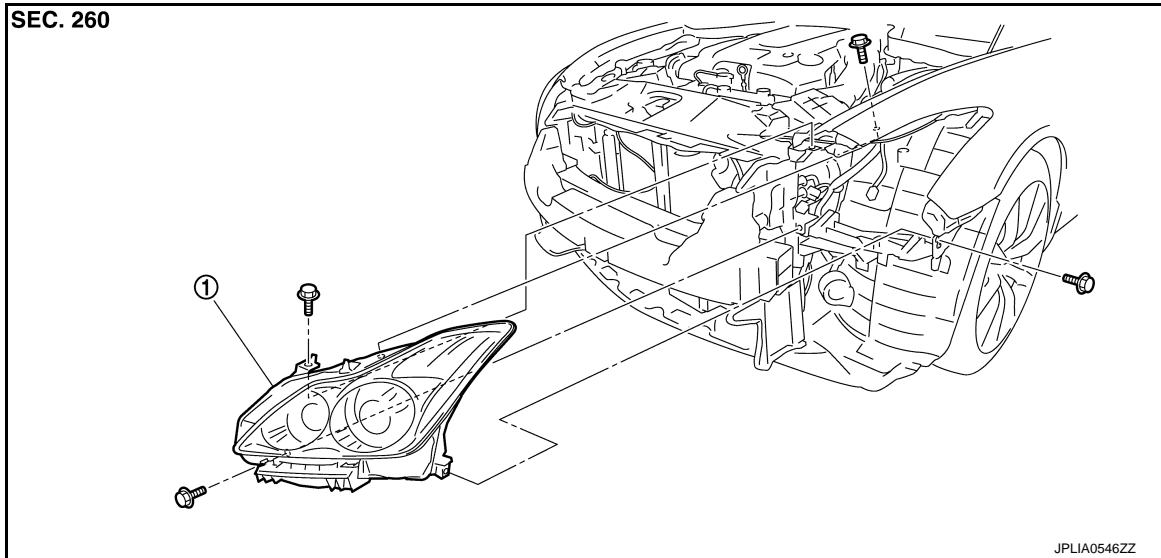
## REMOVAL AND INSTALLATION

### FRONT COMBINATION LAMP

Exploded View

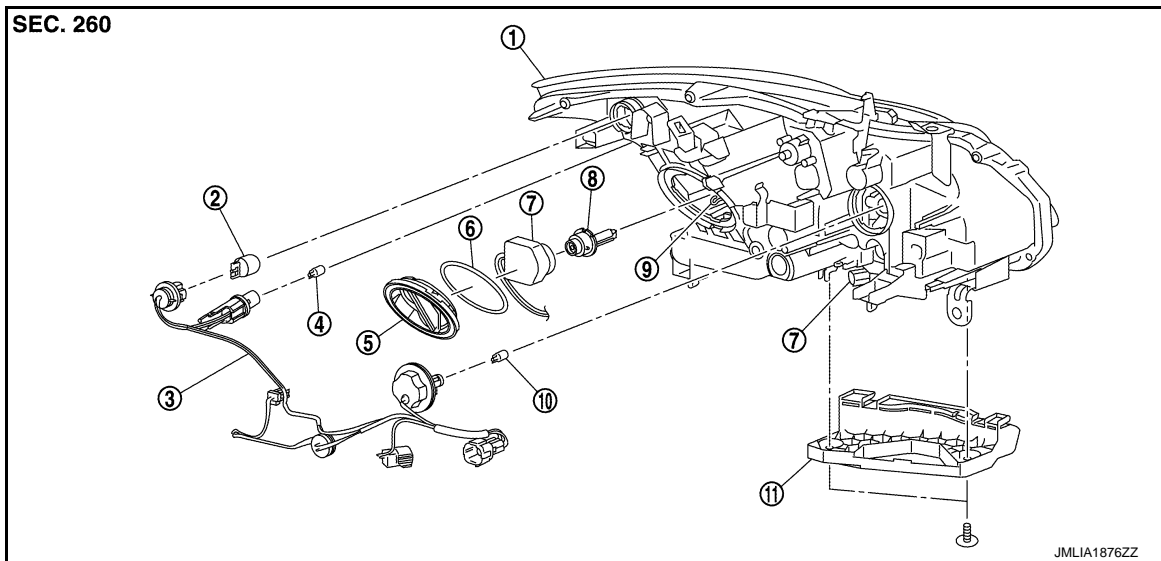
INFOID:000000008159510

#### REMOVAL



1. Front combination lamp

#### DISASSEMBLY



- |  |                                |                      |
|--|--------------------------------|----------------------|
| 1. Headlamp housing assembly                     | 2. Front turn signal lamp bulb | 3. Harness connector |
| 4. Side marker lamp bulb                         | 5. Resin cap                   | 6. Seal packing      |
| 7. Xenon bulb socket & HID control unit assembly | 8. Xenon bulb                  | 9. Retaining spring  |
| 10. Parking lamp bulb                            | 11. Bumper bracket             |                      |

**CAUTION:**  
HID control unit and xenon bulb socket cannot be disassembled.



# FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## Removal and Installation

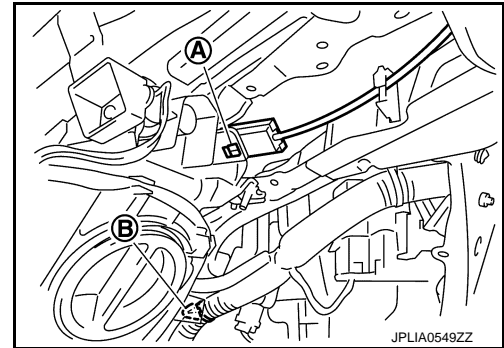
INFOID:000000008159511

### REMOVAL

#### CAUTION:

Disconnect the battery negative terminal or remove the fuse.

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



### INSTALLATION

Install in the reverse order of removal.

#### NOTE:

After installation, perform aiming adjustment. Refer to [EXL-124, "Description"](#).

### Replacement

INFOID:000000008159512

#### CAUTION:

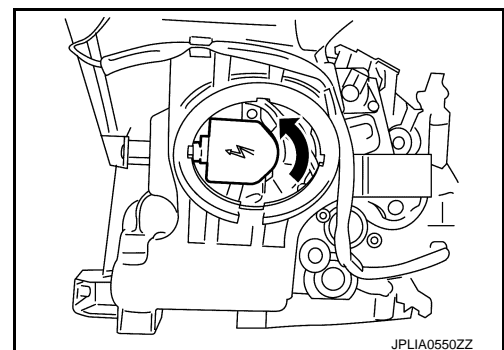
- Disconnect the battery negative terminal or remove the fuse.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is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

1. Remove the fender protector. Keep a service area. Refer to [EXT-26, "FENDER PROTECTOR : Exploded View"](#).
2. Rotate the resin cap counterclockwise and unlock it.
3. Rotate the bulb socket counterclockwise and unlock it.
4. Remove the retaining spring lock. Remove the bulb from the headlamp housing assembly.

#### CAUTION:

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



### PARKING LAMP BULB

1. Remove the air cleaner case. Refer to [EM-27, "Exploded View"](#).
2. Rotate the bulb socket counterclockwise and unlock it.
3. Remove the bulb from the bulb socket.

### FRONT TURN SIGNAL LAMP BULB

1. Remove the fender protector. Keep a service area. Refer to [EXT-26, "FENDER PROTECTOR : Exploded View"](#).

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# FRONT COMBINATION LAMP

[XENON TYPE]

## < REMOVAL AND INSTALLATION >

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

### SIDE MARKER LAMP BULB

1. Remove the fender protector. Keep a service area. Refer to [EXT-26. "FENDER PROTECTOR : Exploded View"](#).
2. Rotate the bulb socket counterclockwise and unlock it.
3. Remove the bulb from the bulb socket.

### Disassembly and Assembly

INFOID:000000008159513

#### DISASSEMBLY

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.
4. 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.
7. 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 side marker lamp bulb socket counterclockwise and unlock it.
10. Remove the bulb from the side marker lamp bulb socket.
11. Rotate the resin cap counterclockwise and unlock it.

#### ASSEMBLY

Assemble in the reverse order of disassembly.

#### **CAUTION:**

**After installing the bulb, install the resin cap and the bulb socket securely for watertightness.**

### Inspection After Installation

INFOID:000000008159514

#### **CAUTION:**

**Temporarily install the headlamp on the vehicle. Connect the battery to the connector (vehicle side) when checking ON/OFF status.**

#### XENON HEADLAMP LIGHTING CHECK

Check the following item, when there is abnormality replace the xenon headlamp assembly.

1. Xenon bulb is cold condition (turn OFF more than 10 minutes), and repetition does headlamp turned ON/OFF, check that a headlamp illuminated it surely.
2. Headlamp is turn ON until the xenon bulb becomes stable condition (for about 5 minutes) from cold condition, check that there are not on and off light, abnormality such as blinking.
3. Xenon bulb is warm condition (turn ON more than 15 minutes and turn OFF for 1 minute), and repetition does headlamp turned ON/OFF, check that a headlamp illuminated it surely.
4. Headlamp is turn ON for about 30 minutes, check that there are not on and off light, abnormality such as blinking whether brightness of right and left does not have a difference.

# FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

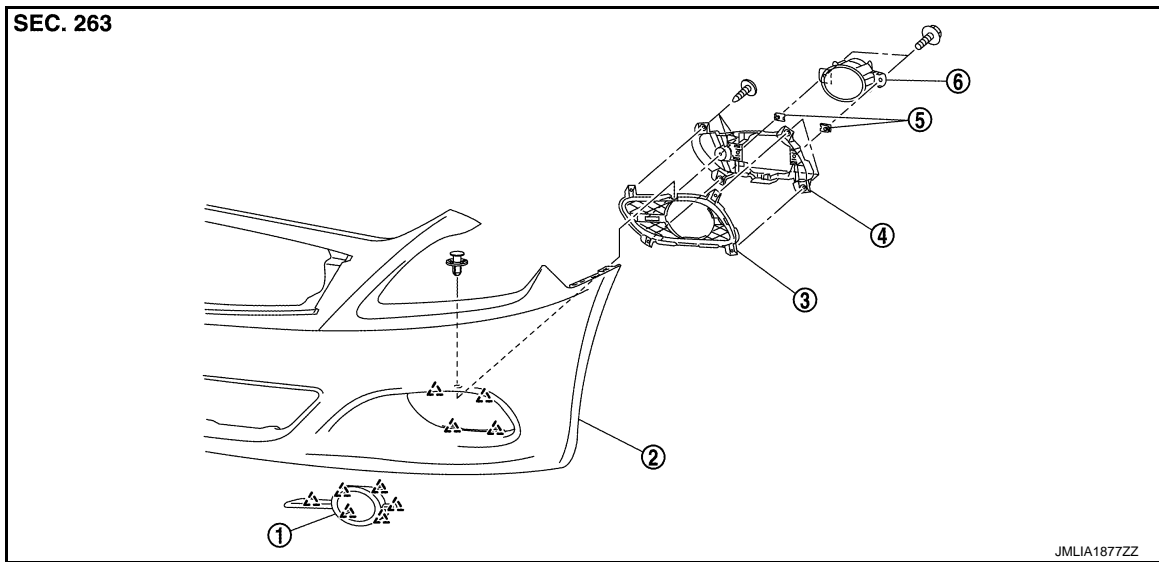
[XENON TYPE]

## FRONT FOG LAMP


Exploded View

INFOID:000000008159515

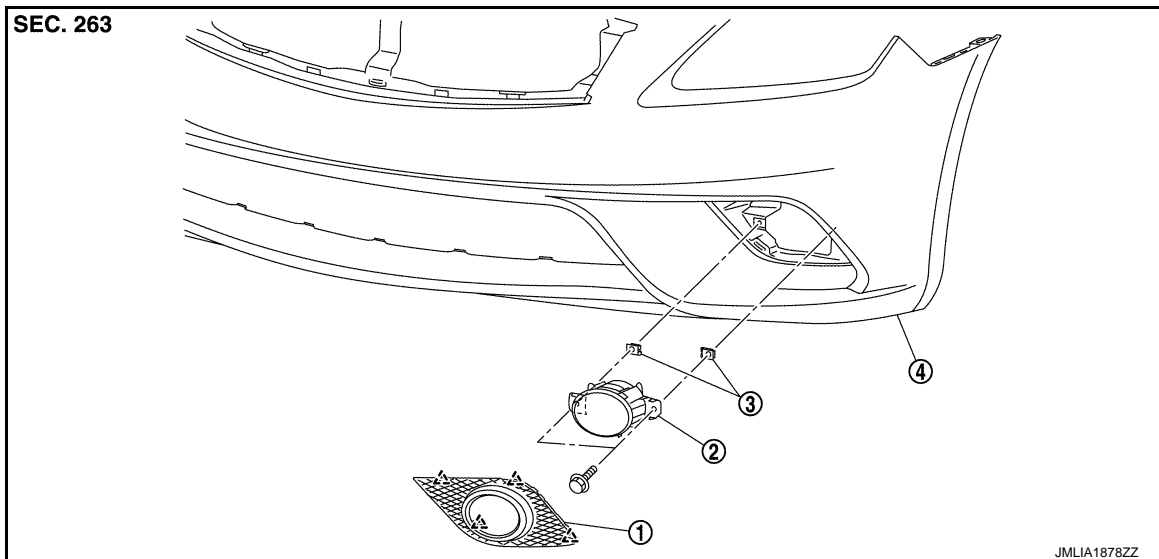
STANDARD BUMPER




- |                                 |                                 |                            |
|---------------------------------|---------------------------------|----------------------------|
| 1. Front fog lamp finisher ring | 2. Front bumper fascia assembly | 3. Front fog lamp finisher |
| 4. Front fog lamp bracket       | 5. J-nut                        | 6. Front fog lamp assembly |

 : Pawl

SPORTS BUMPER



- |                                 |                            |          |
|---------------------------------|----------------------------|----------|
| 1. Front fog lamp finisher      | 2. Front fog lamp assembly | 3. J-nut |
| 4. Front bumper fascia assembly |                            |          |

 : Pawl

Removal and Installation

INFOID:000000008159516

**CAUTION:**  
Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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# FRONT FOG LAMP

[XENON TYPE]

## < REMOVAL AND INSTALLATION >

### Standard bumper

1. Remove the front fender protector. Keep a service area. Refer to [EXT-26, "FENDER PROTECTOR : Exploded View"](#).
2. Remove the front fog lamp connector.
3. Remove the front fog lamp mounting bolts, and then remove the front fog lamp.

### Sports bumper

1. Remove the front fender protector. Keep a service area. Refer to [EXT-26, "FENDER PROTECTOR : Exploded View"](#).
2. Remove the front fog lamp finisher.
3. Remove the front fog lamp connector.
4. Remove the front fog lamp mounting bolts, and then remove the front fog lamp.

## INSTALLATION

Installation is the reverse order of removal.

### NOTE:

After installation, perform aiming adjustment. Refer to [EXL-126, "Description"](#)

## Replacement

INFOID:000000008159517

### 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

1. Remove the front fender protector. Keep the service area. Refer to [EXT-26, "FENDER PROTECTOR : Exploded View"](#).
2. Remove the front fog lamp bulb connector.
3. Rotate the bulb counterclockwise and unlock it.

# OPTICAL SENSOR

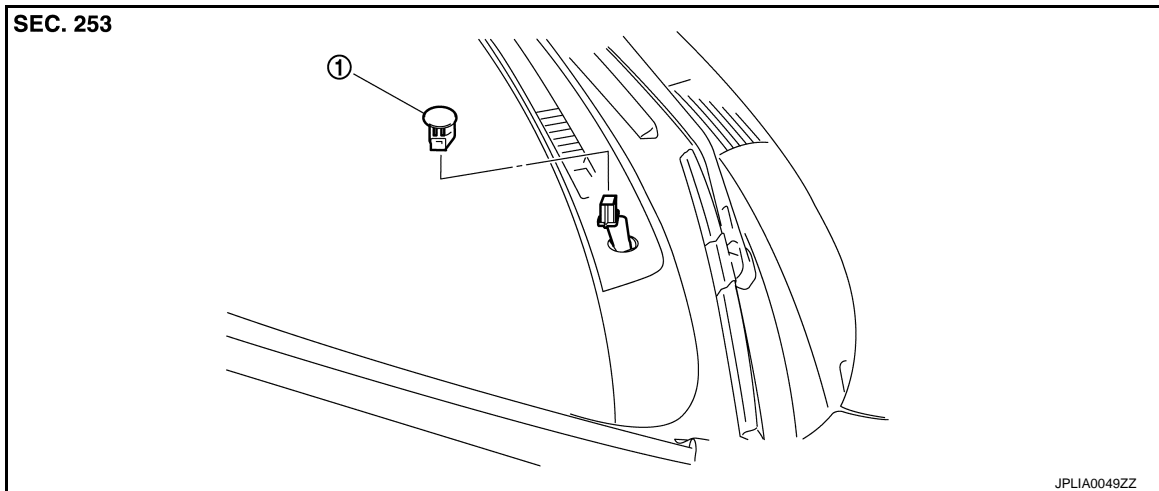
< REMOVAL AND INSTALLATION >

[XENON TYPE]

## OPTICAL SENSOR

### Exploded View

INFOID:000000008159518



1. Optical sensor

### Removal and Installation

INFOID:000000008159519

#### REMOVAL

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

#### INSTALLATION

Install in the reverse order of removal.

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## LIGHTING & TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

---

### LIGHTING & TURN SIGNAL SWITCH

#### Exploded View

INFOID:000000008159520

The lighting & turn signal switch is integrated in the combination switch. [BCS-80. "Exploded View"](#).

# HAZARD SWITCH

< REMOVAL AND INSTALLATION >

[XENON TYPE]

## HAZARD SWITCH

### Exploded View

INFOID:000000008159521

The hazard switch is integrated in the multifunction switch. Refer to [AV-91, "Removal and Installation"](#).

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## STEERING ANGLE SENSOR

[XENON TYPE]

< REMOVAL AND INSTALLATION >

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### STEERING ANGLE SENSOR

#### Removal and Installation

INFOID:000000008159522

Refer to [SR-14. "Exploded View"](#).



# REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

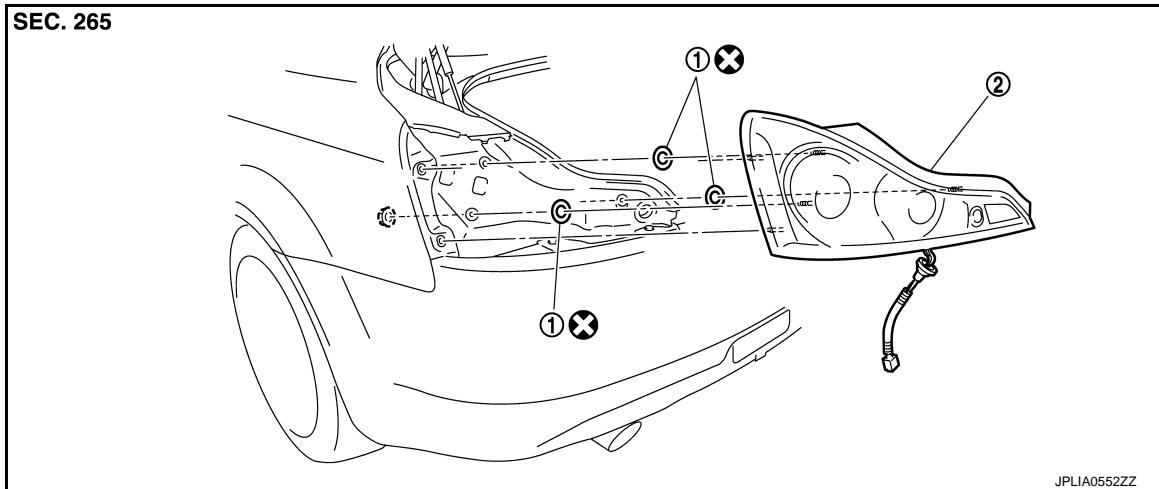
[XENON TYPE]

## REAR COMBINATION LAMP

### Exploded View

INFOID:000000008159523

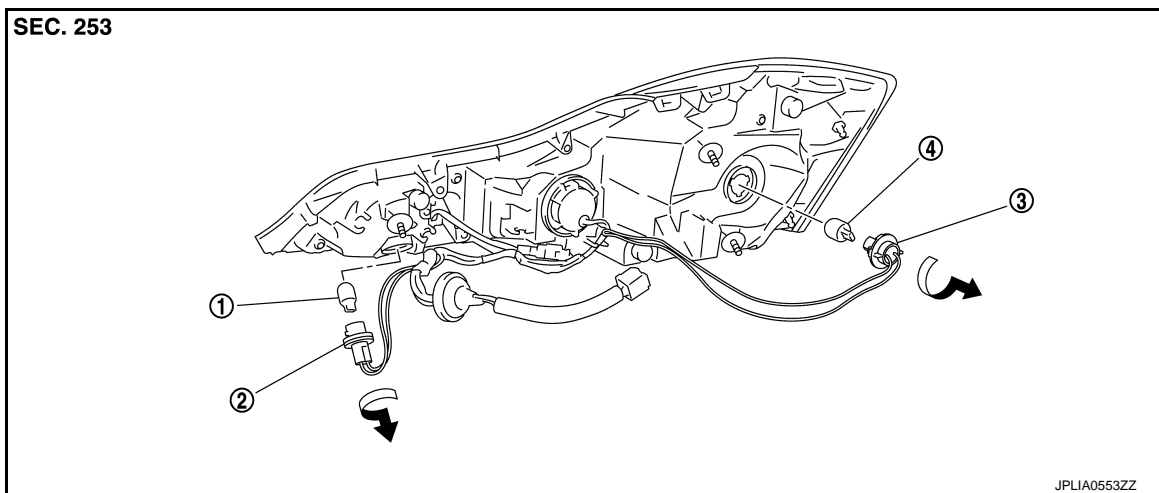
### REMOVAL



1. Seal packing
2. Rear combination lamp assembly

Refer to [GI-4, "Components"](#) for symbols in the figure.

### DISASSEMBLY



1. Back-up lamp
2. Back-up lamp bulb socket
3. Rear turn signal lamp bulb socket
4. Rear turn signal lamp bulb

### Removal and Installation

INFOID:000000008159524

**CAUTION:**  
Disconnect the battery negative terminal or remove the fuse.

### REMOVAL

1. Remove the trunk rear plate. Refer to [INT-29, "Exploded View"](#).
2. Remove the rear combination lamp mounting nuts.
3. Pull the rear combination lamp toward rear of the vehicle.
4. Disconnect rear combination lamp connector.
5. Remove the rear combination lamp.

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EXL

## REAR COMBINATION LAMP

[XENON TYPE]

< REMOVAL AND INSTALLATION >

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### INSTALLATION

Install in the reverse order of removal.

**CAUTION:**

**Seal packing cannot be reused.**

### Replacement

INFOID:000000008159525

**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. Remove the rear combination lamp assembly.
2. Turn the rear turn signal lamp bulb socket counterclockwise and unlock it.
3. Remove the bulb from the socket.

### BACK-UP LAMP BULB

1. Remove the rear combination lamp assembly.
2. Turn the bulb socket counterclockwise and unlock it.
3. Remove the bulb from the socket.

# HIGH-MOUNTED STOP LAMP

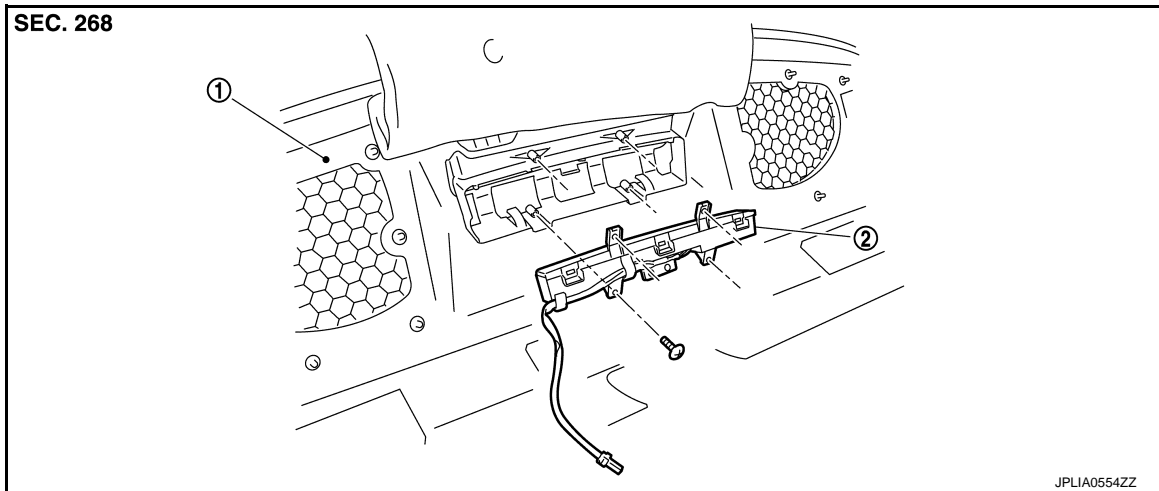
< REMOVAL AND INSTALLATION >

[XENON TYPE]

## HIGH-MOUNTED STOP LAMP WITHOUT REAR SPOILER

### WITHOUT REAR SPOILER : Exploded View

INFOID:000000008159526



1. Rear parcel shelf finisher
2. High-mounted stop lamp

### WITHOUT REAR SPOILER : Removal and Installation

INFOID:000000008159527

#### REMOVAL

1. Remove the rear parcel shelf finisher. Refer to [INT-19, "Exploded View"](#).
2. Remove the screws and remove the high-mounted stop lamp from rear parcel shelf finisher.

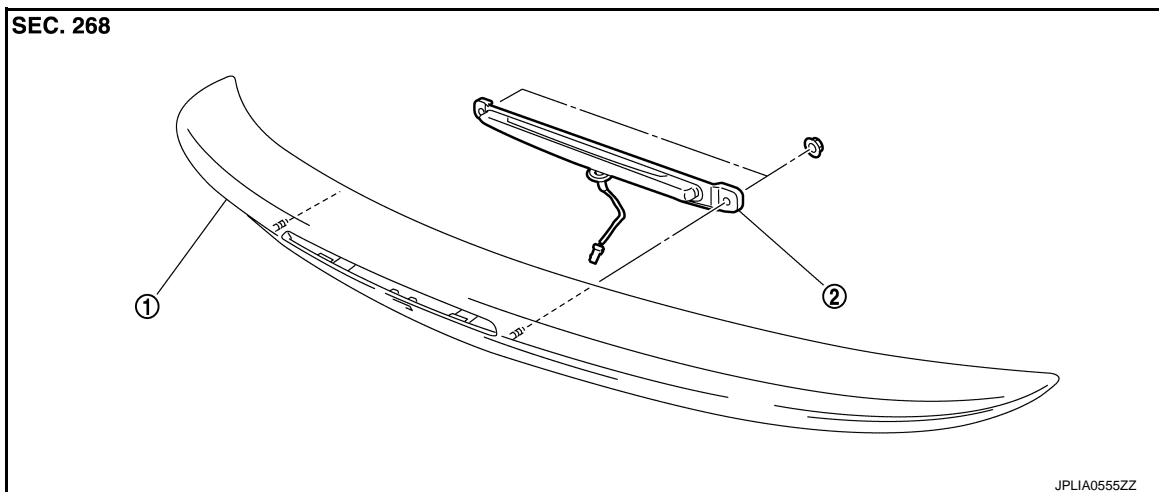
#### INSTALLATION

Install in the reverse order of removal.

### WITH REAR SPOILER

### WITH REAR SPOILER : Exploded View

INFOID:000000008159528



1. Rear spoiler
2. High-mounted stop lamp

### WITH REAR SPOILER : Removal and Installation

INFOID:000000008159529

#### REMOVAL

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## HIGH-MOUNTED STOP LAMP

[XENON TYPE]

### < REMOVAL AND INSTALLATION >

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1. Remove the rear spoiler. Refer to [EXT-43. "Exploded View"](#).
2. Remove the high-mounted stop lamp mounting nut.
3. Remove the rear view camera (if equipped).
4. Remove the high-mounted stop lamp from rear spoiler.

### INSTALLATION

Install in the reverse order of removal.

# LICENSE PLATE LAMP

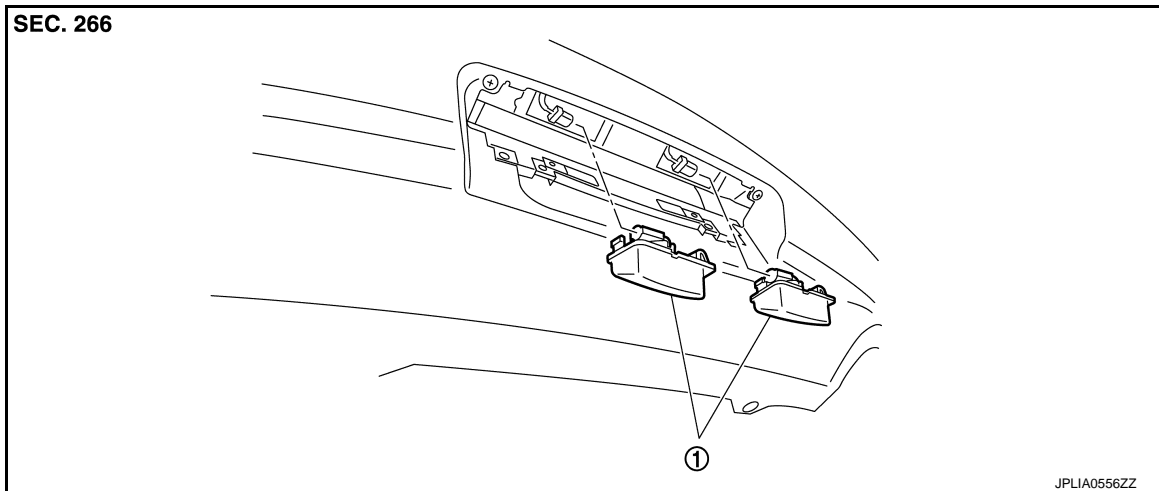
< REMOVAL AND INSTALLATION >

[XENON TYPE]

## LICENSE PLATE LAMP

### Exploded View

INFOID:000000008159530



1. License plate lamp

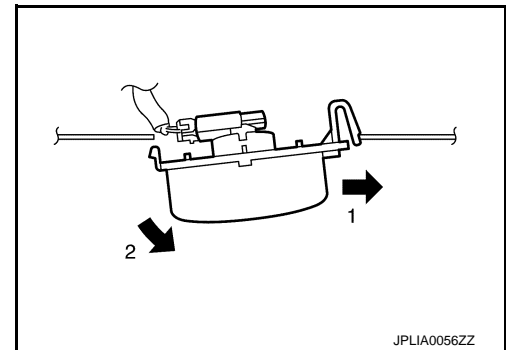
### Removal and Installation

INFOID:000000008159531

**CAUTION:**  
Disconnect the battery negative terminal or the fuse.

#### REMOVAL

1. Remove the license plate lamp in numerical order.
2. Disconnect the connector.
3. Remove license plate lamp.



#### INSTALLATION

1. Connect the connector.
2. Fix the pawl side. And then push the resin clip side.

#### Replacement

INFOID:000000008159532

**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

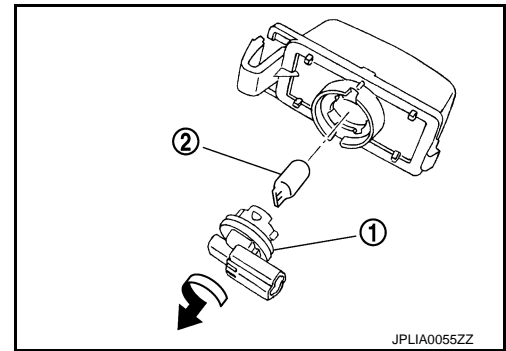
1. Remove license plate lamp.

## LICENSE PLATE LAMP

### < REMOVAL AND INSTALLATION >

[XENON TYPE]

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)

[XENON TYPE]

## SERVICE DATA AND SPECIFICATIONS (SDS)

### SERVICE DATA AND SPECIFICATIONS (SDS)

#### Bulb Specifications

INFOID:000000008159533

Item	Type	Wattage (W)	
Front combination lamp	Headlamp (HI/LO)	D2S (Xenon)	35
	Front turn signal lamp	WY21W (Amber)	21
	Parking lamp	W5W	5
	Front side marker lamp	W5W	5
Front fog lamp	H11	55	
Rear combination lamp	Stop lamp/Tail lamp	LED	—
	Rear turn signal lamp	W21W	21
	Rear side marker lamp	LED	—
	Back-up lamp	W16W	16
License plate lamp	W5W	5	
High-mounted stop lamp	LED	—	

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