

SECTION **EXL**

EXTERIOR LIGHTING SYSTEM

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PRECAUTION

PRECAUTIONS

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

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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. 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.

Precautions for Removing Battery Terminal

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- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing "How to disconnect 12V battery terminal" described below.

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NOTE:

Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

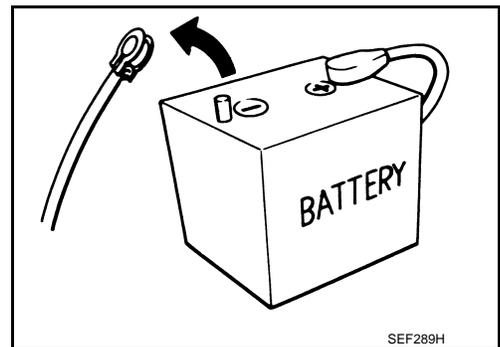
NOTE:

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

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

NOTE:

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



HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below. For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

PRECAUTIONS

[LED HEADLAMP]

< PRECAUTION >

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

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

CAUTION:

While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.

CAUTION:

After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.

NOTE:

At this moment, ACC power is supplied.

2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.

CAUTION:

While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

6. Remove 12V battery terminal.

CAUTION:

After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

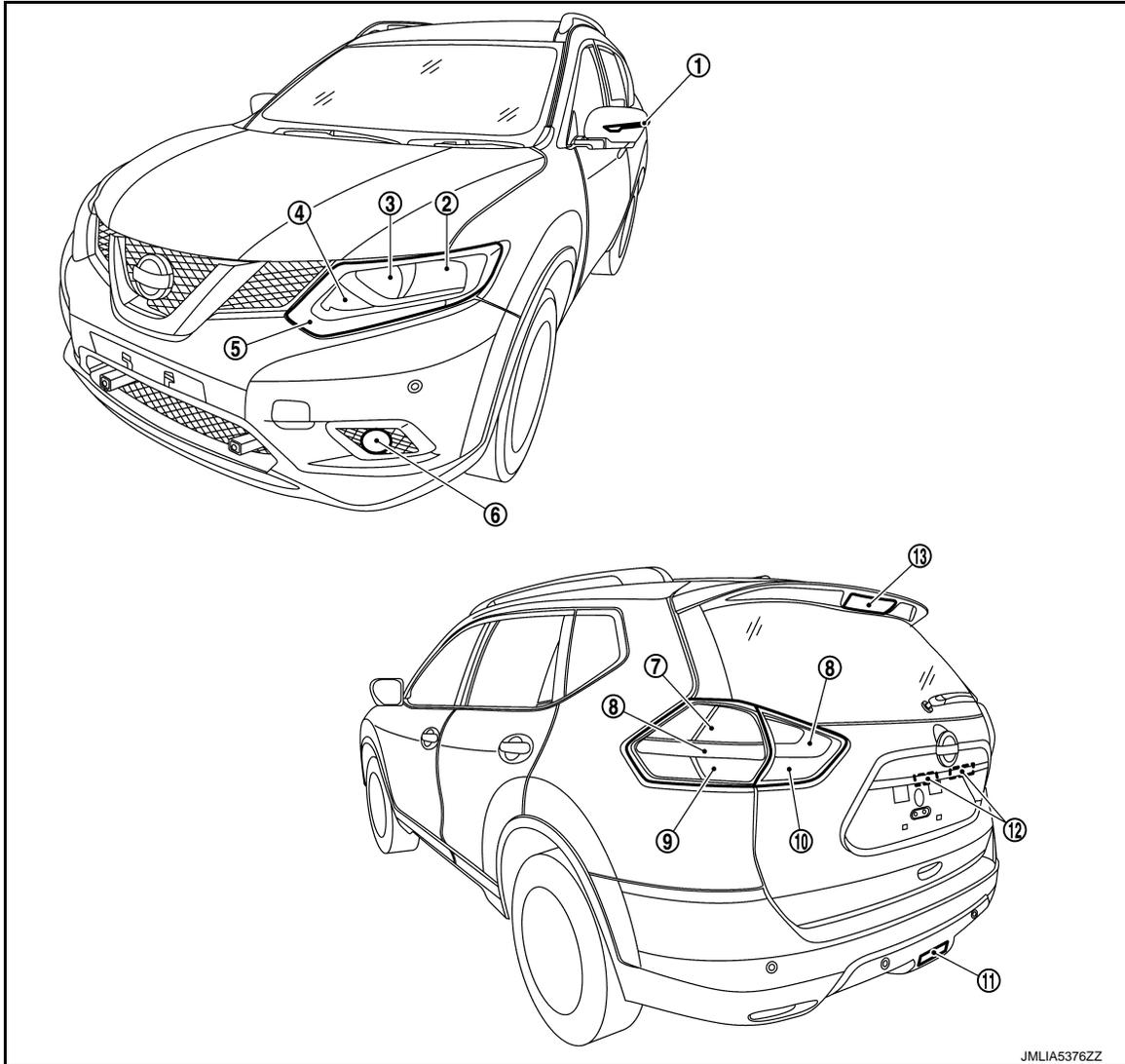
SYSTEM DESCRIPTION

COMPONENT PARTS

Exterior Lamp Appearance

INFOID:0000000010788737

Exterior Lamp Appearance



- | | | |
|--------------------------|--------------------------------------|-------------------------|
| ① Side turn signal lamp | ② Headlamp (Lo) | ③ Headlamp (Hi) |
| ④ Front turn signal lamp | ⑤ Parking lamp/daytime running light | ⑥ Front fog lamp |
| ⑦ Stop lamp | ⑧ Tail lamp | ⑨ Rear turn signal lamp |
| ⑩ Back-up lamp | ⑪ Rear fog lamp (if equipped) | ⑫ License plate lamp |
| ⑬ High-mounted stop lamp | | |

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Bulb Specifications

INFOID:000000011008444

Item	Type	Wattage (W)	
Front combination lamp	Headlamp (Hi)	—	
	Headlamp (Lo)	—	
	Parking lamp daytime running light	—	
	Front turn signal lamp	WY21W (Amber)	21
Front fog lamp	H11	55	
Side turn signal lamp (built in door mirror)	LED	—	
Rear combination lamp	Stop lamp	W21W	21
	Tail lamp	W5W	5
	Rear turn signal lamp	WY21W	21
	Back-up lamp	W16W	16
Rear fog lamp	W21W	21	
License plate lamp	W5W	5	
High-mounted stop lamp	LED	—	

Component Parts Location

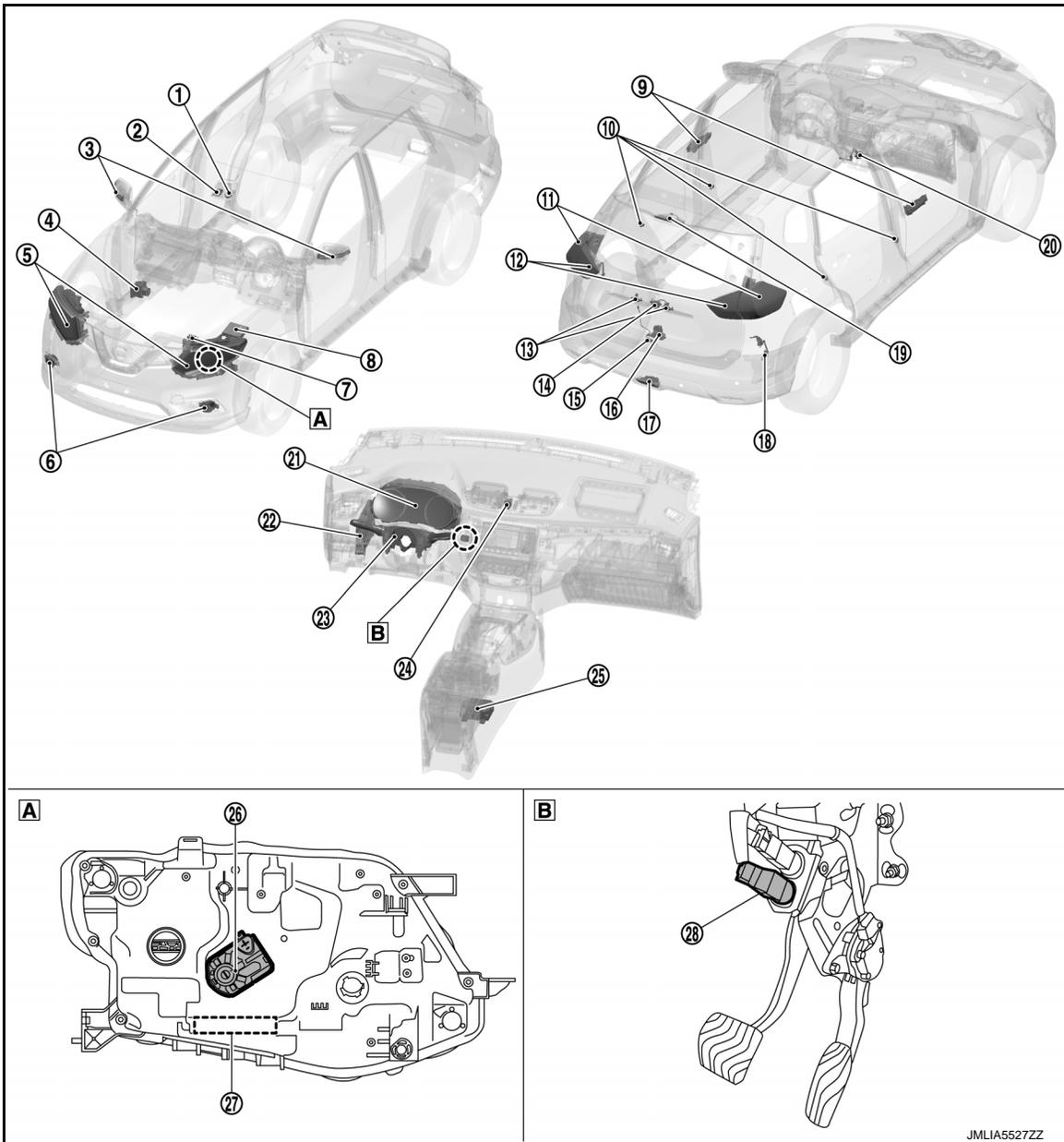
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LHD MODELS

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[LED HEADLAMP]



A Front combination lamp (back)

B Brake pedal

No.	Component	Function
①	Light & rain sensor	Refer to EXL-20, "Light & Rain Sensor" .
②	Front camera unit	<ul style="list-style-type: none"> Judges the vehicle status from each signal in order to control the high beam assist control. Refer to DAS-10, "Component Parts Location" for detailed installation location.
③	Side turn signal lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
④	ABS actuator and electric unit (control unit)*1	<ul style="list-style-type: none"> When the forward emergency braking operates, a request is transmitted to BCM (CAN communication) to turn ON the stop lamp. Refer to BRC-228, "Component Parts Location" for detailed installation location.

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

No.	Component	Function	
⑤	Headlamp (HI) (LED headlamp)	Refer to EXL-11, "Exterior Lamp Appearance" , EXL-12, "Bulb Specifications" and EXL-18, "FRONT COMBINATION LAMP : LED Headlamp" .	
	Headlamp (LO) (LED headlamp)		
	Parking lamp / Day-time running light	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .	
	Front turn signal lamp		
⑥	Front fog lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .	
⑦	ECM	<ul style="list-style-type: none"> ECM transmits engine status signal and Stop/Start status signal (with Stop/Start system) to BCM via CAN communication. Refer to EC-28, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), EC-440, "Component Parts Location" (QR25DE) or EC-812, "Component Parts Location" (R9M) for detailed installation location. 	
⑧	IPDM E/R	<ul style="list-style-type: none"> Controls the integrated smart FET, and supplies voltage to the load according to the request from BCM via CAN communication. The headlamp warning signal is input from the LED headlamp control module, and the IPDM E/R requests the combination meter (CAN communication) to display the headlamp warning. Judges the vehicle status from each signal in order to control the headlamp aiming control. Refer to PCS-5, "Component Parts Location" for detailed installation location. 	
⑨	Door request switch	Refer to DLK-341, "DOOR LOCK SYSTEM : Door Request Switch" .	
⑩	Door switch	Refer to DLK-342, "DOOR LOCK SYSTEM : Door Switch" .	
⑪	Rear combination lamp (body side)	Tail lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
		Stop lamp	
		Rear turn signal lamp	
⑫	Rear combination lamp (back door side)	Tail lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
⑬	License plate lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .	
⑭	Hands free sensor* ²	Refer to DLK-342, "DOOR LOCK SYSTEM : Hands Free Sensor" .	
⑮	Back door opener switch assembly	Back door opener switch	Refer to DLK-340, "DOOR LOCK SYSTEM : Back Door Opener Switch Assembly" .
		Back door request switch	
⑯	Back door lock assembly	Back door switch	Refer to DLK-340, "DOOR LOCK SYSTEM : Back Door Lock Assembly" .
⑰	Rear fog lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .	
⑱	Rear height sensor	Refer to EXL-20, "Rear Height Sensor" .	
⑲	High-mounted stop lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .	
⑳	Front height sensor* ³	Refer to EXL-19, "Front Height Sensor" .	
㉑	Combination meter	<ul style="list-style-type: none"> Turns the indicator lamp and warning (information display/buzzer) ON/OFF according to the request from BCM via CAN communication. Turns the headlamp warning ON according to the request from IPDM E/R via CAN communication. Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM via CAN communication. Combination meter transmits vehicle speed signal to BCM and IPDM E/R via CAN communication. 	

COMPONENT PARTS

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

No.	Component		Function
②②	BCM		<ul style="list-style-type: none"> • Detects each switch condition by the combination switch reading function. • Exterior lamp ON/OFF is judged from each signal, and then a request is transmitted to IPDM E/R (CAN communication) to turn each smart FET ON/OFF. • It also transmits a request to the combination meter (CAN communication) to turn indicator lamp and warning (information display/buzzer) ON/OFF. • Blinks the turn signal lamp and hazard warning lamp according to the each switch condition. • Requests the turn signal indicator lamp blink to the combination meter via CAN communication. • Requests the turn signal operating sound ON to the combination meter via CAN communication. • Judges the vehicle status from each signal, and illuminates the stop lamp and high-mounted stop lamp. • Judges the vehicle status from each signal, and illuminates the rear fog lamp. • Refer to BCS-6. "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
②③	Combination switch		Refer to BCS-13. "COMBINATION SWITCH READING SYSTEM : System Description" .
②④	Hazard switch		Refer to EXL-20. "Hazard Switch" .
②⑤	Air bag diagnosis sensor unit		<ul style="list-style-type: none"> • When the air bag operates, a request is transmitted to BCM (CAN communication) to blinks the hazard warning lamp. • Refer to SRC-6. "Component Parts Location" for detailed installation location.
②⑥	Front combination lamp	Headlamp aiming motor	Refer to EXL-19. "FRONT COMBINATION LAMP : Headlamp Aiming Motor" .
②⑦		LED headlamp control module	Refer to EXL-19. "FRONT COMBINATION LAMP : LED Headlamp Control Module" .
②⑧	Stop lamp switch		Refer to EXL-20. "Stop Lamp Switch" .

*1: With forward emergency braking

*2: With hands free sensor

*3: 3-row seat models

RHD MODELS

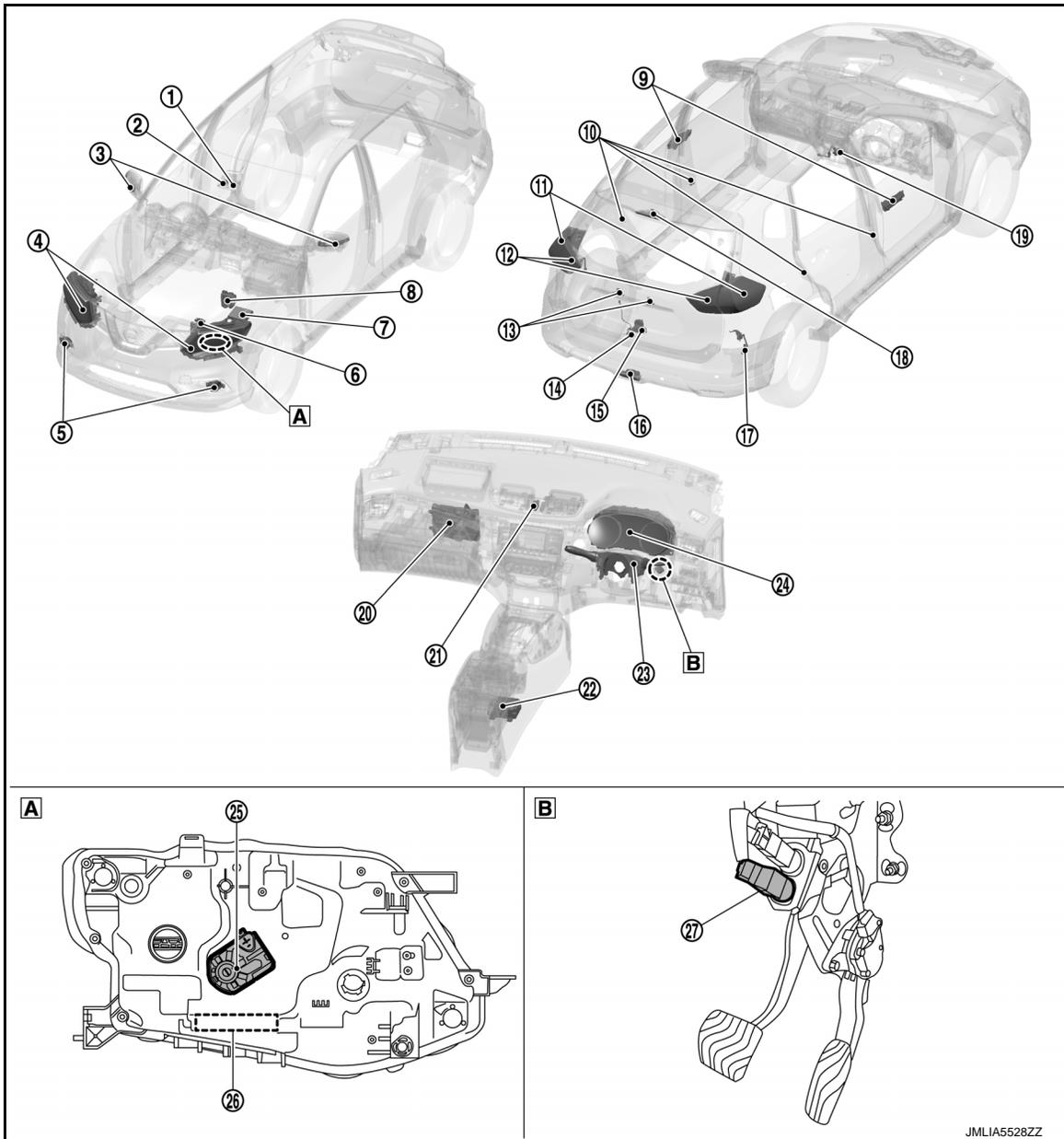
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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[LED HEADLAMP]



A Front combination lamp (back)

B Brake pedal

No.	Component	Function
①	Light & rain sensor	Refer to EXL-20, "Light & Rain Sensor" .
②	Front camera unit	<ul style="list-style-type: none"> Judges the vehicle status from each signal in order to control the high beam assist control. Refer to DAS-10, "Component Parts Location" for detailed installation location.
③	Side turn signal lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .

COMPONENT PARTS

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

No.	Component	Function
④	Front combination lamp	Headlamp (HI) (LED headlamp)
		Headlamp (LO) (LED headlamp)
		Parking lamp / Day-time running light
		Front turn signal lamp
⑤	Front fog lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
⑥	ECM	<ul style="list-style-type: none"> ECM transmits engine status signal and Stop/Start status signal to BCM via CAN communication. Refer to EC-812, "Component Parts Location" for detailed installation location.
⑦	IPDM E/R	<ul style="list-style-type: none"> Controls the integrated smart FET, and supplies voltage to the load according to the request from BCM via CAN communication. The headlamp warning signal is input from the LED headlamp control module, and the IPDM E/R requests the combination meter (CAN communication) to display the headlamp warning. Judges the vehicle status from each signal in order to control the headlamp aiming control. Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑧	ABS actuator and electric unit (control unit)	<ul style="list-style-type: none"> When the forward emergency braking operates, a request is transmitted to BCM (CAN communication) to turn ON the stop lamp. Refer to BRC-228, "Component Parts Location" for detailed installation location.
⑨	Door request switch	Refer to DLK-32, "DOOR LOCK SYSTEM : Door Request Switch" .
⑩	Door switch	Refer to DLK-32, "DOOR LOCK SYSTEM : Door Switch" .
⑪	Rear combination lamp (body side)	Tail lamp
		Stop lamp
		Rear turn signal lamp
⑫	Rear combination lamp (back door side)	Tail lamp
⑬	License plate lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
⑭	Back door opener switch assembly	Back door opener switch
		Back door request switch
⑮	Back door lock assembly	Back door switch
⑯	Rear fog lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
⑰	Rear height sensor	Refer to EXL-20, "Rear Height Sensor" .
⑱	High-mounted stop lamp	Refer to EXL-11, "Exterior Lamp Appearance" and EXL-12, "Bulb Specifications" .
⑲	Front height sensor*	Refer to EXL-19, "Front Height Sensor" .

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COMPONENT PARTS

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

No.	Component	Function
⑳	BCM	<ul style="list-style-type: none"> • Detects each switch condition by the combination switch reading function. • Exterior lamp ON/OFF is judged from each signal, and then a request is transmitted to IPDM E/R (CAN communication) to turn each smart FET ON/OFF. • It also transmits a request to the combination meter (CAN communication) to turn indicator lamp and warning (information display/buzzer) ON/OFF. • Blinks the turn signal lamp and hazard warning lamp according to the each switch condition. • Requests the turn signal indicator lamp blink to the combination meter via CAN communication. • Requests the turn signal operating sound ON to the combination meter via CAN communication. • Judges the vehicle status from each signal, and illuminates the stop lamp and high-mounted stop lamp. • Judges the vehicle status from each signal, and illuminates the rear fog lamp. • Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
㉑	Hazard switch	Refer to EXL-20, "Hazard Switch" .
㉒	Air bag diagnosis sensor unit	<ul style="list-style-type: none"> • When the air bag operates, a request is transmitted to BCM (CAN communication) to blink the hazard warning lamp. • Refer to SRC-6, "Component Parts Location" for detailed installation location.
㉓	Combination switch	Refer to BCS-13, "COMBINATION SWITCH READING SYSTEM : System Description" .
㉔	Combination meter	<ul style="list-style-type: none"> • Turns the indicator lamp and warning (information display/buzzer) ON/OFF according to the request from BCM via CAN communication. • Turns the headlamp warning ON according to the request from IPDM E/R via CAN communication. • Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM via CAN communication. • Combination meter transmits vehicle speed signal to BCM and IPDM E/R via CAN communication.
㉕	Front combination lamp	Headlamp aiming motor
㉖		LED headlamp control module
㉗	Stop lamp switch	Refer to EXL-20, "Stop Lamp Switch" .

*: 3-row seat models

FRONT COMBINATION LAMP

FRONT COMBINATION LAMP : LED Headlamp

INFOID:000000010788740

OUTLINE

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

PRECAUTIONS FOR TROUBLE DIAGNOSIS

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

CAUTION:

- **Never touch the harness, LED headlamp control module, the inside and metal part of lamp when turning the headlamp ON or operating the lighting switch, for preventing electrical shock.**
- **Never work with wet hands, for preventing electrical shock.**
- **Never perform LED headlamp control module circuit diagnosis with a circuit tester or an equivalent.**
- **Temporarily install the headlamps on the vehicle. Always connect power supply to the connector (vehicle side) when checking ON/OFF status.**

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

- 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.
- Always check for deformation or hole of headlamp housing and engagement of bulb cover. Otherwise, water may enter into headlamp because of damage of headlamp housing and contact to LED headlamp control module connector. The normal operation may be inhibited when short circuit to power supply is detected.

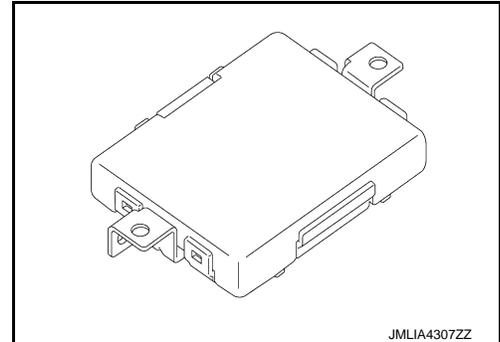
NOTE:

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

FRONT COMBINATION LAMP : LED Headlamp Control Module

INFOID:000000010788741

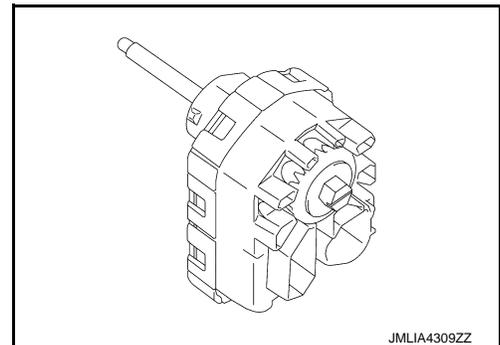
- LED headlamp control module is integrated in the front combination lamp and turns the LED headlamp ON according to the request from IPDM E/R.
- Outputs the headlamp warning signal to the IPDM E/R.



FRONT COMBINATION LAMP : Headlamp Aiming Motor

INFOID:000000010788742

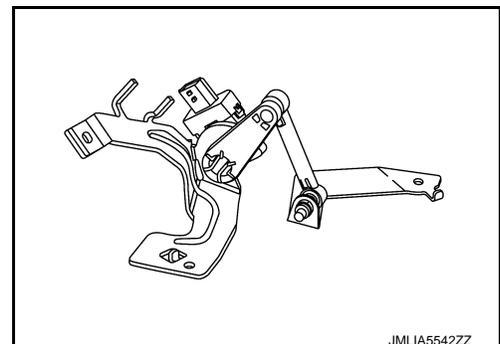
- Headlamp aiming motor is integrated in the front combination lamp.
- Headlamp aiming motor adjusts the headlamp light axis upward and downward according to input drive signal from IPDM E/R.



Front Height Sensor

INFOID:000000011008901

- Front height sensor is installed in transverse link.
- Front height sensor detects the vehicle front height deviation with sensor lever, and transmits the detected value as a front height sensor signal to IPDM E/R.



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COMPONENT PARTS

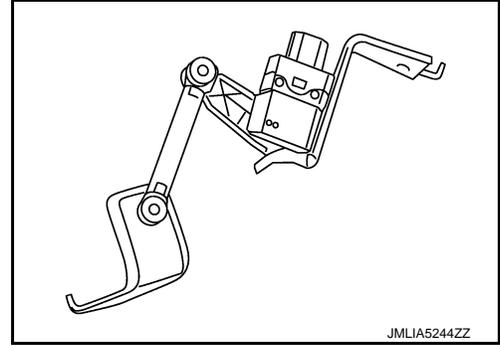
< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Rear Height Sensor

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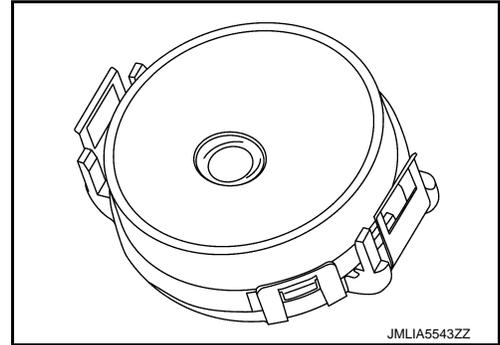
- Rear height sensor is installed in lower link.
- Rear height sensor detects the vehicle rear height deviation with sensor lever, and transmits the detected value as a rear height sensor signal to IPDM E/R.



Light & Rain Sensor

INFOID:000000011008902

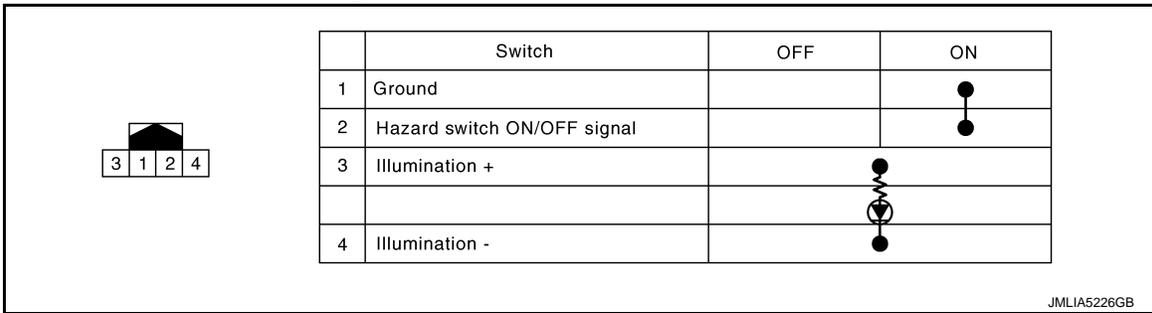
- The light & rain sensor detects the outside ambient light level, forward light level and sensor conditions.
- Based on ambient light level (day/night detection), forward light level (tunnel detection) and sensor conditions it judges ON/OFF condition for exterior lamps.
- And it transmits exterior lamp ON/OFF request to the BCM by the light & rain sensor serial link.
- BCM controls each function depending on the signals. And it detects the light & rain sensor serial link error and the light & rain sensor malfunction.



Hazard Switch

INFOID:0000000110788745

Inputs the hazard switch ON/OFF signal to BCM.

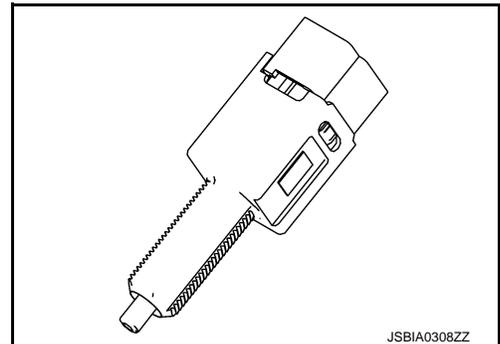


Stop Lamp Switch

INFOID:0000000110788746

- Stop lamp switch is installed to brake pedal bracket.
- BCM detects the brake pedal status from the ON/OFF signal that is input from the switch.

Brake pedal	Stop lamp switch
Released	OFF
Depressed	ON



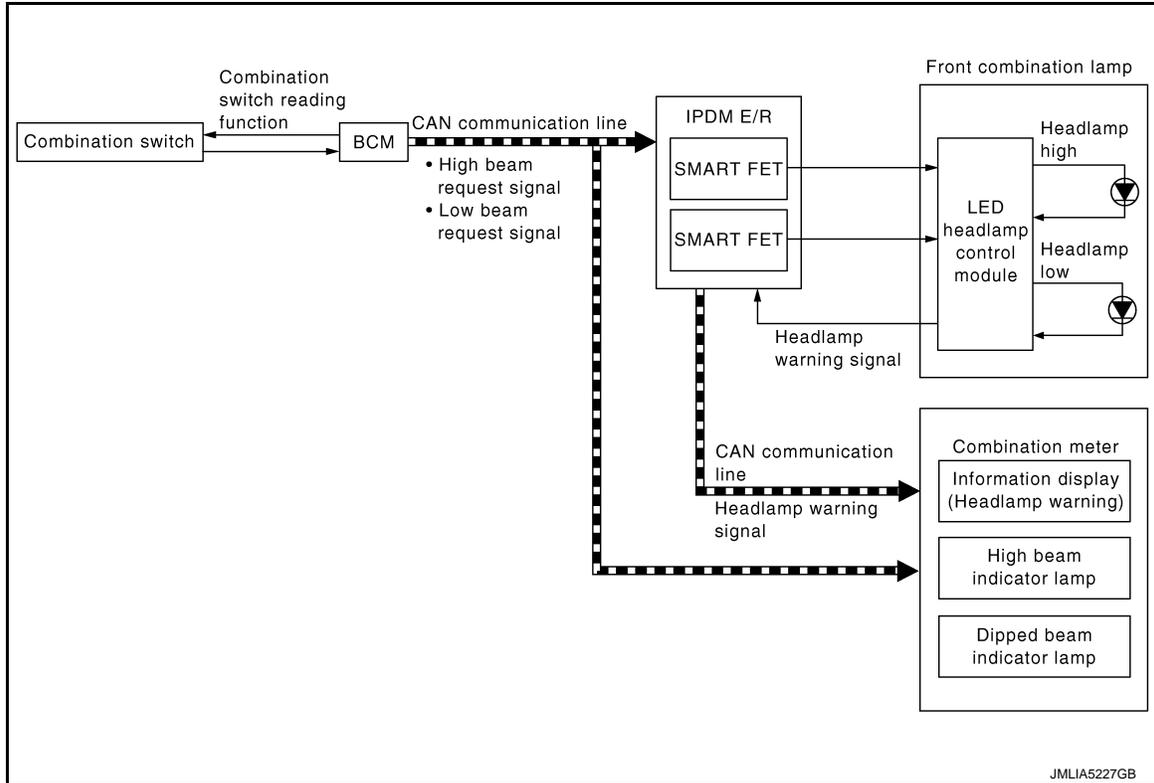
SYSTEM

HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Description

INFOID:000000010788747

SYSTEM DIAGRAM



OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition (When any of the following conditions are satisfied)

- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-24, "AUTO LIGHT SYSTEM : System Description".](#))
- Lighting switch PASS
- IPDM E/R turns the integrated smart FET ON according to low beam request signal and supplies power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (LO) ON according to the power supply from IPDM E/R.
- Combination meter turns the dipped beam indicator lamp ON according to the low beam request signal.

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition (When any of the following conditions are satisfied)

- Lighting switch HI with the lighting switch 2ND
- Lighting switch HI with the lighting switch AUTO (Only when the illumination judgment by auto light system is ON and the illumination judgment by high beam assist system is ON. For details, refer to [EXL-24, "AUTO LIGHT SYSTEM : System Description".](#))
- Lighting switch PASS

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SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

- IPDM E/R turns the integrated headlamp high smart FET ON according to high beam request signal and supplies power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (HI) ON according to the power supply from IPDM E/R.
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.

HEADLAMP WARNING OPERATION

Headlamp warning warns the driver that there is a malfunction in LED headlamp system. Refer to [EXL-49, "INFORMATION DISPLAY \(COMBINATION METER\) : Headlamp Warning"](#).

FOLLOW ME HOME FUNCTION

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

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

Follow me home ON condition (When all of the following conditions are satisfied)

- Ignition switch OFF
- Lighting switch OFF or AUTO
- IPDM E/R turns the integrated smart FET ON according to low beam request signal and supplies power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (LO) ON according to the power supply from IPDM E/R.
- Combination meter turns the dipped beam indicator lamp ON according to the low beam request signal.
- When in any of following conditions, follow me home function can be cancelled while follow me home function is operating.

Follow me home OFF condition (When any of the following conditions are satisfied)

- Ignition switch other than OFF
- Lighting switch other than OFF or AUTO
- Follow me home operating time is expired

NOTE:

- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).

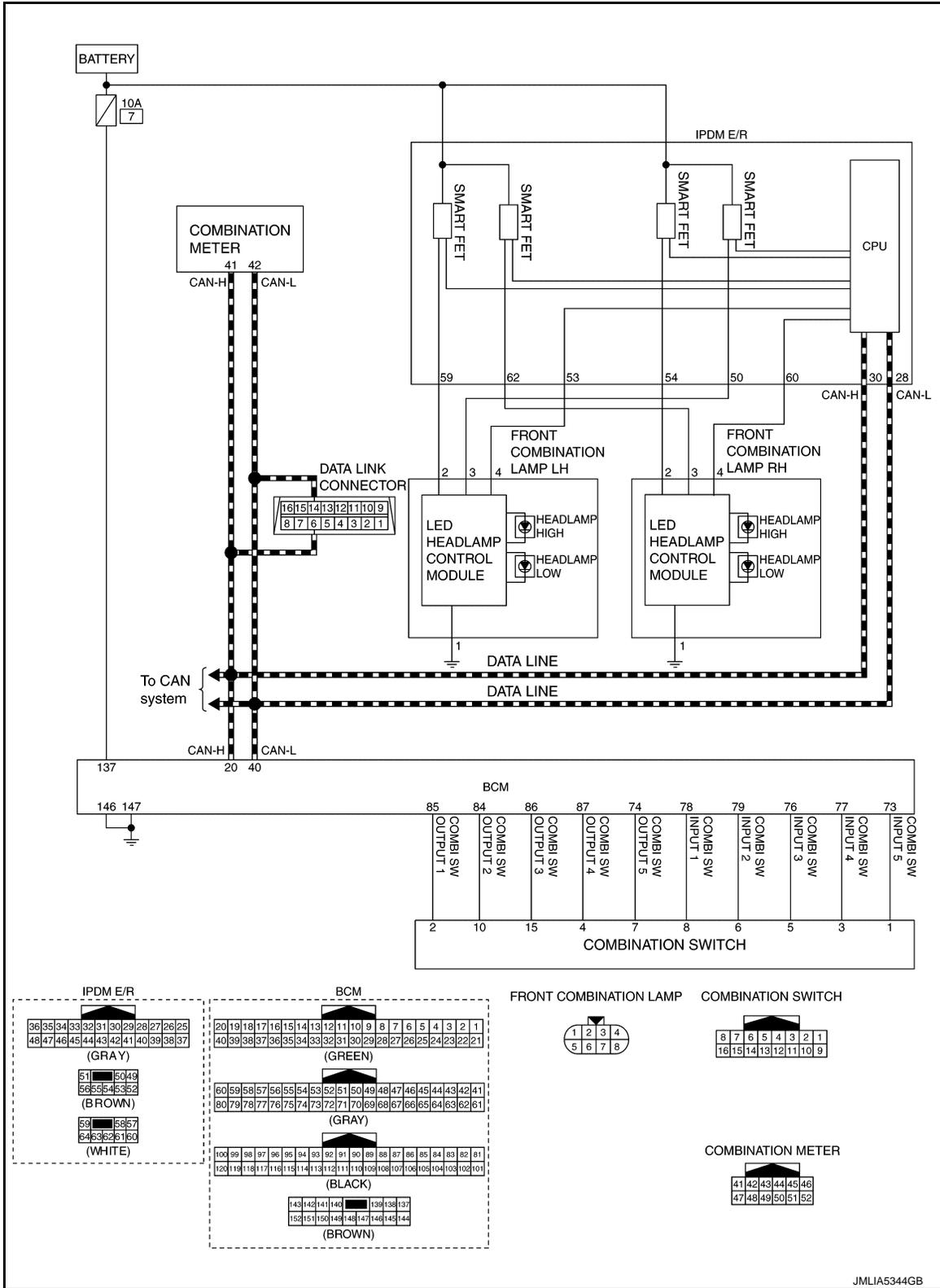
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[LED HEADLAMP]

HEADLAMP SYSTEM : Circuit Diagram

INFOID:000000010788748



HEADLAMP SYSTEM : Fail-safe

INFOID:000000010788749

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

DTC	CONSULT display description		Fail-safe
B20CE	HL (HI) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) LH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20CF	HL (HI) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) RH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20D0	HL (LO) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) LH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20D1	HL (LO) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) RH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20E2	LED HEADLAMP RH	[CMPNENT INTERNAL MLFNCTN]	Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)
B20E3	LED HEADLAMP LH	[CMPNENT INTERNAL MLFNCTN]	Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

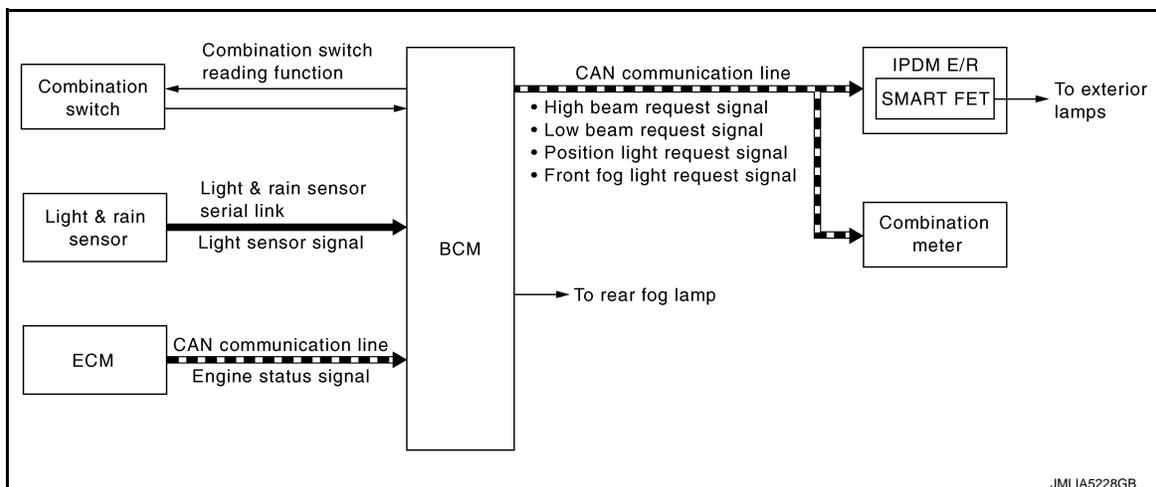
Control part	Fail-safe operation
Headlamp	<ul style="list-style-type: none"> • Turns ON the headlamp (LO) when the ignition switch is turned ON. • Turns OFF the headlamp (LO) when the ignition switch is turned OFF. • Headlamp (HI): OFF

AUTO LIGHT SYSTEM

AUTO LIGHT SYSTEM : System Description

INFOID:000000011008903

SYSTEM DIAGRAM



JMLIA5228GB

OUTLINE

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

< SYSTEM DESCRIPTION >

Control by BCM

- Combination switch reading function
- Auto light function
- Fog override function

Control by IPDM E/R

- Smart FET control function
- Auto light system has the auto light function and fog override function.
- Auto light function automatically turns ON/OFF the exterior lamps*, depending on the outside brightness.
- Fog override function turns ON the exterior lamps regardless of outside brightness, when front fog lamp switch is turned from OFF to ON or rear fog lamp switch is turned from OFF to ON while ignition switch is in ON position and lighting switch is in AUTO position.

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

NOTE:

- Headlamp (HI) depend on the combination switch condition and the illumination judgment of high beam assist system. For details, refer to [EXL-27. "HIGH BEAM ASSIST SYSTEM : System Description"](#).
- Front fog lamp does not turn ON automatically, but automatically turns OFF (only when the fog override function setting is OFF).
- Rear fog lamp does not turn ON automatically, but automatically turns OFF (only when the fog override function setting is OFF).

AUTO LIGHT FUNCTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM detects the engine condition by the engine status signal received from ECM via CAN communication.
- BCM receives exterior lamp ON/OFF requests from the light & rain sensor by light & rain sensor serial link.
- BCM judges the ON/OFF status of the exterior lamp according to ON/OFF requests from light & rain sensor and the vehicle condition.
- BCM transmits each request signal to IPDM E/R via CAN communication according to ON/OFF condition by the auto light function.

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to [EXL-55. "HEADLAMP : CONSULT Function \(BCM - HEAD LAMP\) \(LED Headlamp\)"](#).

FOG OVERRIDE FUNCTION

When front fog lamp switch is turned from OFF to ON or rear fog lamp switch is turned from OFF to ON while ignition switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps* regardless of outside brightness.

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

NOTE:

- Headlamp (HI) depend on the combination switch condition and the illumination judgment of high beam assist system. For details, refer to [EXL-27. "HIGH BEAM ASSIST SYSTEM : System Description"](#).
- Front fog lamp and rear fog lamp depend on the each fog lamp switch operation.
- ON/OFF of fog override function can be changed using CONSULT. Refer to [INL-21. "INT LAMP : CONSULT Function \(BCM - INT LAMP\)"](#).

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EXL

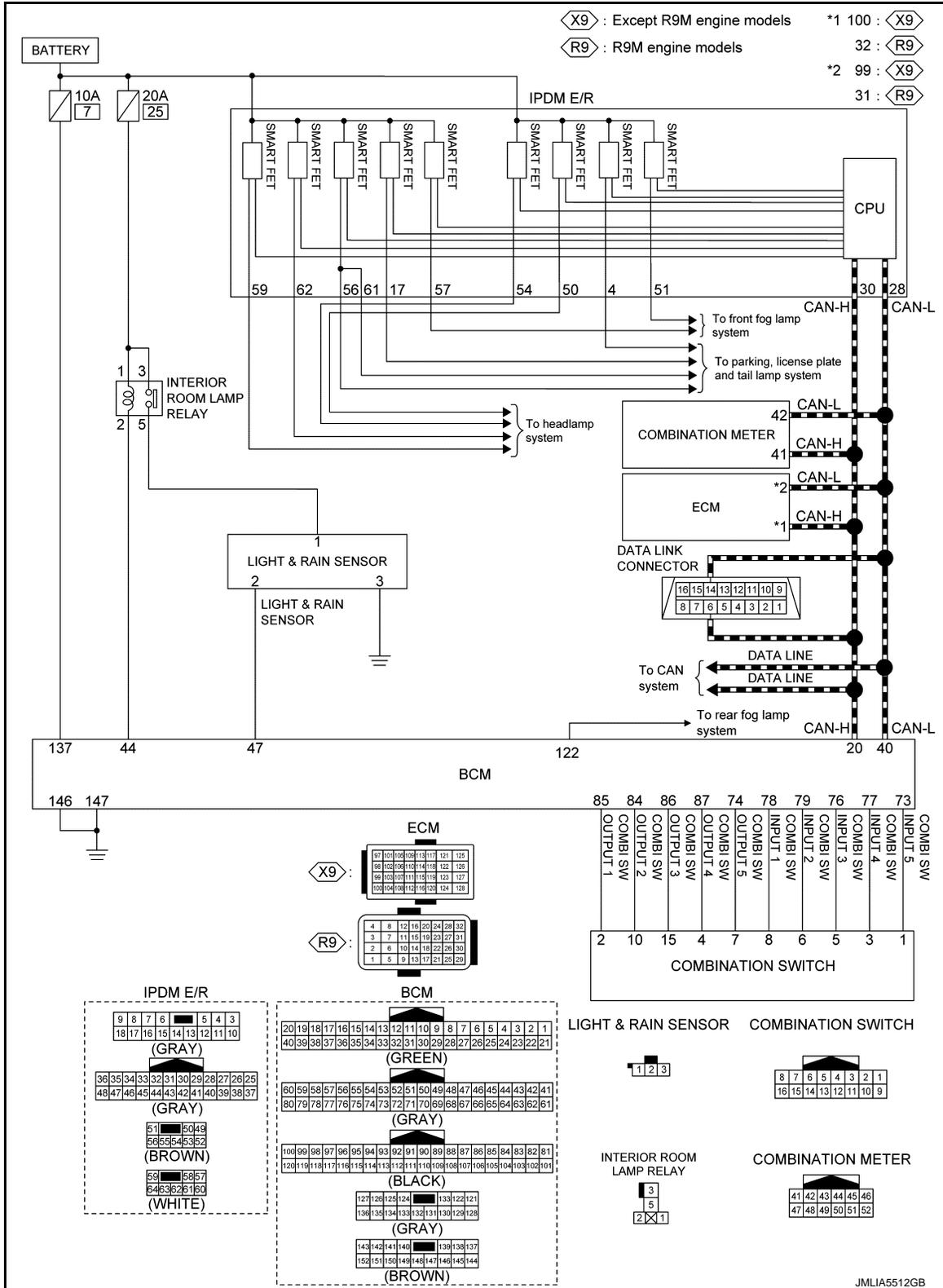
SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

AUTO LIGHT SYSTEM : Circuit Diagram

INFOID:000000010788751

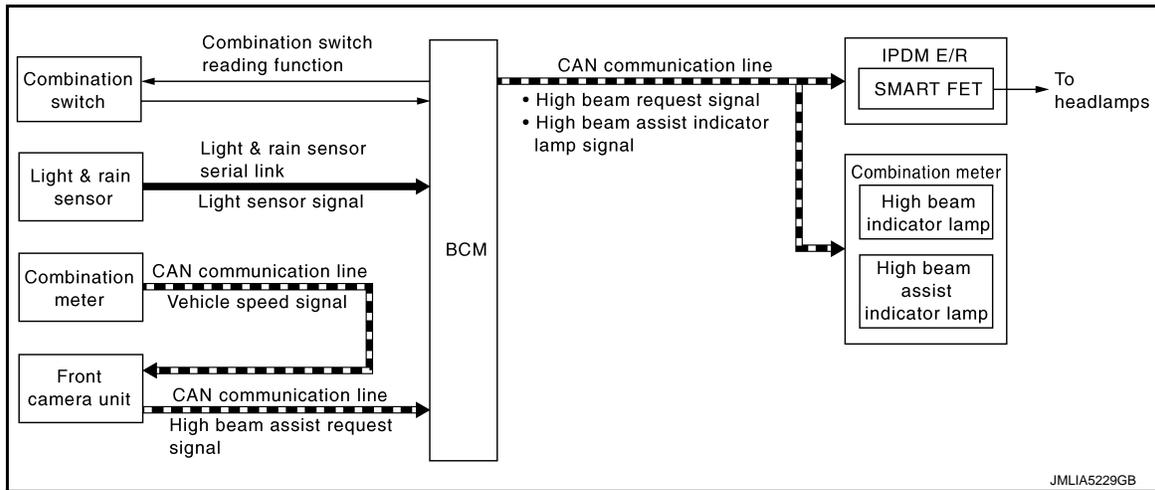


HIGH BEAM ASSIST SYSTEM

HIGH BEAM ASSIST SYSTEM : System Description

INFOID:000000011008904

SYSTEM DIAGRAM



OUTLINE

- High beam assist system is a system that can reduce the driver's switch operation load. The system automatically switches the headlamp to the low beam mode when a vehicle ahead or an oncoming vehicle appears, while driving the vehicle with the headlamps in high beam mode at night.
- When the high beam assist system operation permission conditions are satisfied, the high beam assist indicator lamp in the combination meter turns ON and informs that the high beam assist is in operation.
- High beam assist system is controlled by each function of BCM, front camera unit and IPDM E/R.

Control by BCM

- Combination switch reading function
- Auto light function
- High beam assist control function
- Headlamp control function

Control by IPDM E/R

- Smart FET control function

Control by Front camera unit

- High beam assist control function

OPERATION DESCRIPTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM transmits the high beam assist indicator lamp signal to the combination meter via CAN communication, when the high beam assist system operation permission conditions are satisfied.

High beam assist system operation permission conditions

- Lighting switch HI with the lighting switch AUTO and ignition switch ON (Only when the illuminating judgment by auto light function is ON. For details, refer to [EXL-24, "AUTO LIGHT SYSTEM : System Description".](#))
- Combination meter turns the high beam assist indicator lamp ON according to the high beam assist indicator lamp signal.
- Front camera unit detects the vehicle status and ambient status that are required for high beam assist control with the following signals.
 - Vehicle speed signal (received from combination meter via CAN communication)
 - Ambient light signal (detect from front camera unit)
 - Image sensor signal (detect from front camera unit)
- Front camera unit judges the current recommended beam according to the vehicle status and ambient condition, and transmits the high beam assist request signal (headlamp HI operation / headlamp LO operation) to BCM via CAN communication.
- BCM switches the headlamp LO operation / headlamp HI operation according to high beam assist request signal, while the high beam assist system operation permission conditions are satisfied. For headlamp operation, refer to [EXL-21, "HEADLAMP SYSTEM : System Description".](#)

RECOMMENDED BEAM JUDGMENT BY FRONT CAMERA UNIT

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< SYSTEM DESCRIPTION >

Headlamp HI Operation Request

Front camera unit requests the headlamp HI operation to BCM when all of following conditions are satisfied.

- Detects the vehicle speed is approx. 40 km/h or more.
- Recognizes the ambient condition is dark.
- Recognizes there is no oncoming vehicle or no vehicle ahead in front of the vehicle.

Headlamp LO Operation Request

Front camera unit requests the headlamp LO operation to BCM when either of following conditions is satisfied.

- Detects the vehicle speed is approx. 30 km/h or less.
- Recognizes the ambient condition is bright.
- Recognizes there is oncoming vehicle or vehicle ahead in front of the vehicle.

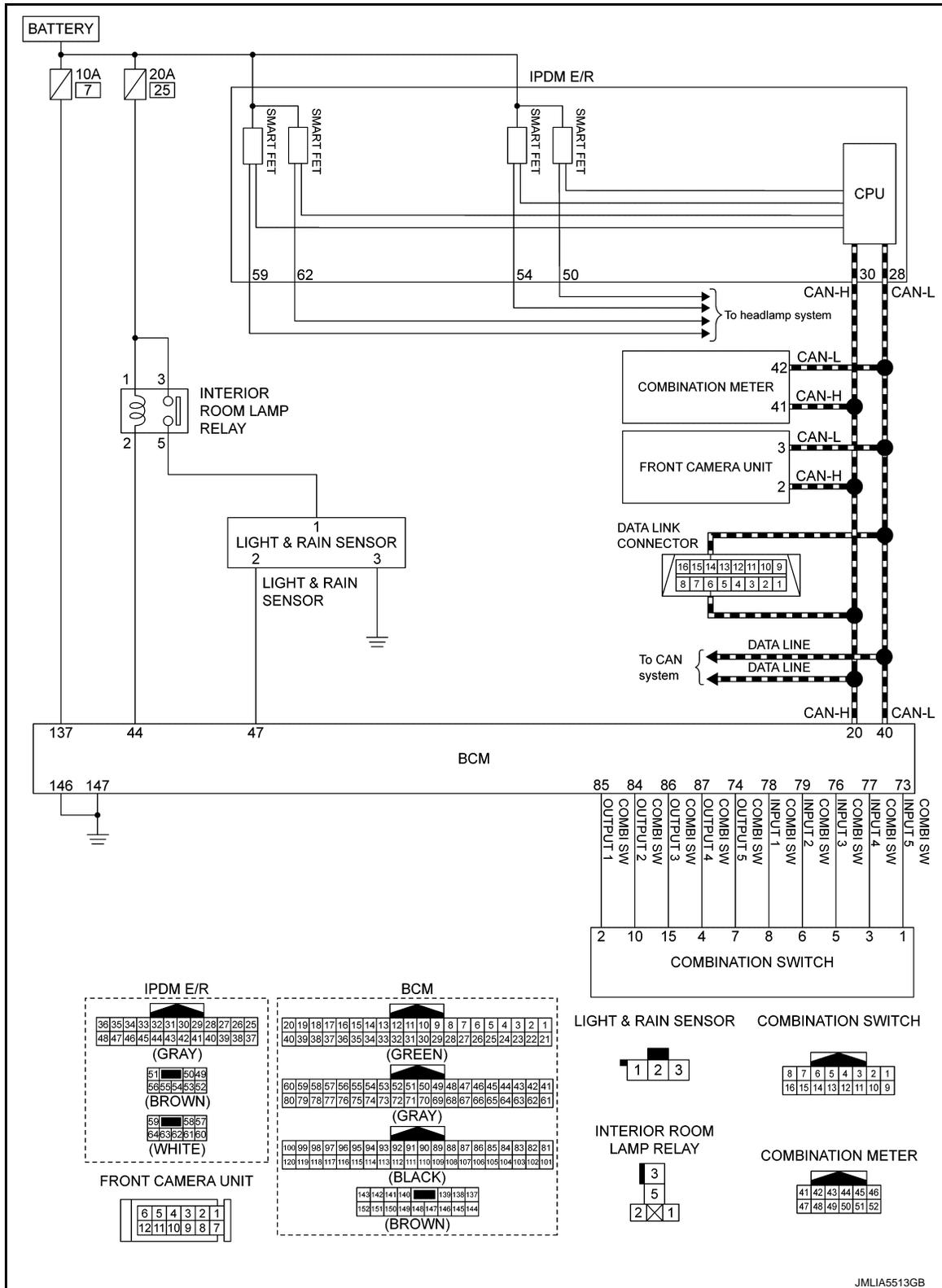
SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

HIGH BEAM ASSIST SYSTEM : Circuit Diagram

INFOID:000000011008905



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HIGH BEAM ASSIST SYSTEM : Fail-safe

INFOID:000000011008906

FRONT CAMERA UNIT TEMPORARY OPERATION CANCELLATION

- Temporary disabled status at high temperature
- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the system malfunction in information display.

< SYSTEM DESCRIPTION >

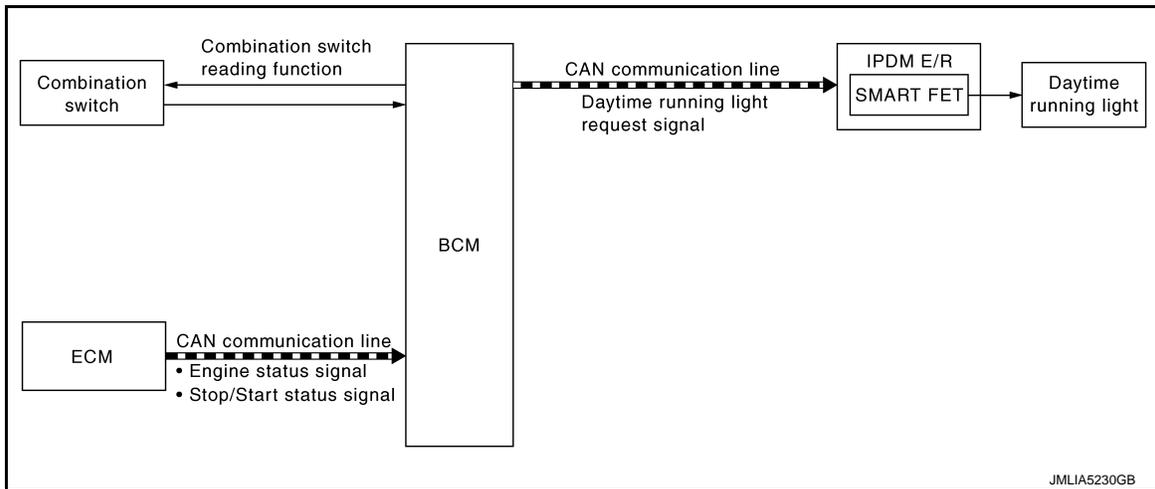
- When interior temperature is reduced, the system will resume operation automatically.
- When vehicle front identification is difficult
- When vehicle front identification is difficult due to soiling of windshield glass and strong light shining from the front, operation may be canceled temporarily. At this time, a warning is displayed on the vehicle information display in the combination meter.
- Normal operation recovers when conditions improve.

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000010788752

SYSTEM DIAGRAM



OUTLINE

Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and smart FET 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 engine status signal and Stop/Start status signal* (received from ECM via CAN communication).
- BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- Engine running and any following conditions are satisfied.
- Lighting switch OFF
- Lighting switch AUTO (Only when the illumination judgment by auto light system is OFF. For details, refer to [EXL-24. "AUTO LIGHT SYSTEM : System Description".](#))
- IPDM E/R turns the integrated smart FET ON, and turns the daytime running light ON according to the daytime running light request signal.

NOTE:

When the engine is stopped by the Stop/Start system, the operation of daytime running light system is not canceled.*

*: With Stop/Start system

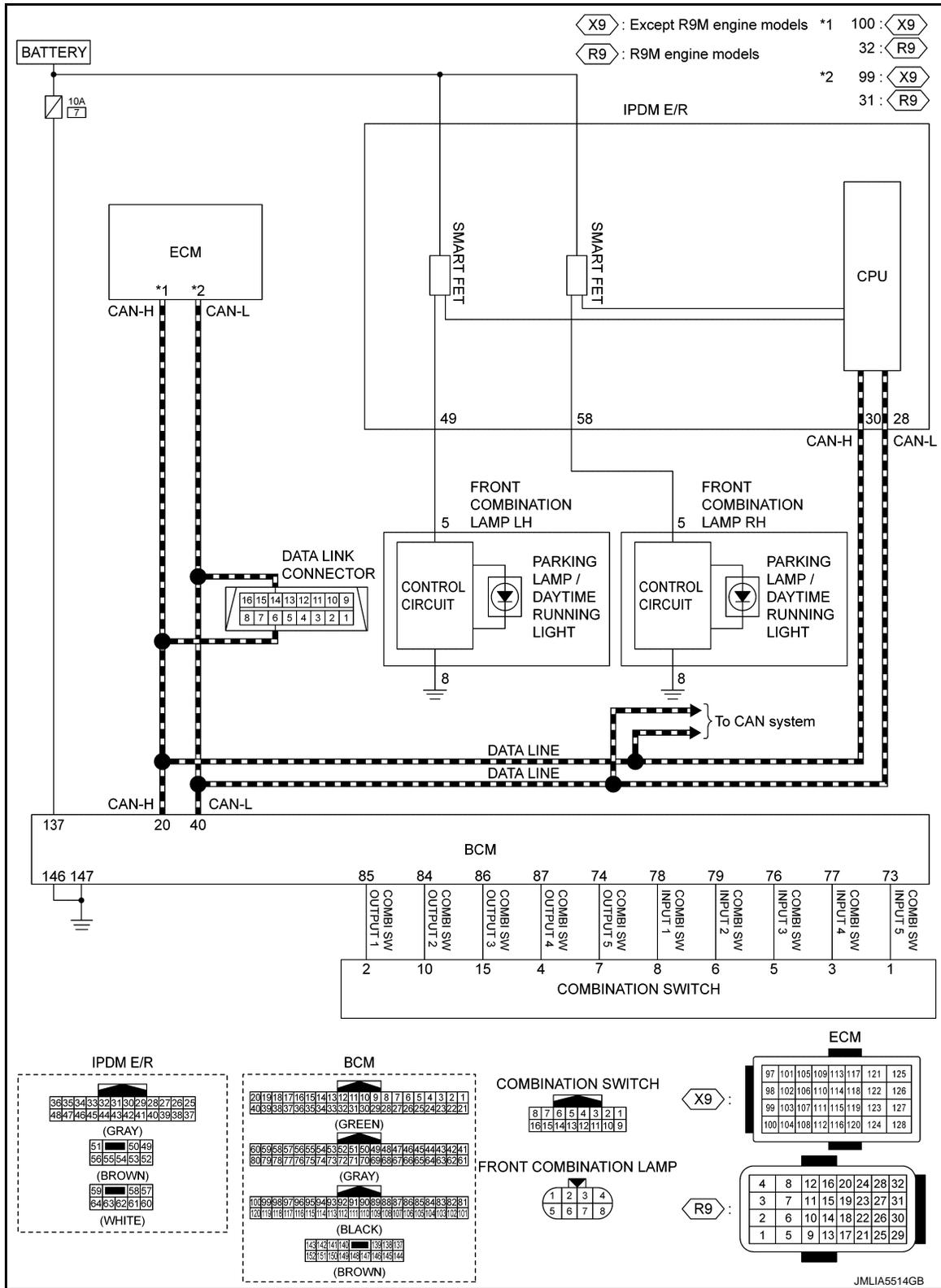
SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

DAYTIME RUNNING LIGHT SYSTEM : Circuit Diagram

INFOID:000000010788753



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EXL

DAYTIME RUNNING LIGHT SYSTEM : Fail-safe

INFOID:000000010788754

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

DTC	CONSULT display description		Fail-safe
B1231	DTRL RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light RH power supply circuit until the daytime running light ON conditions are no longer satisfied.
B20CB	DTRL LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light LH power supply circuit until the daytime running light ON conditions are no longer satisfied.

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

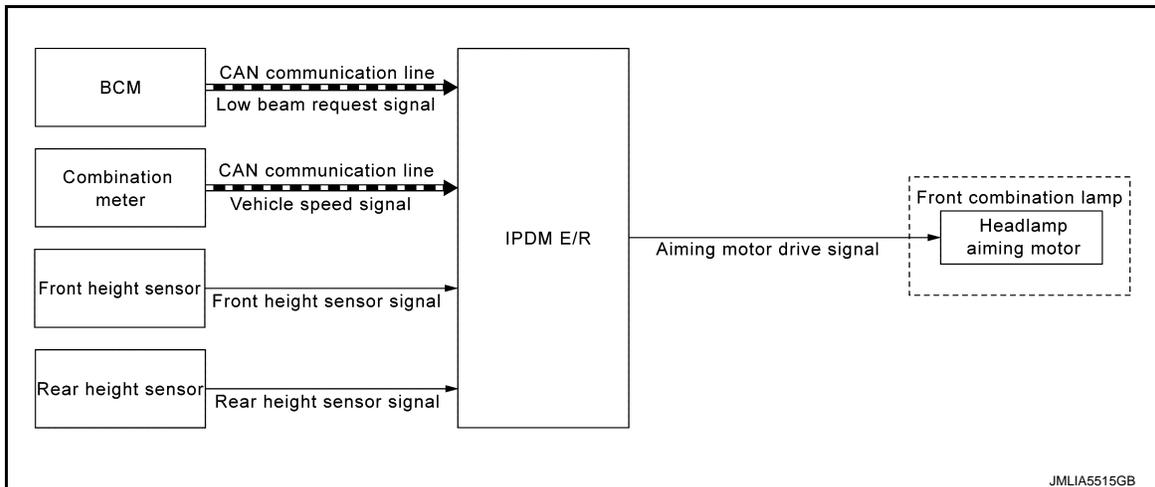
Control part	Fail-safe operation
Daytime running light	Daytime running light: OFF

HEADLAMP AIMING CONTROL SYSTEM (AUTO)

HEADLAMP AIMING CONTROL SYSTEM (AUTO) : System Description

INFOID:000000010788755

SYSTEM DIAGRAM



OUTLINE

- Headlamp aiming control system is controlled by IPDM E/R.
- IPDM E/R controls the headlamp light axis height appropriately depending on the vehicle front height (3-row seat models) and vehicle rear height.
- IPDM E/R detects the vehicle condition necessary for the headlamp aiming motor control with the following signals.
 - Front height sensor signal [inputted from front height sensor (3-row seat models)]
 - Rear height sensor signal (inputted from rear height sensor)
 - Low beam request signal (received from BCM via CAN communication)
 - Vehicle speed signal (received from combination meter via CAN communication)

HEADLAMP AUTO AIMING OPERATION

- IPDM E/R calculates vehicle pitch angle from front height sensor (3-row seat models) and rear height sensor signal and determines the necessary correction to compensate the deviation from standard light axis position.
- IPDM E/R outputs aiming motor drive signal when operating conditions are satisfied.

Operating condition (when all of the following conditions are satisfied)

- Ignition switch ON
- Headlamp (LO) ON
- IPDM E/R changes the aiming motor drive signal when any of the correcting condition is detected. Output is maintained if other condition is detected.

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Correcting condition (when any of the following conditions are satisfied)

- Ignition switch ON A
- Headlamp (LO) is turned ON. B
- Vehicle posture becomes stable after the vehicle posture change is detected with the headlamp (LO) ON and the vehicle stopped. B
- Vehicle speed is maintained with the headlamp (LO) ON and the vehicle driven. B

NOTE:

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

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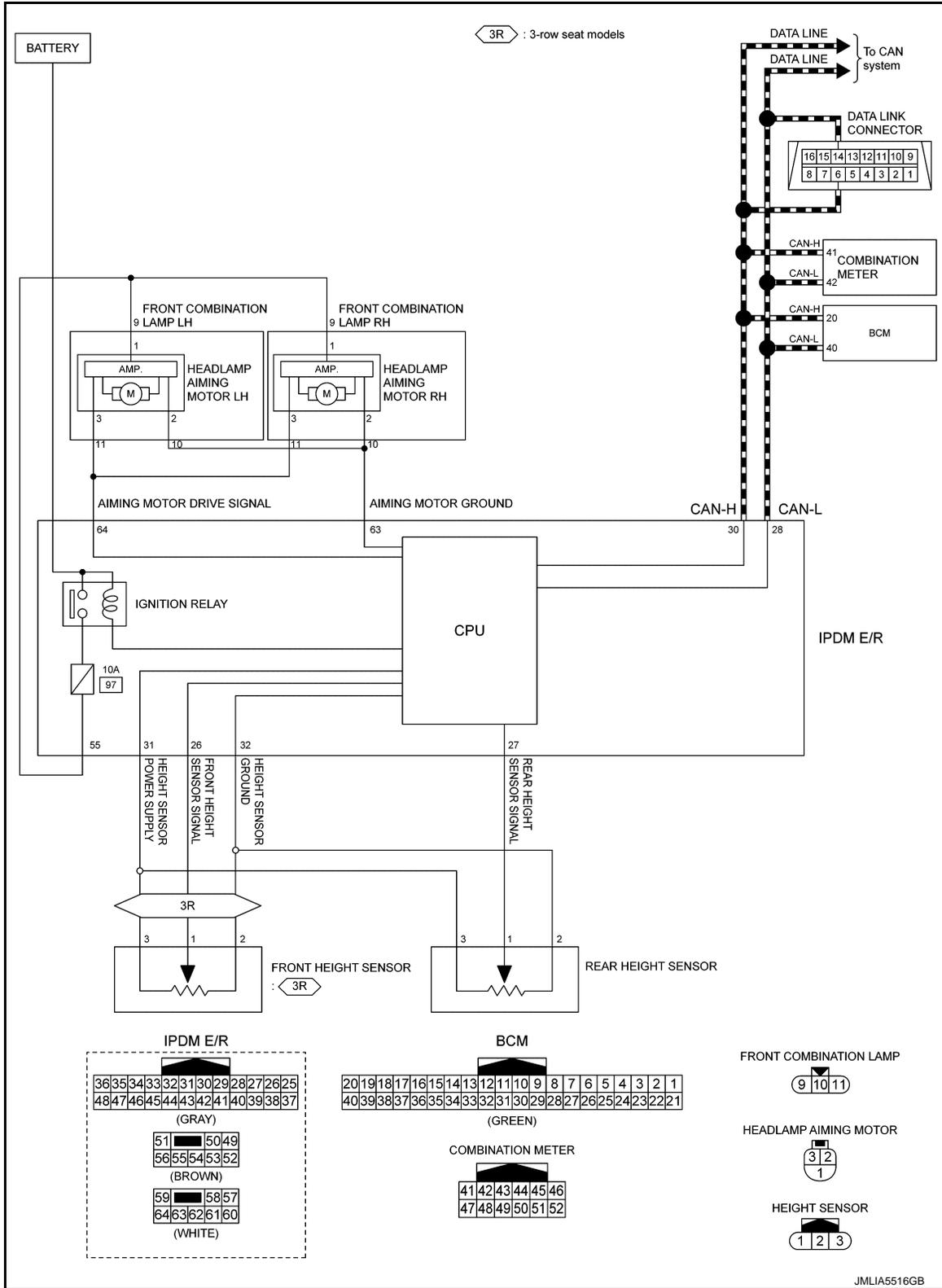
SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

HEADLAMP AIMING CONTROL SYSTEM (AUTO) : Circuit Diagram

INFOID:000000010788756



HEADLAMP AIMING CONTROL SYSTEM (AUTO) : Fail-safe

INFOID:000000010788757

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

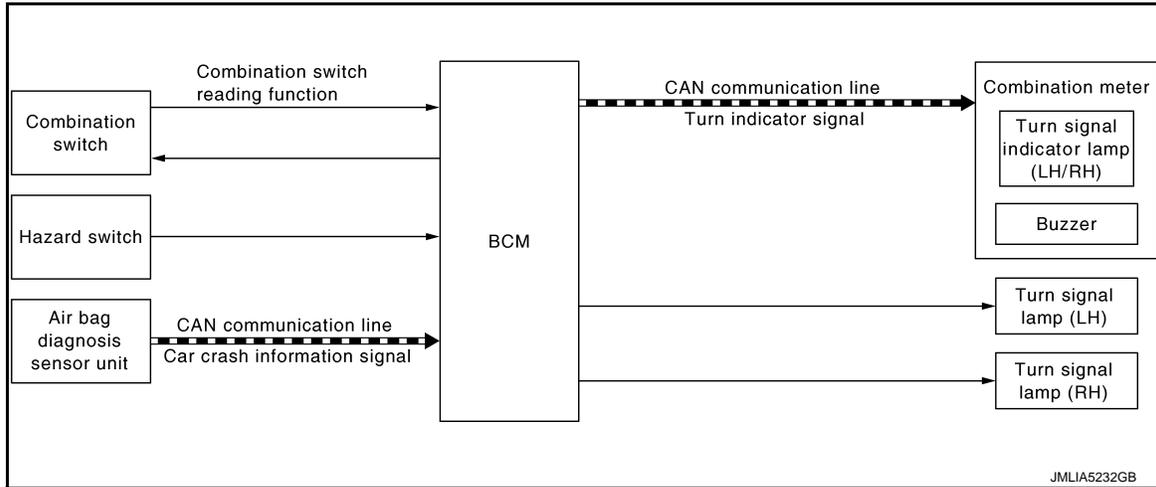
DTC	CONSULT display description	Fail-safe	A	
B1C00	HEIGHT SENSOR PWR SPLY CIRC	[CIRC SHORT TO GRND]	Right and left headlamp aiming motors stop at the position when DTC is detected.	B
		[CIRC SHORT TO BATTERY]		C
B1C01	FR HEIGHT SENSOR SIGNAL	[CIRC SHORT TO BATTERY]	Right and left headlamp aiming motors stop at the position when DTC is detected.	D
		[CIRC SHORT TO GROUND OR OPEN]		E
		[CIRC VOLTAGE OUT OF RANGE]		F
B1C02	RR HEIGHT SENSOR SIGNAL	[CIRC SHORT TO BATTERY]	Right and left headlamp aiming motors stop at the position when DTC is detected.	G
		[CIRC SHORT TO GROUND OR OPEN]		H
		[CIRC VOLTAGE OUT OF RANGE]		I
B1C07	AIMING MOTOR DRIVE SIGNAL	[CIRC SHORT TO GRND]	Right and left headlamp aiming motors stop at the position when DTC is detected.	J
		[CIRC SHORT TO BATTERY]		K
		[SIGNAL COMPARE FAILURE]		EXL
B1C11	FR HEIGHT SENSOR SIGNAL	[SIG PRTCTN CLCLTN IN-CRCT]	Right and left headlamp aiming motors stop at the position when DTC is detected.	M
B1C12	RR HEIGHT SENSOR SIGNAL	[SIG PRTCTN CLCLTN IN-CRCT]	Right and left headlamp aiming motors stop at the position when DTC is detected.	N
B20DB	HEIGHT SENS INITIALIZE NOT DONE	[MISSING CALIBRATION]	Right and left headlamp aiming motors fix at the initial aiming position.	O
		[NOT CONFIGURED]		P

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000010788758

SYSTEM DIAGRAM



OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

3-TIME FLASHER FUNCTION

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

NOTE:

ON/OFF of 3-time flasher function can be changed using CONSULT. Refer to [EXL-57. "FLASHER : CONSULT Function \(BCM - FLASHER\) \(LED Headlamp\)".](#)

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.

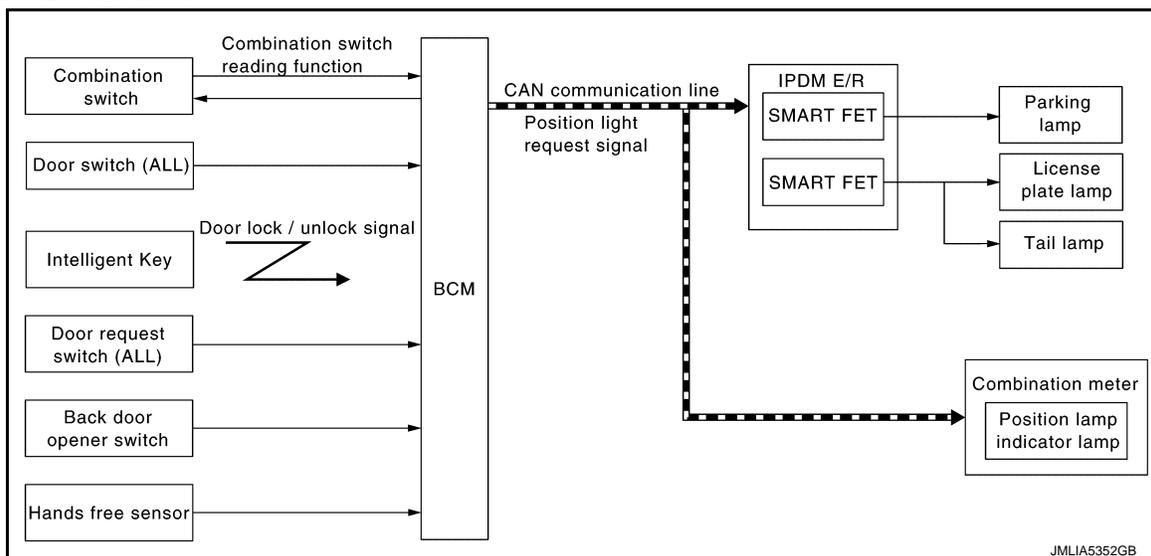
AUTO HAZARD FUNCTION

- Air bag diagnosis sensor unit transmits car crash information signal to BCM via CAN communication, when air bag diagnosis sensor unit detects strong impact to the vehicle body while ignition switch is ON.
- When car crash information signal received from air bag diagnosis sensor unit is detected, BCM supplies voltage to each turn signal lamp system and hazard lamp blinks.

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : System Description

INFOID:000000010788760

SYSTEM DIAGRAM



OUTLINE

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

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

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

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-24. "AUTO LIGHT SYSTEM : System Description".](#))
- IPDM E/R turns the integrated smart FET ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
- Combination meter turns the position lamp indicator lamp ON according to the position light request signal.

NOTE:

Parking lamp and daytime running light use a common light source. When the parking, license plate and tail lamps are turned ON while daytime running light is ON, the parking lamp/daytime running light is dimmed.

FOLLOW ME HOME FUNCTION

When the driver is moving to the house entrance from the own vehicle, parking, license plate and tail lamps are kept still ON by the follow me home function of BCM.

- When BCM detects the input of lighting switch PASS while all of the following conditions are satisfied, it transmits the position light request signal for a period of time to IPDM E/R and the combination meter through CAN communication.

Follow me home ON condition (When all of the following conditions are satisfied)

- Ignition switch OFF
- Lighting switch OFF or AUTO
- IPDM E/R turns the integrated smart FET ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
- Combination meter turns the position lamp indicator lamp ON according to the position light request signal.
- When in any of following conditions, follow me home function can be cancelled while follow me home function is operating.

Follow me home OFF condition (When any of the following conditions are satisfied)

- Ignition switch other than OFF
- Lighting switch other than OFF or AUTO

< SYSTEM DESCRIPTION >

- Follow me home operating time is expired

NOTE:

- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).

SIGNATURE LIGHT FUNCTION

Description

The signature light function is a function that turns ON the parking lamp, license plate lamp, and tail lamp for a set period of time when the doors are locked or unlocked from outside the vehicle.

Operation Description

BCM transmits the position light request signal to IPDM E/R and the combination meter via CAN communication according to the signature light function ON condition.

Signature light function ON condition (Operation when doors are unlocked)

- When all of the following conditions are satisfied, the signature light function operates when door unlock operation is performed from outside the vehicle (Intelligent Key, door request switch, back door opener switch, hands free function).
 - Ignition switch: OFF
 - Door open/close status: All door close
 - Door lock status: All door lock
- When any of the following conditions is satisfied while the signature light function is operating, the signature light function stops.
 - Ignition switch: ON
 - Door lock status: All door lock (This only occurs when door lock operation is performed using the door lock and unlock switch, etc. When door lock operation is performed with the Intelligent Key or door request switch, the system changes to operation when doors are locked.)
 - Since signature light function ON, 30 seconds are passed.

Signature light function ON condition (Operation when doors are locked)

- When all of the following conditions are satisfied, the signature light function operates when door lock operation is performed from outside the vehicle (Intelligent Key or door request switch).
 - Ignition switch: OFF
 - Door open/close status: All door close
- When any of the following conditions is satisfied while the signature light function is operating, the signature light function stops.
 - Ignition switch: ON
 - Door open/close status: Any door open
 - Door lock status: Any door unlock or all door unlock (This only occurs when door unlock operation is performed using the door lock and unlock switch etc. When door unlock operation is performed with the Intelligent Key, door request switch, back door opener switch or hands free function, the system changes to operation when doors are unlocked.)
 - Door open/close status: All door close
 - Since signature light function ON, 10 seconds are passed.

NOTE:

ON/OFF of signature light function can be changed using CONSULT. Refer to [DLK-75. "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\) \(With Super Lock\)"](#) or [DLK-385. "INTELLIGENT KEY : CONSULT Function \(BCM - INTELLIGENT KEY\) \(Without Super Lock\)"](#).

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EXL

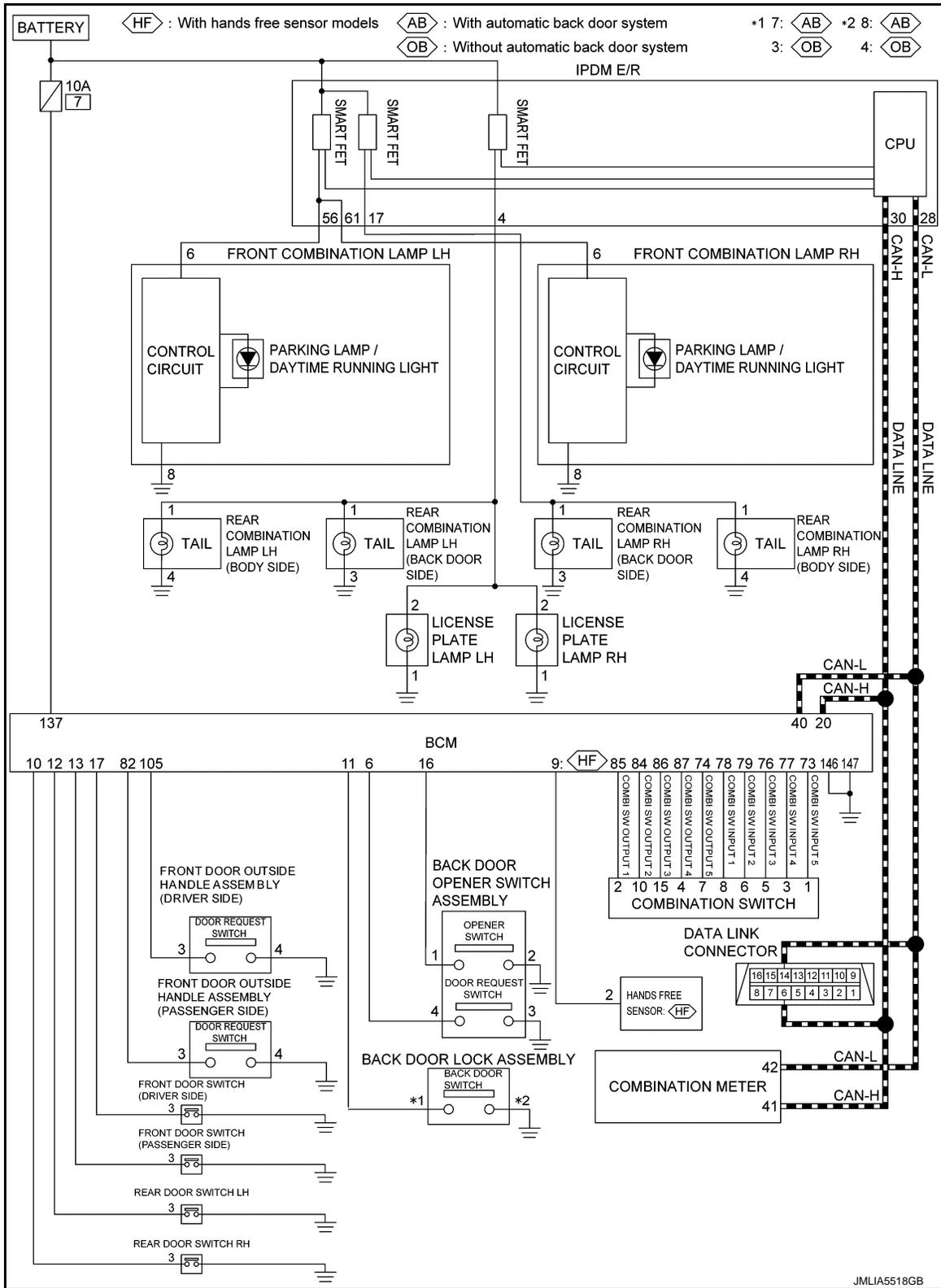
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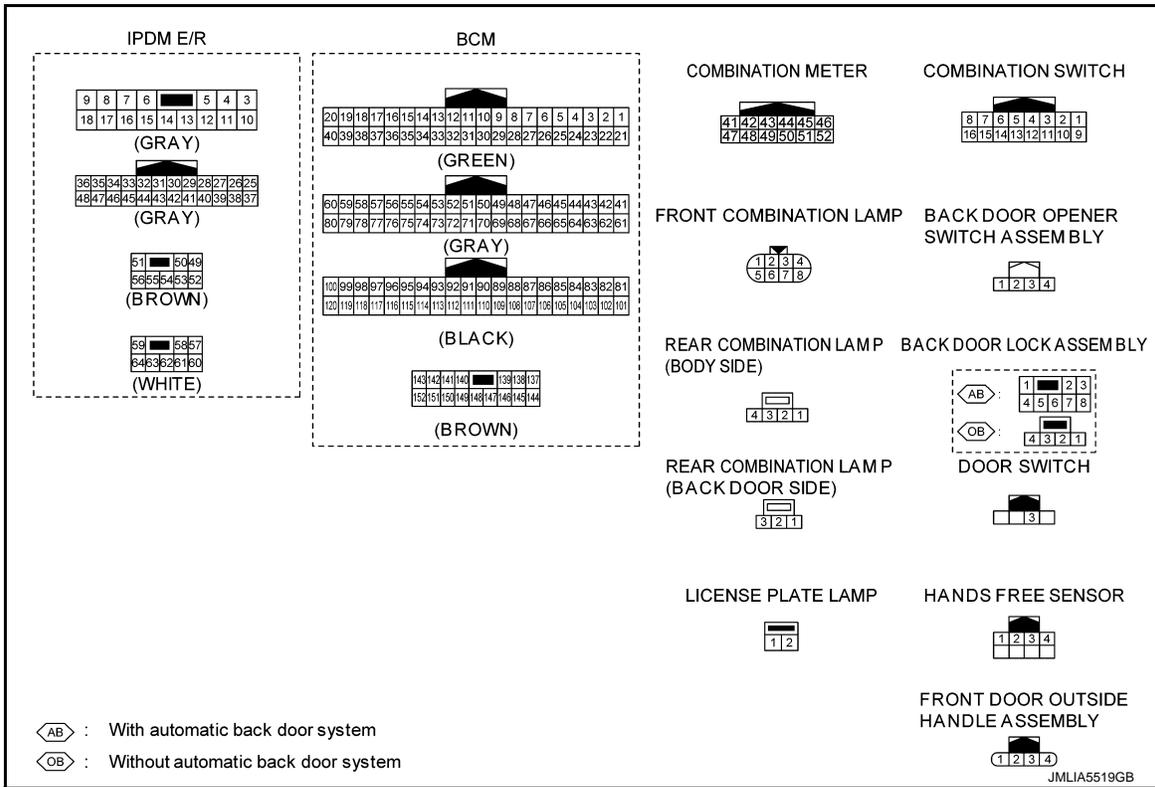
< SYSTEM DESCRIPTION >

[LED HEADLAMP]

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : Circuit Diagram

INFOID:000000010788761





PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : Fail-safe

INFOID:000000010788762

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

DTC	CONSULT display description	Fail-safe
B20D2	PARKING LAMP PWR SPLY CIRC [CIRC SHORT TO GRND]	Shuts off the power supply to the parking lamp (LH/RH) power supply circuit until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.
B20D4	TAIL LAMP LH PWR SPLY CIRC [CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. <ul style="list-style-type: none"> • Tail lamp LH (body side) • Tail lamp LH (back door side) • License plate lamp LH • License plate lamp RH
B20D5	TAIL LAMP RH PWR SPLY CIRC [CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. <ul style="list-style-type: none"> • Tail lamp RH (body side) • Tail lamp RH (back door side)

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

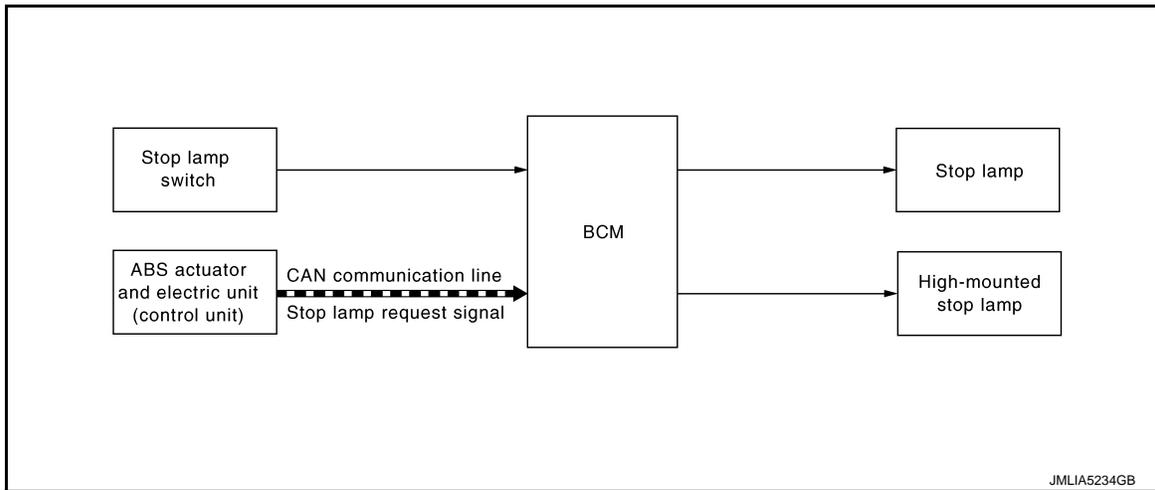
Control part	Fail-safe operation
<ul style="list-style-type: none"> • Parking lamp • License plate lamp • Tail lamp 	<ul style="list-style-type: none"> • Turns ON the tail lamp, parking lamp and license plate lamp when the ignition switch is turned ON. • Turns OFF the tail lamp, parking lamp and license plate lamp when the ignition switch is turned OFF.

STOP LAMP SYSTEM

STOP LAMP SYSTEM : System Description

INFOID:000000010788763

SYSTEM DIAGRAM



OUTLINE

Stop lamp and high-mounted stop lamp is controlled by combination switch reading function and the stop lamp and high-mounted stop lamp control function of BCM, and forward emergency braking function of ABS actuator and electric unit (control unit).

STOP LAMP AND HIGH-MOUNTED STOP LAMP OPERATION

- BCM detects the brake pedal position status from stop lamp switch.
- BCM supplies voltage to stop lamp and high-mounted stop lamp according to the stop lamp and high-mounted stop lamp ON condition.

Stop lamp and high-mounted stop lamp ON condition

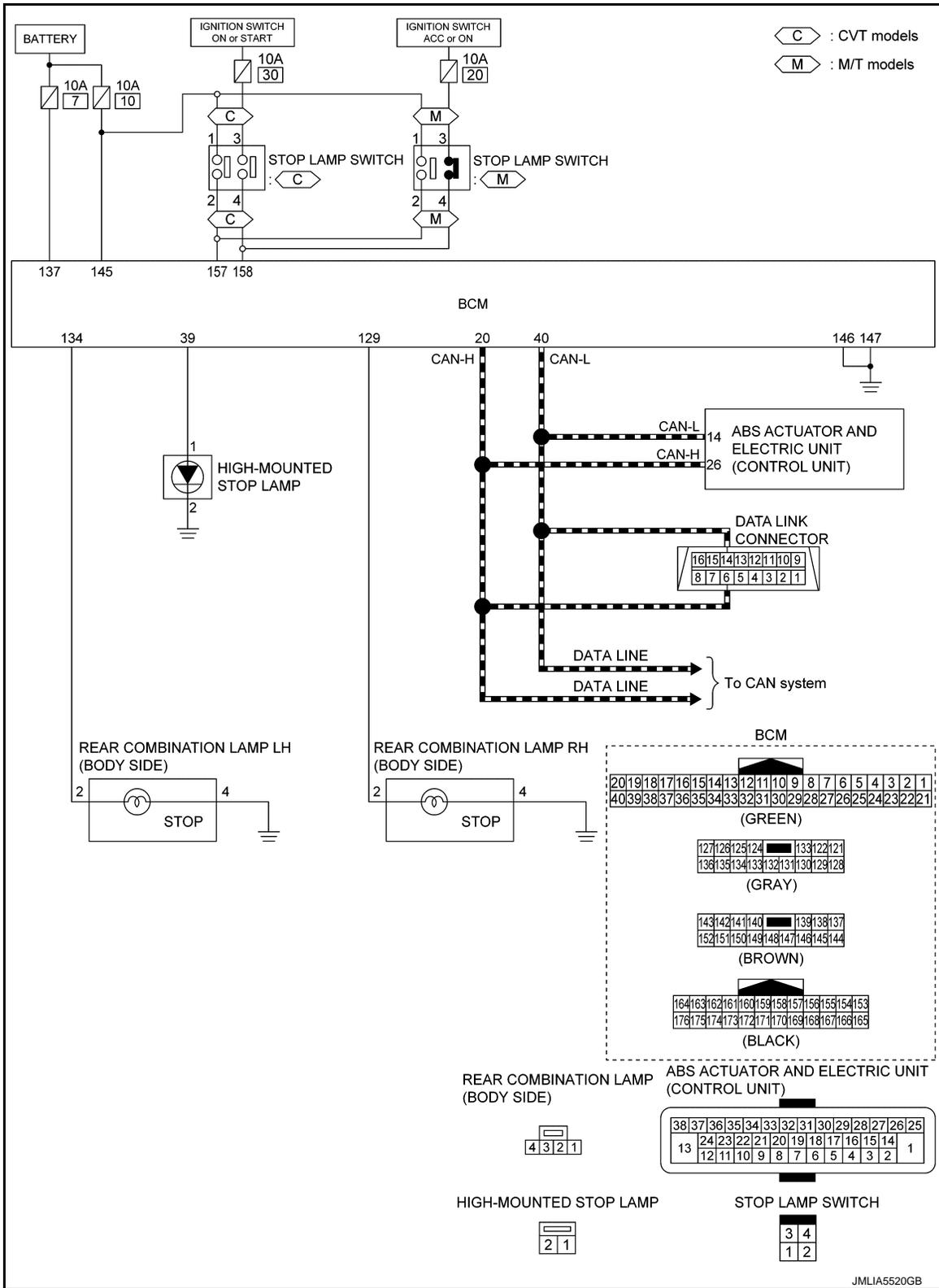
- Brake pedal is depressed

FORWARD EMERGENCY BRAKING FUNCTION

- When the forward emergency braking operates, the ABS actuator and electric unit (control unit) transmits the stop lamp request signal to BCM via CAN communication. (For details about the forward emergency braking, refer to [BRC-232, "System Description"](#).)
- When BCM receives the stop lamp request signal from the ABS actuator and electric unit (control unit), it supplies power to the stop lamp and high-mounted stop lamp systems, turning ON the stop lamp and high-mounted stop lamp.

STOP LAMP SYSTEM : Circuit Diagram

INFOID:000000010788764



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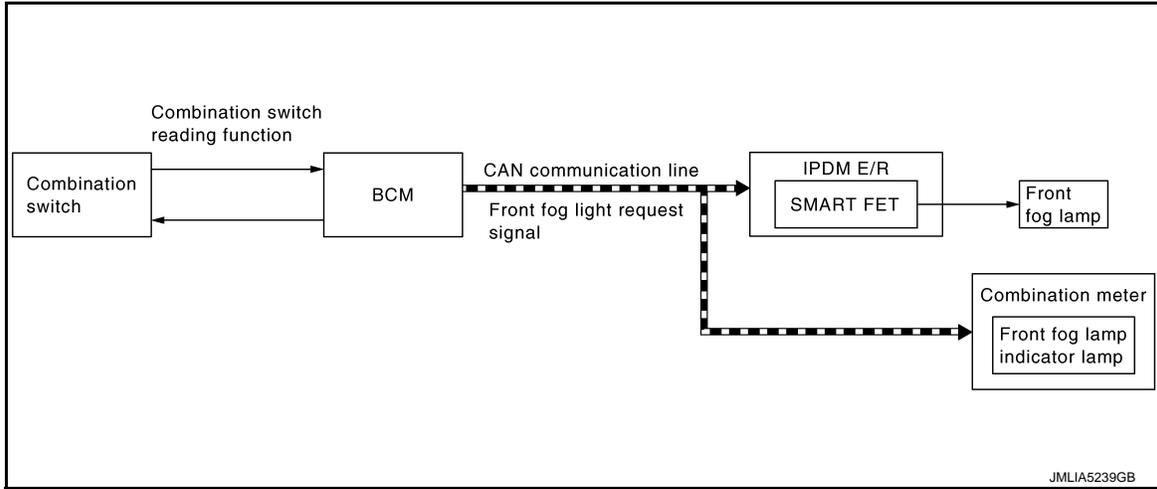
EXL

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Description

INFOID:000000010788765

SYSTEM DIAGRAM



OUTLINE

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

FRONT FOG LAMP OPERATION

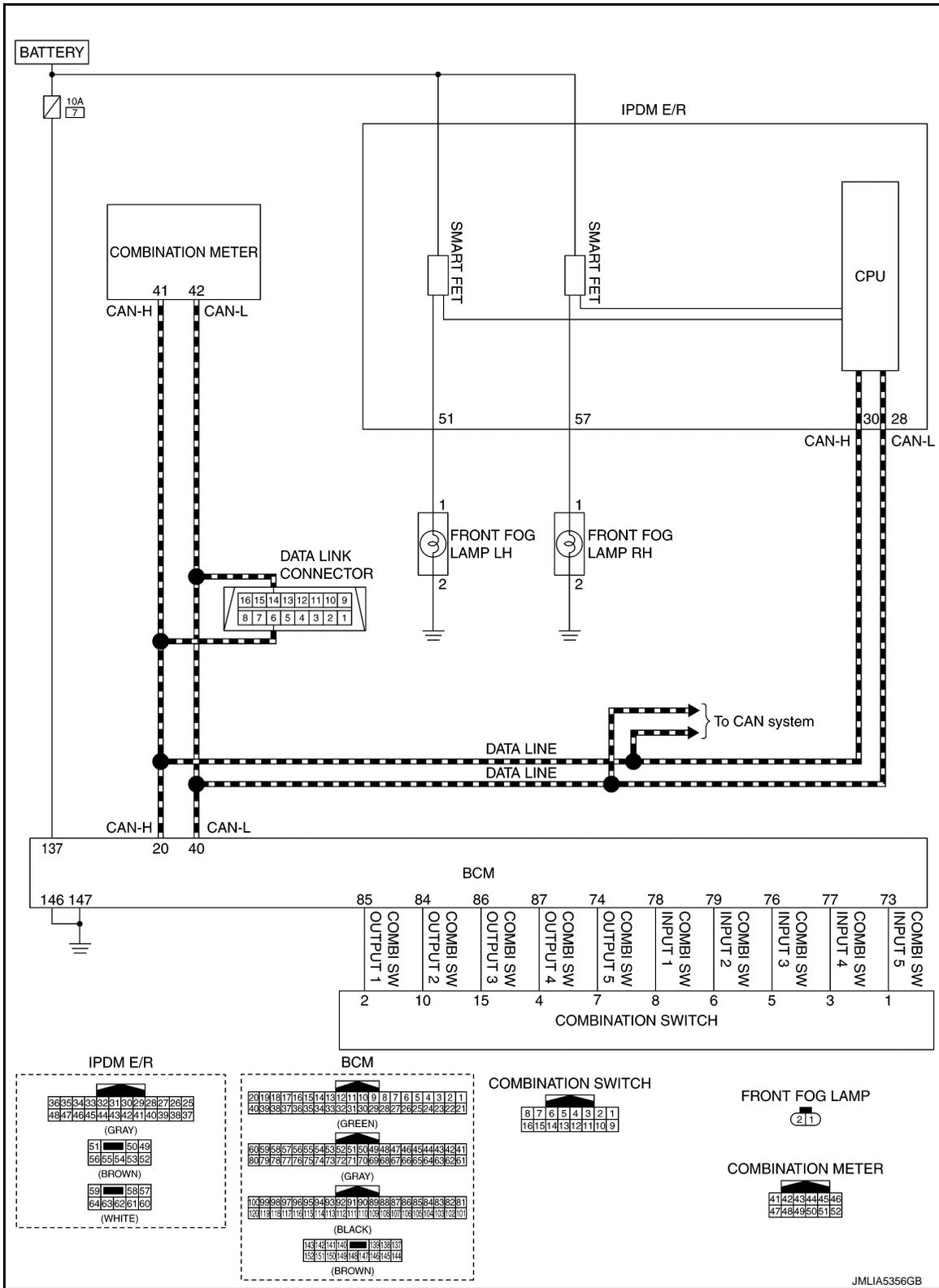
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front fog light request signal to IPDM E/R and the combination meter via CAN communication according to the front fog lamp ON condition.

Front fog lamp ON condition

- Front fog lamp switch is turned from OFF to ON, and any of the following conditions are satisfied.
 - Lighting switch 1ST
 - Lighting switch 2ND
 - Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-24. "AUTO LIGHT SYSTEM : System Description"](#).)
- IPDM E/R turns the integrated smart FET ON, and turns the front fog lamp ON according to the front fog light request signal.
- Combination meter turns the front fog lamp indicator lamp ON according to the front fog light request signal.

FRONT FOG LAMP SYSTEM : Circuit Diagram

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FRONT FOG LAMP SYSTEM : Fail-safe

INFOID:000000010788767

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

DTC	CONSULT display description		Fail-safe
B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp LH power supply circuit until the front fog lamp ON conditions are no longer satisfied.
B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp RH power supply circuit until the front fog lamp ON conditions are no longer satisfied.

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

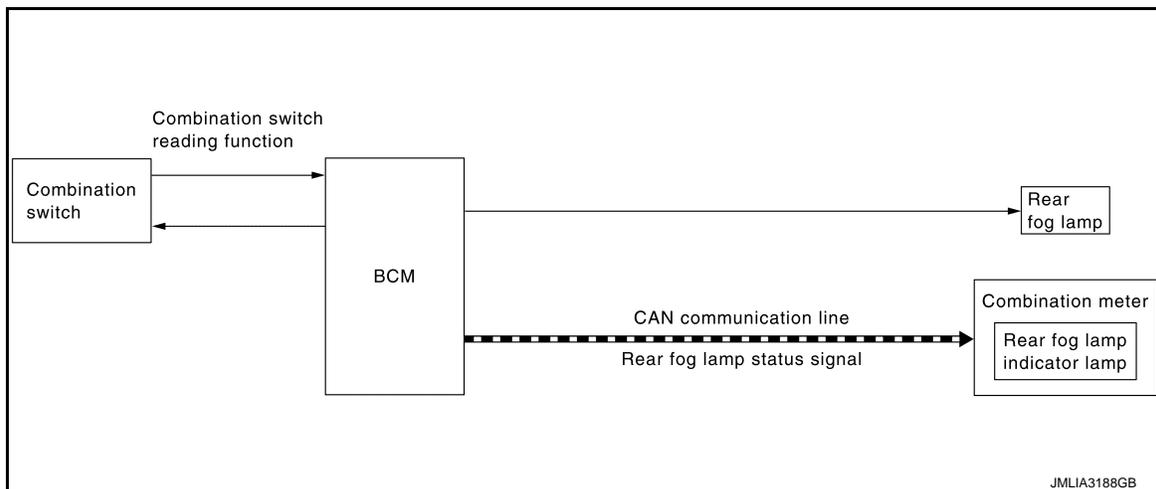
Control part	Fail-safe operation
Front fog lamp	Front fog lamp: OFF

REAR FOG LAMP SYSTEM

REAR FOG LAMP SYSTEM : System Description

INFOID:000000010788768

SYSTEM DIAGRAM



OUTLINE

Rear fog lamp is controlled with the combination switch reading function and the rear fog lamp control function of BCM.

REAR FOG LAMP OPERATION

- BCM detects the condition of the combination switch by the combination switch reading function.
- BCM supplies voltage to rear fog lamp according to the rear fog lamp ON condition.

Rear fog lamp ON condition

- Rear fog lamp switch is turned from OFF to ON, and any of the following conditions are satisfied.
 - Headlamp ON
 - Front fog lamp ON
 - Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-24. "AUTO LIGHT SYSTEM : System Description".](#))
- BCM transmits the rear fog lamp status signal to the combination meter using CAN communication.
- Combination meter turns the rear fog lamp indicator lamp ON according to the rear fog lamp status signal.

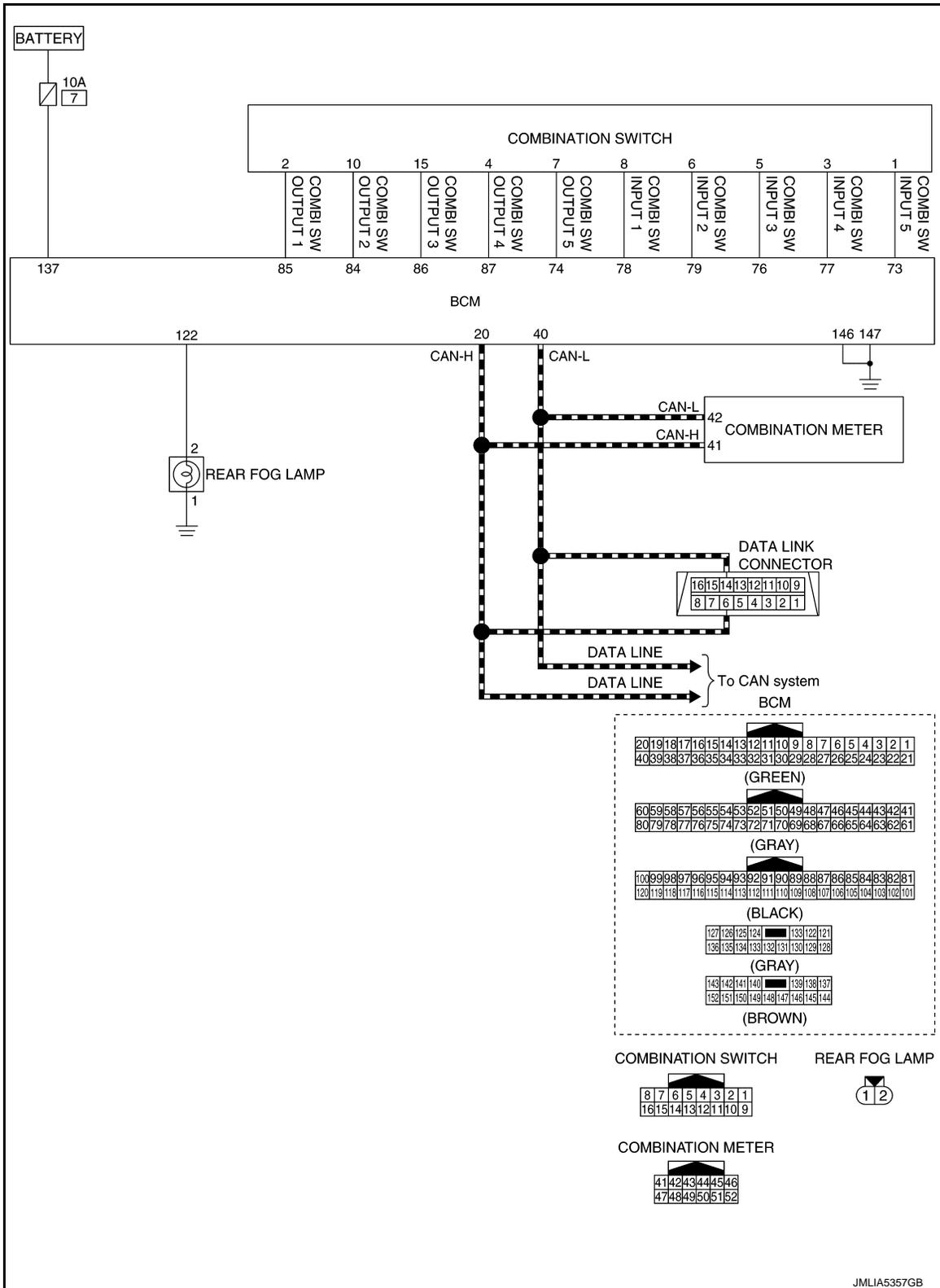
SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

REAR FOG LAMP SYSTEM : Circuit Diagram

INFOID:000000010788769

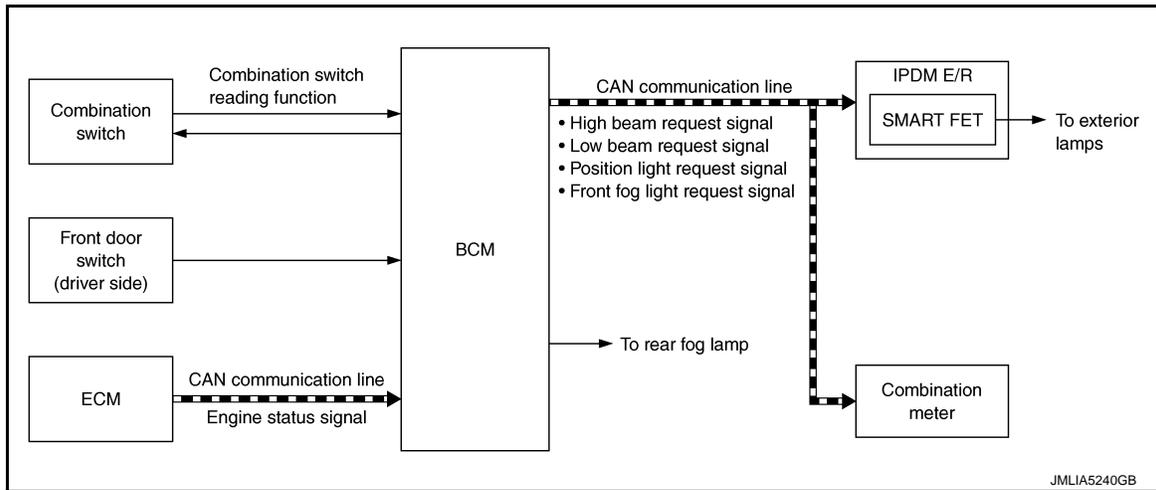


EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000011008907

SYSTEM DIAGRAM



OUTLINE

- Exterior lamp battery saver system is controlled by combination switch reading function and exterior lamp battery saver function of BCM, and smart FET control function of IPDM E/R.
- BCM turns the exterior lamp* OFF, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.

*: Headlamp (LO/HI), front fog lamp, rear fog lamp, parking lamp, license plate lamp and tail lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM turns the exterior lamps OFF (battery saver is activated) when all of the following conditions are satisfied.
 - Exterior lamp: ON
 - Engine status: Running→Stop (ignition switch is turned OFF)
 - Front door switch (driver side): OFF→ON

NOTE:

When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps (except front fog lamp and rear fog lamp) can be turned ON.

- Lighting switch: 1ST or 2ND→OFF or AUTO→1ST or 2ND
- Engine status: Stop→Running

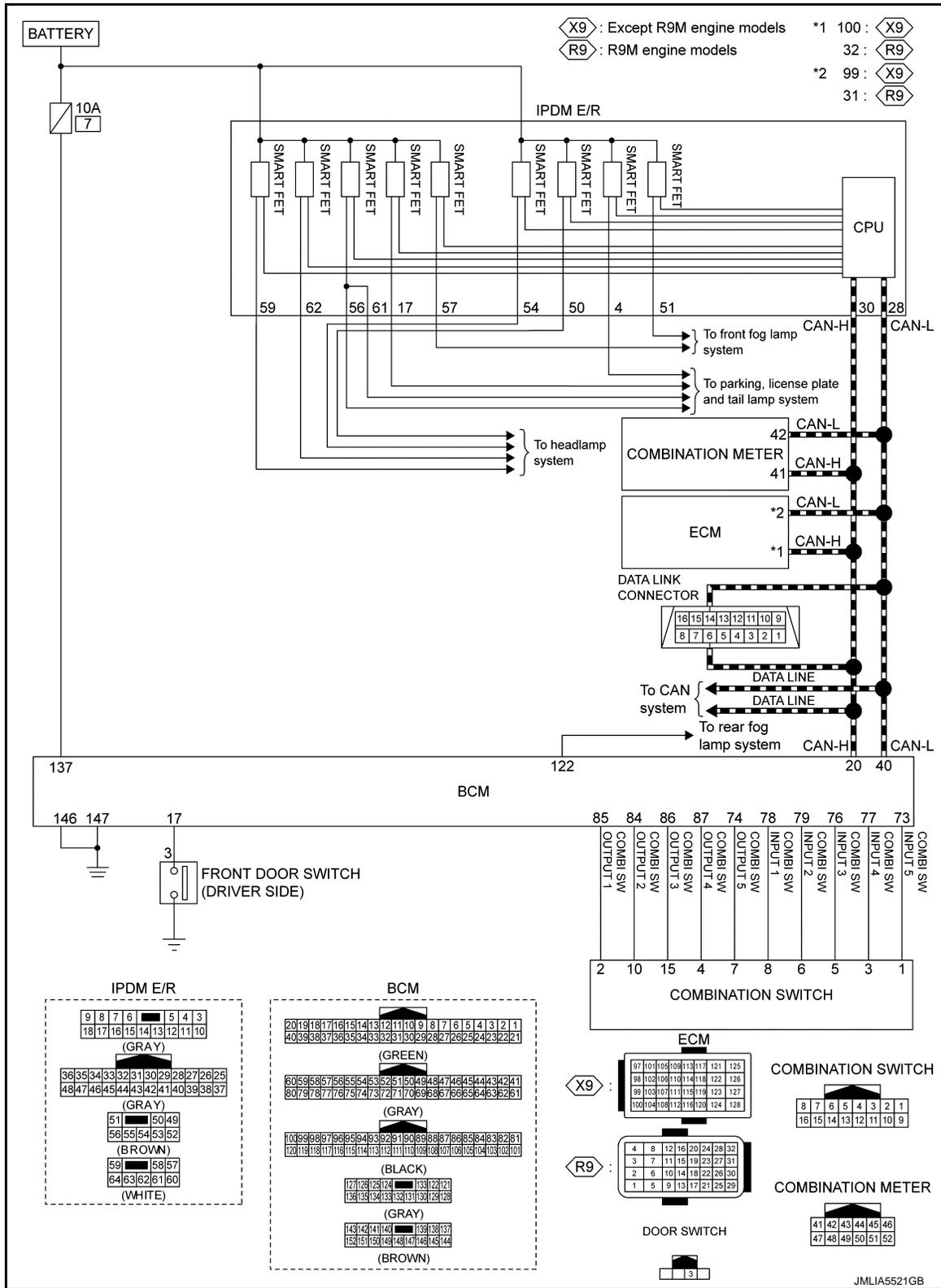
SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

EXTERIOR LAMP BATTERY SAVER SYSTEM : Circuit Diagram

INFOID:000000010788771



INFORMATION DISPLAY (COMBINATION METER)

INFORMATION DISPLAY (COMBINATION METER) : Headlamp Warning

INFOID:000000010788772

DESIGN/PURPOSE

Headlamp warning warns the driver that there is a malfunction in LED headlamp system.

Symbol	Message
—	Headlight system fault

SYNCHRONIZATION WITH MASTER WARNING LAMP

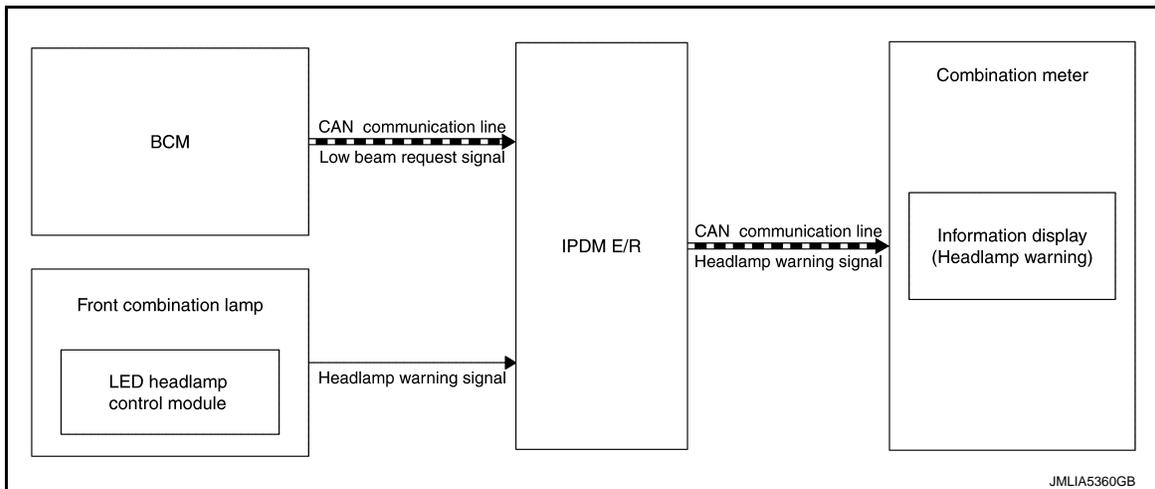
Synchronization is applied.

For master warning lamp, refer to [MWI-47, "WARNING LAMPS/INDICATOR LAMPS : Master Warning Lamp"](#).

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to [MWI-19, "METER SYSTEM : Fail-Safe"](#).

SYSTEM DIAGRAM



SIGNAL PATH

- BCM transmits the low beam request signal to IPDM E/R with CAN communication when headlamp (LO) ON judgment.
- When LED headlamp control module detects a malfunction of headlamp (LO) circuit, headlamp warning signal is output to IPDM E/R.
- When the IPDM E/R receives the low beam request signal and the headlamp warning signal is input, it transmits the headlamp warning signal (CAN communication) to the combination meter.
- When the ignition switch is ON and the combination meter receives the headlamp warning signal, the combination meter displays the headlamp warning on the information display.

WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied.

- Ignition switch ON
- Headlamp warning signal (CAN communication) is ON (IPDM E/R receives the low beam request signal and inputs the headlamp warning signal).

NOTE:

When the headlamp warning signal is received, the most likely cause is a malfunction of the following.

- Headlamp (LO) power supply/ground circuit
- Headlamp warning signal circuit
- Front combination lamp internal circuit
 - LED [Headlamp (LO)]
 - LED headlamp control module
 - Harness

WARNING/INDICATOR CANCEL CONDITION

When any of the following conditions are satisfied.

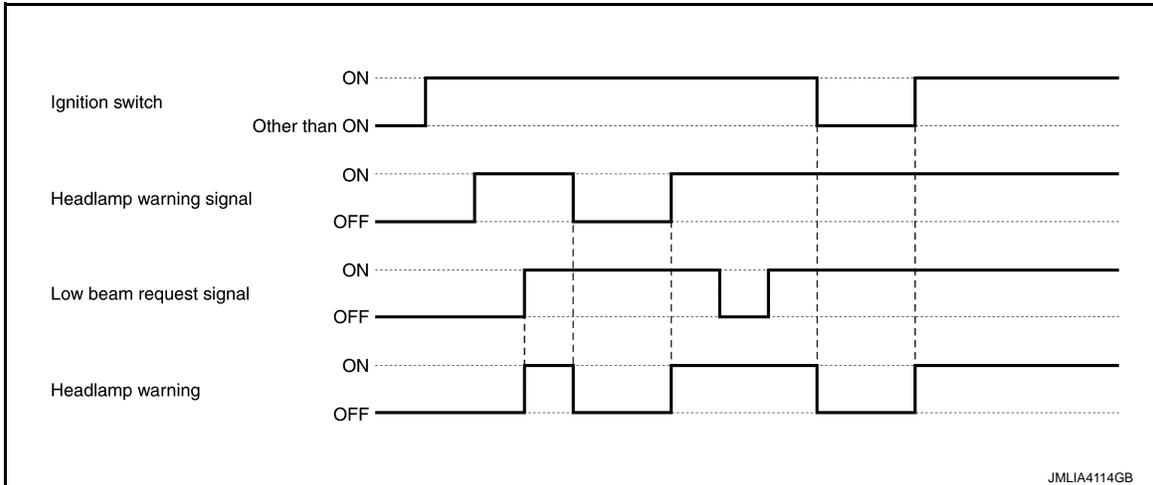
- Ignition switch OFF
- Headlamp warning signal (CAN communication) is OFF (IPDM E/R receives the low beam request signal and does not input the headlamp warning signal).

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

TIMING CHART



INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Information Display)

INFOID:000000010788773

DESIGN/PURPOSE

When the driver is exiting the vehicle while ignition is in any position other than ON and lamps are ON, the light reminder warning (information display) displays a warning in the information display to alert the driver.

Symbol	Message
<p>JPNIA1880ZZ</p>	Turn off headlights

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

SYNCHRONIZATION WITH WARNING CHIME

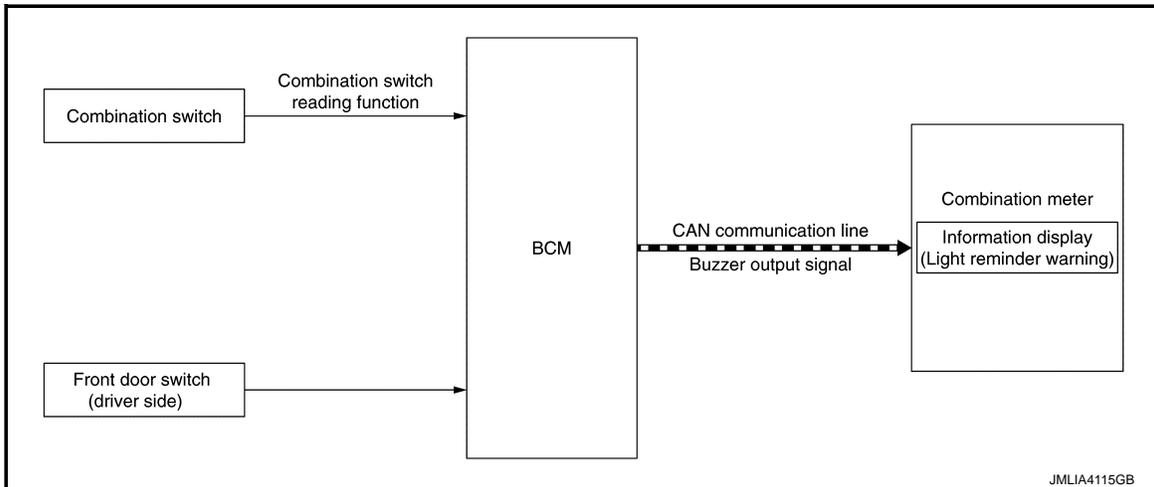
Synchronization is applied.

For warning chime, refer to [WCS-12, "WARNING CHIME : Light Reminder Warning \(Buzzer\)"](#).

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to [MWI-19, "METER SYSTEM : Fail-Safe"](#).

SYSTEM DIAGRAM



SIGNAL PATH

- BCM reads status of combination switch.
- BCM judges light reminder warning (information display) by lighting switch signal and driver door switch (driver side) signal. BCM transmits buzzer output signal to combination meter via CAN communication.
- When combination meter receives the buzzer output signal, “Light reminder warning” pop-up screen appears in the information display.

WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied.

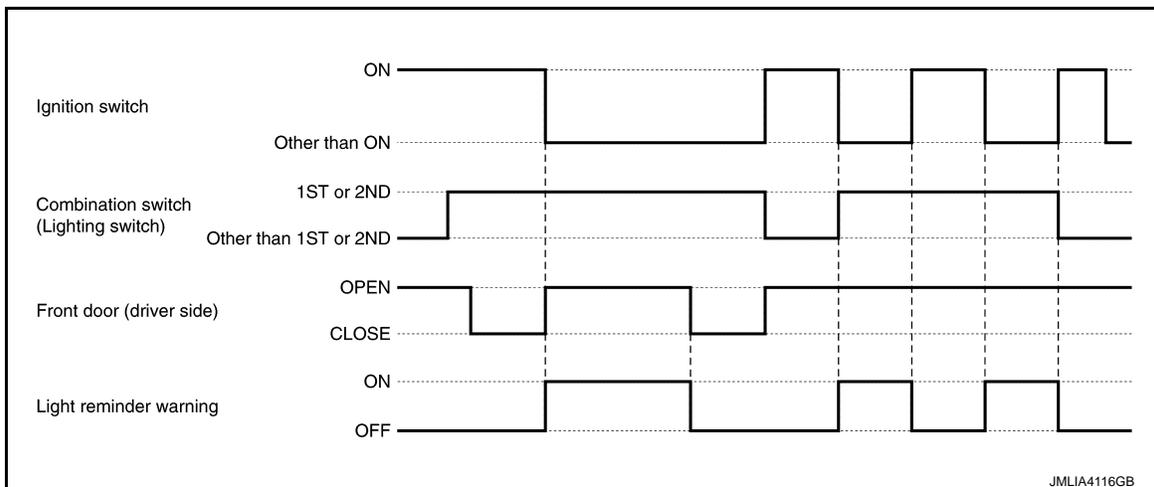
- Ignition other than ON
- Lighting switch 1ST or 2ND
- Front door (driver side) OPEN [front door switch (driver side) ON]

WARNING/INDICATOR CANCEL CONDITION

When any of the following conditions are satisfied.

- Ignition ON
- Lighting switch other than 1ST or 2ND
- Front door (driver side) CLOSE [front door switch (driver side) OFF]

TIMING CHART



WARNING/INDICATOR/CHIME LIST

SYSTEM

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp

INFOID:000000010788774

Item	Design	Reference
Dipped beam indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-32, "WARNING LAMPS/INDICATOR LAMPS : Dipped Beam Indicator Lamp" .
Front fog lamp indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-38, "WARNING LAMPS/INDICATOR LAMPS : Front Fog Lamp Indicator Lamp" .
High beam assist indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-40, "WARNING LAMPS/INDICATOR LAMPS : High Beam Assist Indicator Lamp" .
High beam indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-41, "WARNING LAMPS/INDICATOR LAMPS : High Beam Indicator Lamp" .
Position lamp indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-52, "WARNING LAMPS/INDICATOR LAMPS : Position Lamp Indicator Lamp" .
Rear fog lamp indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-53, "WARNING LAMPS/INDICATOR LAMPS : Rear Fog Lamp Indicator Lamp" .
Turn signal indicator lamp		For layout, refer to MWI-10, "METER SYSTEM : Design" .
		For function, refer to MWI-59, "WARNING LAMPS/INDICATOR LAMPS : Turn Signal Indicator Lamp" .

WARNING/INDICATOR/CHIME LIST : Warning Chime

INFOID:000000010788775

Item	Reference
Light reminder warning (buzzer)	Refer to WCS-12, "WARNING CHIME : Light Reminder Warning (Buzzer)" .
Turn signal operation sound warning	Refer to EXL-36, "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description" .

WARNING/INDICATOR/CHIME LIST : Warning/Indicator (Information Display)

INFOID:000000010788776

Item	Reference
Headlamp warning	Refer to EXL-49, "INFORMATION DISPLAY (COMBINATION METER) : Headlamp Warning" .
Light reminder warning (information display)	Refer to EXL-51, "INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Information Display)" .

DIAGNOSIS SYSTEM (BCM)

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000011008908

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul style="list-style-type: none"> Read and save the vehicle specification. Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

×: Applicable item

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

NOTE:

*: This item is displayed, but 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)

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description
BATTERY VOLTAGE	V	Battery voltage of the moment a particular DTC is detected.
VEHICLE SPEED	km/h	Vehicle speed of the moment a particular DTC is detected.
EXTERNAL TEMP	°C	External temperature of the moment a particular DTC is detected
VEHICLE COND	—	NOTE: This item is displayed, but cannot be use this item.
DOOR LOCK STATUS	—	NOTE: This item is displayed, but cannot be use this item.
POWER SUPPLY COUNTER	min	Displays the cumulative time from the time that the battery terminal is connected.

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP) (LED Headlamp) INFOID:000000010788778

WORK SUPPORT

Service item	Setting item	Setting
CUSTOM A/LIGHT SETTING	MODE1*	Normal
	MODE2	More sensitive setting than normal setting (Turns ON earlier than normal operation)
	MODE3	More sensitive setting than MODE2 (Turns ON earlier than MODE2)
	MODE4	Less sensitive setting than normal setting (Turns ON later than normal operation)
TWILIGHT On	MODE1	NOTE: This item is displayed, but cannot be used
	MODE2	
WIPER LINK	MODE1	NOTE: This item is displayed, but cannot be used
	MODE2	
	MODE3	
	MODE4	

*: 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]	Indicates [km/h] condition of vehicle speed signal from combination meter

DIAGNOSIS SYSTEM (BCM)

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
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]	
HEADLAMP SW [On/Off]	
LIGHT OFF SW [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW [On/Off]	
FR FOG SW [On/Off]	
RR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch
OPTI SEN (DTCT) [V]	NOTE: This item is displayed, but cannot be monitored
OPTI SEN (FILT) [V]	NOTE: This item is displayed, but cannot be monitored
OPTICAL SENSOR [On/Off/NG]	The sensor condition received from light & rain sensor

ACTIVE TEST

Test item	Operation	Description
FR FOG LAMP	On	<ul style="list-style-type: none"> • Transmits the front fog light request signal to IPDM E/R via CAN communication to turn the front fog lamp ON • Transmits the front fog light request signal to combination meter via CAN communication to turn the front fog lamp indicator lamp ON
	Off	Stops the front fog light request signal transmission
RR FOG LAMP	On	<ul style="list-style-type: none"> • Outputs voltage to turn the rear fog lamp ON • Transmits the rear fog lamp status signal to combination meter via CAN communication to turn the rear fog lamp indicator lamp ON
	Off	<ul style="list-style-type: none"> • Stops the voltage to turn the rear fog lamp OFF • Stops the rear fog lamp status signal transmission
STOP LAMP 1	On	Outputs voltage to turn the stop lamp RH ON
	Off	Stops the voltage to turn the stop lamp RH OFF

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Test item	Operation	Description
STOP LAMP 2	On	Outputs voltage to turn the stop lamp LH ON
	Off	Stops the voltage to turn the stop lamp LH OFF
STOP LAMP 3	On	Outputs voltage to turn the high-mounted stop lamp ON
	Off	Stops the voltage to turn the high-mounted stop lamp OFF
DAYTIME RUNNING LIGHT	On	Transmits the daytime running light request signal to IPDM E/R using CAN communication to turn the daytime running light ON
	Off	Stops the daytime running light request signal transmission
ILL DIM SIGNAL*	On	Transmits the dimmer signal to NAVI control unit and dims display
	Off	Stops the dimmer signal transmission

*: For models without navigation, this item is displayed, but cannot be tested.

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER) (LED Headlamp)

INFOID:000000010788779

WORK SUPPORT

Service item	Setting item	Setting
3-TIME FLASHER SETTING	On*	With 3-time flasher function
	Off	Without 3-time flasher 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 status that BCM detects 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]	NOTE: This item is displayed, but cannot be monitored

INT LAMP

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:000000011008909

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Service item	Setting item	Setting
SET I/L D-UNLCK INTCON	On*	With interior room lamp timer function
	Off	Without interior room lamp timer function
FOG LAMP OVERRIDE	On*	With fog override function
	Off	Without fog override 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
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch
CDL LOCK SW [On/Off]	Indicated [On/Off] condition of lock signal from door lock and unlock switch
CDL UNLOCK SW [On/Off]	Indicated [On/Off] condition of unlock signal from door lock and unlock switch
KEY CYL LK-SW [On/Off]	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW [On/Off]	NOTE: This item is displayed, but cannot be monitored
RKE-LOCK [On/Off]	Indicates [On/Off] condition of LOCK signal from Intelligent Key or keyfob
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key or keyfob
KEY SW [On/Off]	Indicates [On/Off] condition of key switch

ACTIVE TEST

Test item	Operation	Description
INT LAMP	On	Outputs interior room lamp control signal.
	Off	Stops interior room lamp control signal.

DOOR LOCK

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK) (With Intelligent Key System

DIAGNOSIS SYSTEM (BCM)

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

INFOID:000000011008910

and Super Lock)

BCM CONSULT FUNCTION

CONSULT performs the following functions via CAN communication with BCM.

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Anti-hijack function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
AUTO UNLOCK TYPE	NOTE: This item is displayed, but cannot be used
SIGNATURE LIGHT SETTING	Signature light function can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

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	Contents
REQ SW-DR	Indicated [On/Off] condition of door request switch (driver side)
REQ SW-AS	Indicated [On/Off] condition of door request switch (passenger side)
REQ SW-BD/TR	Indicated [On/Off] condition of back door request switch
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW	NOTE: This item is displayed, but cannot be monitored
SHOCK SENSOR	NOTE: This item is displayed, but cannot be monitored
KEY SW	NOTE: This item is displayed, but cannot be monitored

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none"> • The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched • The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched
SUPER LOCK	This test is able to check super lock actuator operation <ul style="list-style-type: none"> • The all door lock actuators are set when "LOCK" on CONSULT screen is touched • The all door lock actuators are released when "UNLOCK" on CONSULT screen is touched
DOOR LOCK IND	This test is able to check door lock status indicator operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK) (With Intelligent Key System, Without Super Lock)

INFOID:000000011008911

BCM CONSULT FUNCTION

CONSULT performs the following functions via CAN communication with BCM.

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Anti-hijack function mode can be changed to operation with this mode <ul style="list-style-type: none">• On: Operate• Off: Non-operation
AUTO UNLOCK TYPE	NOTE: This item is displayed, but cannot be used
SIGNATURE LIGHT SETTING	Signature light function can be changed to operation with this mode <ul style="list-style-type: none">• On: Operate• Off: Non-operation

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	Contents
REQ SW-DR	Indicated [On/Off] condition of door request switch (driver side)
REQ SW-AS	Indicated [On/Off] condition of door request switch (passenger side)
REQ SW-BD/TR	Indicated [On/Off] condition of back door request switch
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW	NOTE: This item is displayed, but cannot be monitored
SHOCK SENSOR	NOTE: This item is displayed, but cannot be monitored
KEY SW	NOTE: This item is displayed, but cannot be monitored

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none">• The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched• The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched
SUPER LOCK	NOTE: This item is displayed, but cannot be used
DOOR LOCK IND	NOTE: This item is displayed, but cannot be used

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000011008912

APPLICATION ITEM

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

Diagnosis mode	Description
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.
Work Support	Changes the setting for each system function.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
Ecu Identification	Allows confirmation of IPDM E/R part number.
Configuration	<ul style="list-style-type: none"> • Read and save the vehicle specification. • White the vehicle specification when replacing IPDM E/R.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to [PCS-38, "DTC Index"](#).

Freeze Frame Data (FFD)

The IPDM E/R records the vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

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
REVERSE SIGNAL [Open/Close]	Displays the status of reverse position signal judged by IPDM E/R.
IGN RELAY [Open/Close]	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Open/Close]	Displays the status of the push-button ignition switch judged by IPDM E/R.
NEUTRAL SW [Open/Close]	Displays the status of the neutral position signal (M/T) judged by IPDM E/R.
INTERLOCK/PNP SW [Open/Close]	Displays the status of the transmission range switch (CVT) judged by IPDM E/R.
OIL PRESSURE SW [Open/Close]	Displays the status of the oil pressure switch judged by IPDM E/R.
LED H/L RH STATUS [Open/Close]	Displays the LED headlamp (right) ON/OFF status judged by IPDM E/R. NOTE: This item is monitored only on the vehicle with LED headlamp.
LED H/L LH STATUS [Open/Close]	Displays the LED headlamp (left) ON/OFF status judged by IPDM E/R. NOTE: This item is monitored only on the vehicle with LED headlamp.
HOOD SW [Open/Close]	Displays the status of the hood switch judged by IPDM E/R.
COMPRESSOR [Off/On]	Displays the compressor drive status judged by IPDM E/R.
H/L WASHER PUMP [Off/On]	Displays the status of the headlamp washer relay judged by IPDM E/R.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description
HORN RELAY [Off/On]	Displays the status of the horn relay judged by IPDM E/R.
COOLING FAN [Off/On]	Displays the cooling fan relay-4 drive status judged by IPDM E/R.
FRONT WIPER HI/LO RELAY [Off/On]	Displays the front wiper HI/LO relay drive status judged by IPDM E/R.
FRONT WIPER RELAY [Off/On]	Displays the front wiper relay drive status judged by IPDM E/R.
IGN RELAY OFF STATUS [Off/On]	Displays the status of the ignition relay OFF circuit judged by IPDM E/R.
IGN RELAY ON STATUS [Off/On]	Displays the status of the ignition relay ON circuit judged by IPDM E/R.
STEERING LOCK PWR SPLY [Off/On]	Displays the power supply status from IPDM E/R to the steering lock unit. NOTE: This item is monitored only on the vehicle with Intelligent Key system
HEIGHT SENSOR PWR SPLY [Off/On]	Displays the power supply status from IPDM E/R to the height sensor.
COOLING FAN RELAY 1 [Off/On]	Displays the status of the cooling fan relay-1 judged by IPDM E/R.
STARTER RELAY [Off/On]	Displays the status of the starter relay judged by IPDM E/R.
COMP ECV DUTY [%]	Displays the compressor control signal (PWM) status of IPDM E/R.
COOLING FAN RELAY 2 [%]	Displays the status of the cooling fan relay-5 judged by IPDM E/R.
FR FOG LAMP LH [%]	Displays the front fog lamp (left) output (PWM) status of IPDM E/R.
FR FOG LAMP RH [%]	Displays the front fog lamp (right) output (PWM) status of IPDM E/R.
LEVELIZER OUTPUT [%]	Displays the aiming motor drive signal (PWM) status of IPDM E/R.
PARKING LAMP [%]	Displays the parking lamp output (PWM) status of IPDM E/R.
TAIL LAMP LH [%]	Displays the tail lamp (left) output (PWM) status of IPDM E/R.
TAIL LAMP RH [%]	Displays the tail lamp (right) output (PWM) status of IPDM E/R.
DAYTIME RUNNING LIGHT LH [%]	Displays the daytime running light (left) output status of IPDM E/R.
DAYTIME RUNNING LIGHT RH [%]	Displays the daytime running light (right) output status of IPDM E/R.
HEADLAMP (HI) LH [%]	Displays the headlamp (HI) (left) output (PWM) status of IPDM E/R.
HEADLAMP (HI) RH [%]	Displays the headlamp (HI) (right) output (PWM) status of IPDM E/R.
HEADLAMP (LO) LH [%]	Displays the headlamp (LO) (left) output (PWM) status of IPDM E/R.
HEADLAMP (LO) RH [%]	Displays the headlamp (LO) (right) output (PWM) status of IPDM E/R.
A/C RELAY STUCK [OK/NG]	Displays the ON stuck status of the A/C relay judged by IPDM E/R.

DIAGNOSIS SYSTEM (IPDM E/R)

[LED HEADLAMP]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
A/C RELAY [Off/On]	Displays the status of the A/C relay judged by IPDM E/R.
COMP ECV STATUS [OK/NG]	Displays the compressor malfunction diagnosis status judged by IPDM E/R.
VEHICLE SECURITY HORN [Off/On]	NOTE: The item is indicated, but not monitored.
BATTERY CURRENT SENSOR [OK/NG]	Displays the battery current sensor malfunction diagnosis status judged by IPDM E/R.
FRONT FOG LAMP [Off/On]	Displays the fog lamp illumination control status of IPDM E/R.
COMP ECV CURRENT [A]	Displays the electric current output to compressor judged by IPDM E/R.
BATTERY VOLTAGE [V]	Displays the status of the battery voltage judged by IPDM E/R.
COOLING FAN DUTY [%]	Displays the cooling fan output signal status of IPDM E/R.
HOOD SW (CAN) [Open/Close/NG]	Displays the status of the hood switch judged by IPDM E/R.
FRONT WIPER [STOP/HIGH/LOW/NG]	Displays the front wiper motor drive control status of IPDM E/R.
FR WIPER STOP POSITION [ACTIVE P/STOP P]	Displays the status of the front wiper position status judged by IPDM E/R.
HEADLAMP (HI) [Off/On]	Displays the headlamp (HI) illumination control status of IPDM E/R.
HEADLAMP (LO) [Off/On]	Displays the headlamp (LO) illumination control status of IPDM E/R.
IGNITION RELAY STATUS [Off/On]	Displays the ignition relay output status of IPDM E/R.
IGN RELAY MONITOR [Off/On]	Displays the status of the ignition relay judged by IPDM E/R.
IGNITION POWER SUPPLY [Off/On]	Displays the status of the ignition power supply judged by IPDM E/R.
INTERLOCK/PNP SW (CAN) [Off/On]	Displays the status of the transmission range switch signal that IPDM transmits via CAN communication.
NEUTRAL SWITCH (CAN) [Off/On/NG]	Displays the status of the neutral position switch (M/T) signal that IPDM transmits via CAN communication.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Displays the status of the ignition switch signal that IPDM transmits via CAN communication.
TAIL LAMP [Off/On]	Displays the tail lamp illumination control status of IPDM E/R.
REVERSE SIGNAL (CAN) [Off/On/NG]	Displays the status of the reverse switch (M/T) signal that IPDM transmits via CAN communication.
ST&ST CONT RELAY STATUS [Off/Off, ON/ST R On]	Displays the status of the start control relay and start motor relay status judged by IPDM E/R.
STARTER MOTOR STATUS [Off/On/L-TIME]	Displays the status of the starter motor judged by IPDM E/R.
STARTER RELAY (CAN) [LOW/HIGH/NG]	Displays the status of the IPDM E/R transmits the starter control relay status signal via CAN communication.
IPDM NOT SLEEP [NO RDY/READY]	Displays the status of the IPDM E/R transmits the not sleep signal via CAN communication.

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description
AFTER COOLING TIME [No request/0.5min/1.0min/1.5min/ 2.0min/2.5min/3.0min/3.5min/4min/5min/ 6min/8min/10min/12min/14min/16min]	NOTE: The item is indicated, but not monitored.
AFTER COOLING SPEED [0%/25%/40%/55%/70%/78%/85%/ 100%]	NOTE: The item is indicated, but not monitored.
COOLING FAN TYPE [RENAULT/NISSAN]	NOTE: The item is indicated, but not monitored.
COMPRESSOR REQ 1 [Off/On]	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
VHCL SECURITY HORN REQ [Off/On]	NOTE: The item is indicated, but not monitored.
DTRL REQ [Off/On]	Displays the status of the daytime running light request signal received from BCM via CAN communication.
SLEEP/WAKE UP [SLEEP/WAKEUP]	NOTE: The item is indicated, but not monitored.
CLUTCH INTERLOCK SW [Off/On/NG]	NOTE: The item is indicated, but not monitored.
CRANKING ENABLE-TCM [OK/NG]	Displays the status of the cranking enable signal received from TCM via CAN communication.
CRANKING ENABLE-ECM [OK/NG/STOP/No request]	Displays the status of the cranking enable signal received from ECM via CAN communication.
CAN DIAGNOSIS [OK/NG]	Displays the status of the CAN diagnosis signal received from BCM via CAN communication.
FRONT FOG LAMP REQ [Off/On]	Displays the status of the front fog light request signal received from BCM via CAN communication.
H/L WASHER REQ [Off/On]	Displays the status of the headlamp washer request signal received from BCM via CAN communication.
PASSING REQ [Off/On]	NOTE: The item is indicated, but not monitored.
HIGH BEAM REQ [Off/On]	Displays the status of the high beam request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]	Displays the status of the horn reminder signal received from BCM via CAN communication.
COOLING FAN REQ [%]	Displays the status of the cooling fan speed request signal received from ECM via CAN communication.
ENGINE STATUS [STOP/IDLING/RUN]	Displays the status of the engine status signal received from ECM via CAN communication.
TURN SIGNAL REQ [Off/LH/RH]	Displays the status of the turn indicator signal received from BCM via CAN communication.
FR WIPER REQ [RETURN/STOP/NG/LOW/HIGH]	Displays the status of the front wiper request signal received from BCM via CAN communication.
SHIFT POSITION [OFF/P/R/N/D/S/L/B/1/2/3/4/5/6/7]	Displays the status of the shift position signal received from TCM via CAN communication.
LOW BEAM REQ [Off/On]	Displays the status of the low beam request signal received from BCM via CAN communication.
POSITION LIGHT REQ [Off/On]	Displays the status of the position light request signal received from BCM via CAN communication.
COMPRESSOR REQ 2 [Off/On]	Displays the status of the A/C ON signal received from A/C auto amp. via CAN communication.
IGNITION SW [Off/On/START/No request]	Displays the status of the ignition switch ON signal and starter control relay request signal received from BCM via CAN communication.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description
VEHICLE SPEED (METER) [km/h]	Displays the status of the A/C ON signal received from A/C auto amp. via CAN communication.
BAT DISCHARGE COUNT [—]	Monitor the cumulative discharge value of the battery. NOTE: When 65,000 or more is counted, replace the battery.
P LAMP CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the parking lamp circuit. NOTE: When the number of parking lamp circuit retries count is 20, this item counts 1.
NMB P LAMP CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the parking lamp circuit. NOTE: When the number of short circuits in the parking lamp circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB P LAMP CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the parking lamp circuit.
DTRL LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (left) circuit. NOTE: When the number of daytime running light (left) circuit retries count is 20, this item counts 1.
NMB DTRL LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (left) circuit. NOTE: When the number of short circuits in the daytime running light (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (left) circuit.
DTRL RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (right) circuit. NOTE: When the number of daytime running light (right) circuit retries count is 20, this item counts 1.
NMB DTRL RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (right) circuit. NOTE: When the number of short circuits in the daytime running light (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (right) circuit.
F FOG LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (left) circuit. NOTE: When the number of front fog lamp (left) circuit retries count is 20, this item counts 1.
NMB F FOG LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (left) circuit. NOTE: When the number of short circuits in the front fog lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (left) circuit.
F FOG RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (right) circuit. NOTE: When the number of front fog lamp (right) circuit retries count is 20, this item counts 1.

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description
NMB F FOG RH CIRC RETRY [0 - 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (right) circuit. NOTE: When the number of short circuits in the front fog lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG RH CIRC SHORT [0 - 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (right) circuit.
HL (HI) LH CIRC MALFUNCTN [0 - 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (left) circuit. NOTE: When the number of headlamp (HI) (left) circuit retries count is 20, this item counts 1.
NMB HL (HI) LH CIRC RETRY [0 - 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (left) circuit. NOTE: When the number of short circuits in the headlamp (HI) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) LH CIRC SHORT [0 - 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (left) circuit.
HL (HI) RH CIRC MALFUNCTN [0 - 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (right) circuit. NOTE: When the number of headlamp (HI) (right) circuit retries count is 20, this item counts 1.
NMB HL (HI) RH CIRC RETRY [0 - 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (right) circuit. NOTE: When the number of short circuits in the headlamp (HI) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) RH CIRC SHORT [0 - 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (right) circuit.
S/L CIRC MALFUNCTN [0 - 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the steering lock circuit. NOTE: When the number of steering lock circuit retries count is 20, this item counts 1.
NMB S/L CIRC RETRY [0 - 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the steering lock circuit. NOTE: When the number of short circuits in the steering lock circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB S/L CIRC SHORT [0 - 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the steering lock circuit.
HL (LO) LH CIRC MALFUNCTN [0 - 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (left) circuit. NOTE: When the number of headlamp (LO) (left) circuit retries count is 20, this item counts 1.
NMB HL (LO) LH CIRC RETRY [0 - 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (left) circuit. NOTE: When the number of short circuits in the headlamp (LO) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) LH CIRC SHORT [0 - 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (left) circuit.
HL (LO) RH CIRC MALFUNCTN [0 - 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (right) circuit. NOTE: When the number of headlamp (LO) (right) circuit retries count is 20, this item counts 1.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description
NMB HL (LO) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (right) circuit. NOTE: When the number of short circuits in the headlamp (LO) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (right) circuit.
T LAMP LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (left) circuit. NOTE: When the number of tail lamp (left) circuit retries count is 20, this item counts 1.
NMB T LAMP LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (left) circuit. NOTE: When the number of short circuits in the tail lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (left) circuit.
T LAMP RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (right) circuit. NOTE: When the number of tail lamp (right) circuit retries count is 20, this item counts 1.
NMB T LAMP RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (right) circuit. NOTE: When the number of short circuits in the tail lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (right) circuit.
BATTERY STATUS [OK/NG]	Monitor the battery status from the battery output.

ACTIVE TEST

Test item	Operation	Description
HORN	Off	OFF
	On	Operates horn relay for 20 ms.
HEADLAMP WASHER	Off	OFF
	On	Operates headlamp washer relay for 10 ms.
FRONT WIPER	Off	OFF
	Low	Operates the front wiper relay.
	High	Operates the front wiper relay and front wiper HI/LO relay.
COMPRESSOR	Off	OFF
	On	Operates the A/C relay.
COOLING FAN (MONO)	Off	OFF
	Lo	Run the cooling fan at low speed.
	Hi	Run the cooling fan at high speed.
HEADLAMP (HI)	Off	OFF
	On	Operates the headlamp (HI)
HEADLAMP (LO)	Off	OFF
	On	Operates the headlamp (LO).

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Test item	Operation	Description
FRONT FOG LAMP	Off	OFF
	On	Operates the front fog lamp.
DAYTIME RUNNING LIGHT	Off	OFF
	On	Operates the parking lamp (daytime running light operation).
PARKING LAMP	Off	OFF
	On	Operates the parking lamp.
TAIL LAMP	Off	OFF
	On	Operates the tail lamp.
OPTIC AXIS ACTIVE TEST	Default	Return the optical axis to the default position. NOTE: While the headlamp is OFF, it does not return to the default position.
	Lower	Adjust the optical axis to the lowermost point.

WORK SUPPORT

Work item	Description
SENSOR INITIALIZE	Adjusts the height sensor signal output value in the unloaded vehicle condition.
CML B/DCHRG CRNT CLEAR	In this mode, cumulative battery discharge current is cleared.

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R, FRONT CAMERA UNIT

List of ECU Reference

INFOID:0000000010788783

ECU	Reference
BCM	BCS-53. "Reference Value"
	BCS-76. "Fail-safe"
	BCS-77. "DTC Inspection Priority Chart"
	BCS-78. "DTC Index"
IPDM E/R	PCS-22. "Reference Value"
	PCS-34. "Fail-safe"
	PCS-37. "DTC Inspection Priority Chart"
	PCS-38. "DTC Index"
Front camera unit	DAS-51. "Reference Value"
	DAS-55. "Fail-safe (Front Camera Unit)"
	DAS-56. "DTC Inspection Priority Chart"
	DAS-56. "DTC Index"

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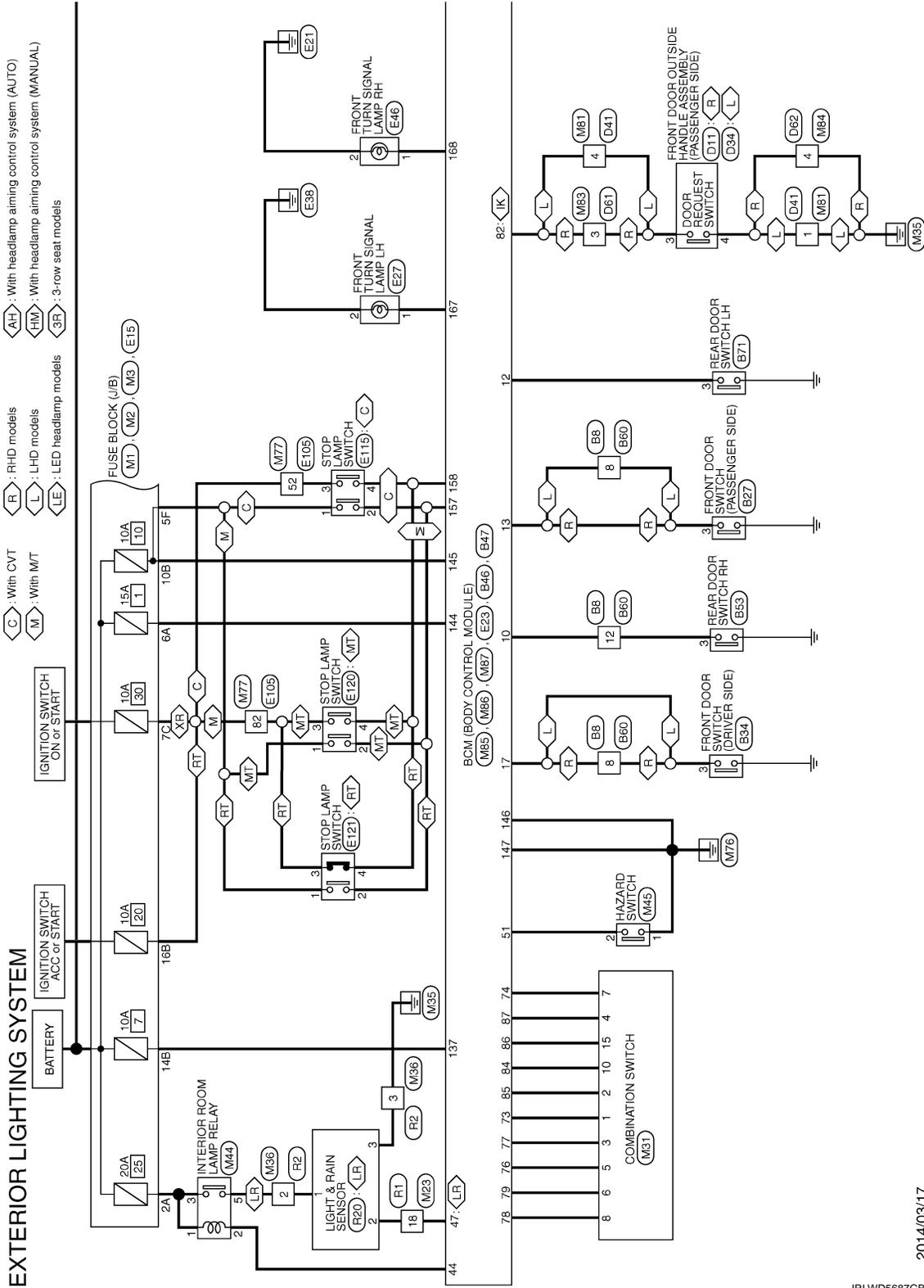
< WIRING DIAGRAM >

WIRING DIAGRAM

EXTERIOR LIGHTING SYSTEM

Wiring Diagram

INFOID:000000010788784



2014/03/17

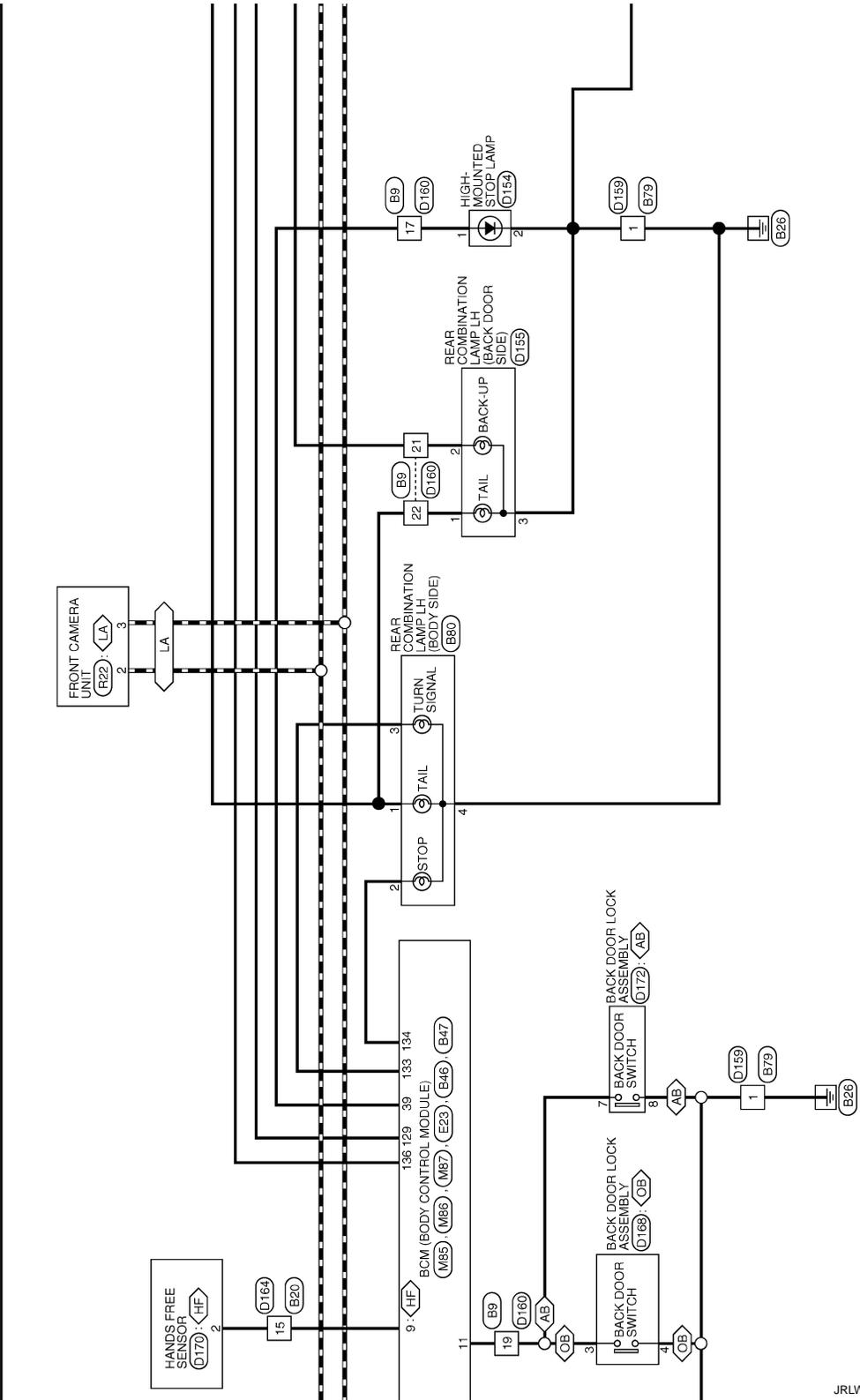
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EXTERIOR LIGHTING SYSTEM

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[LED HEADLAMP]

- IS : With Stop / Start System
- OS : Without Stop / Start System
- CS : With Sonar System OFF switch
- WC : Without Sonar System OFF switch
- HF : With hands free sensor models

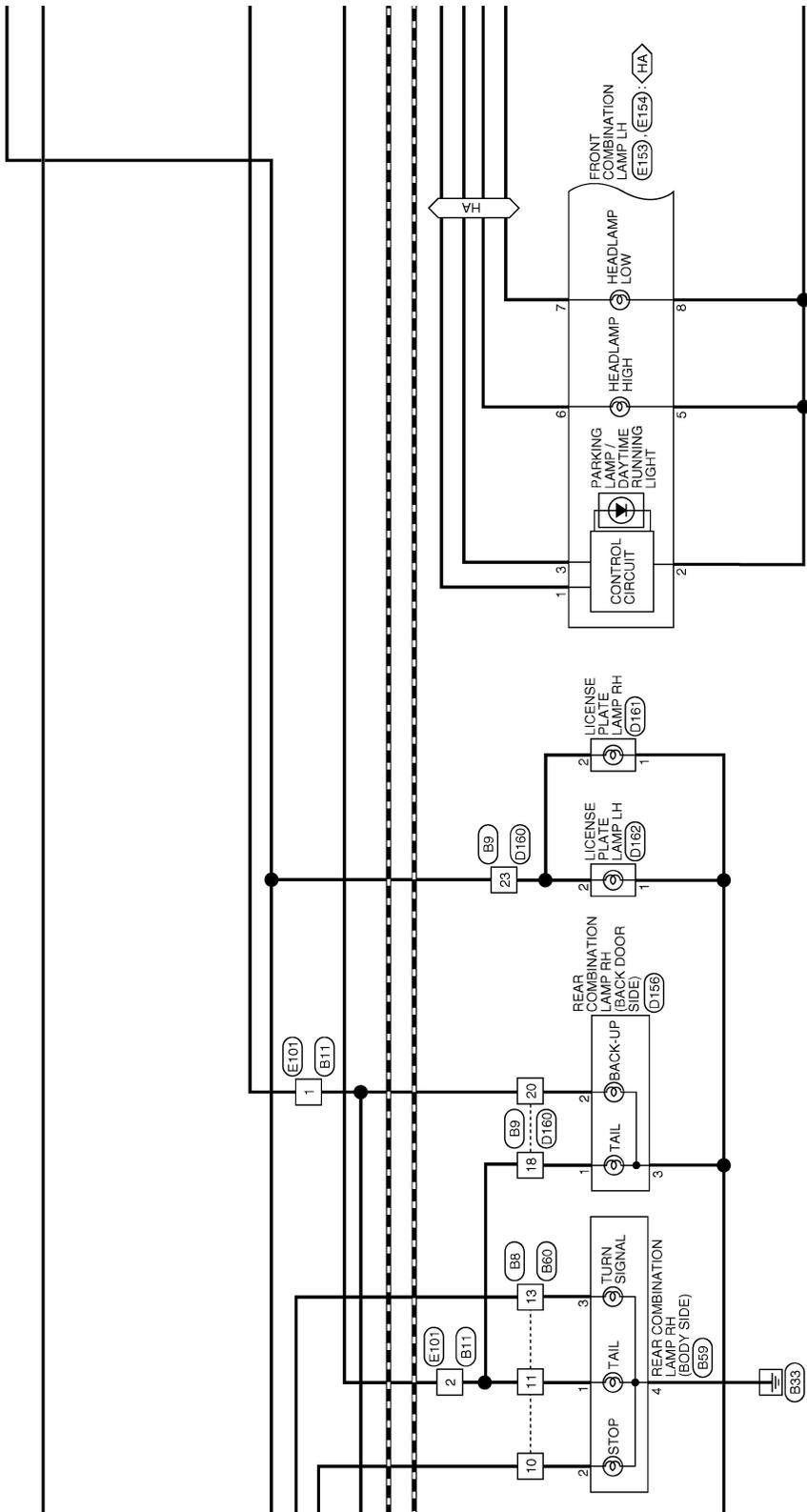


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EXTERIOR LIGHTING SYSTEM

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[LED HEADLAMP]



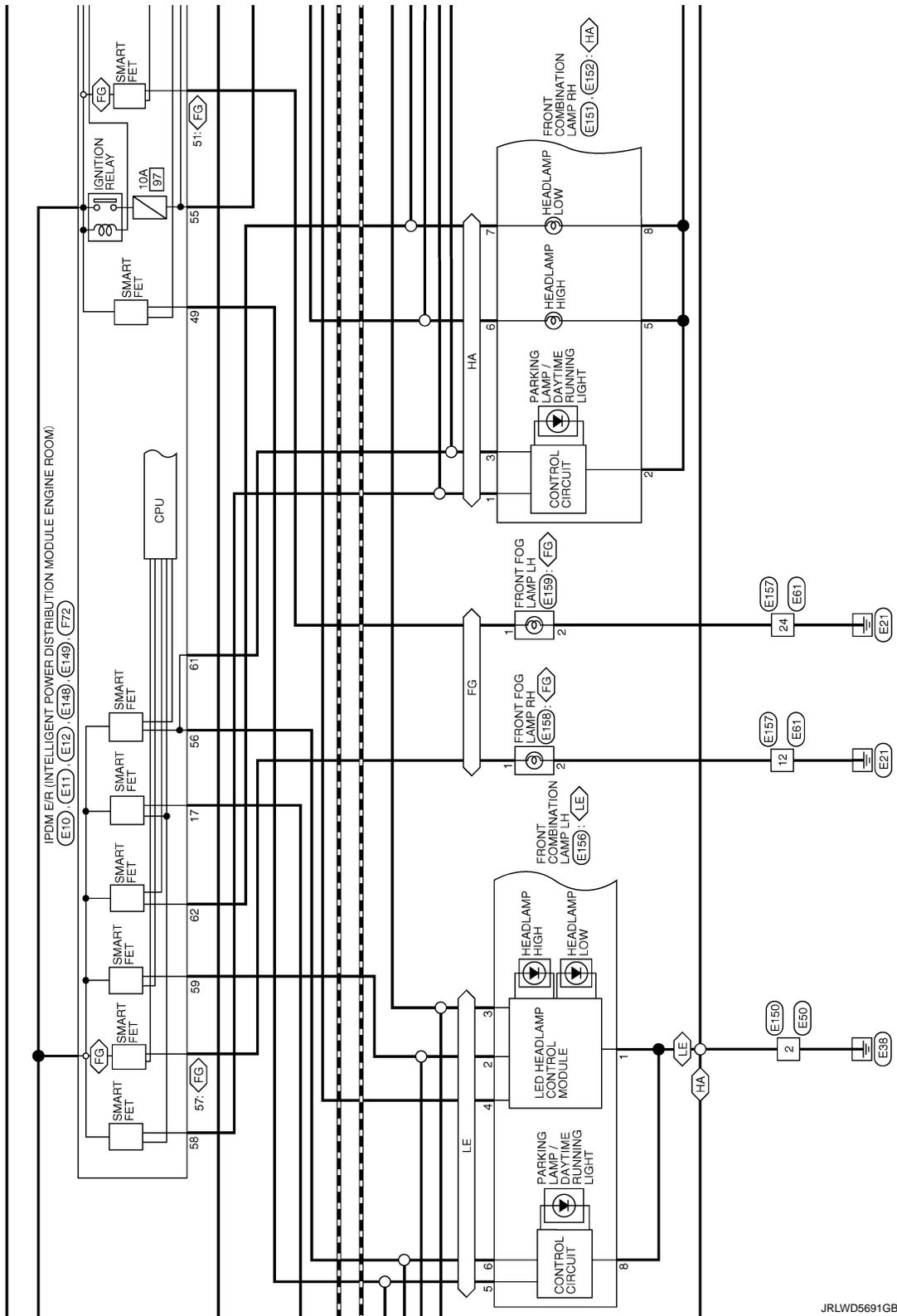
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EXTERIOR LIGHTING SYSTEM

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[LED HEADLAMP]

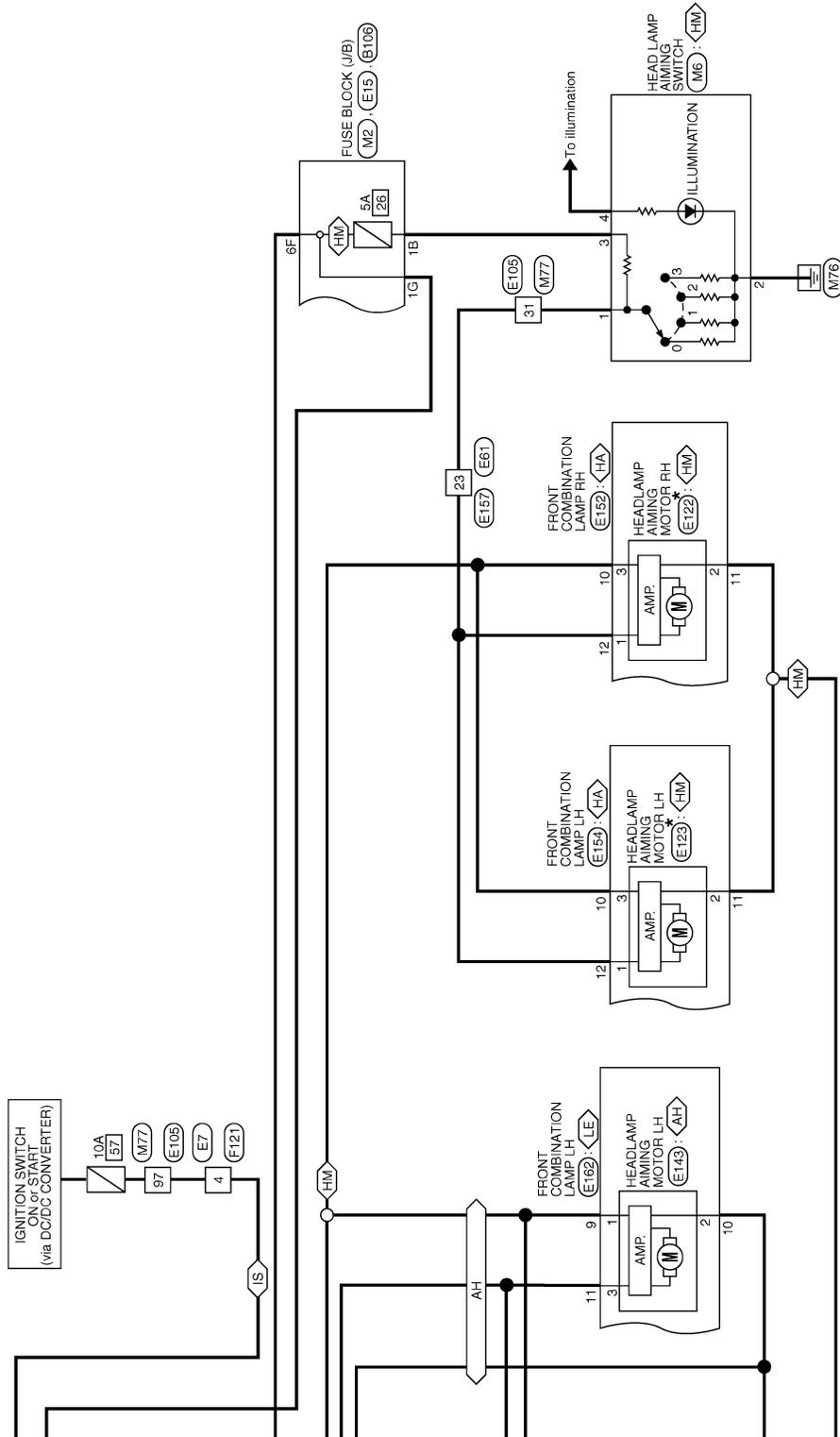


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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]



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

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Type	NS16MM-CS



1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

Terminal Color Of No.	Wire	Signal Name [Specification]
1	V	-
2	G	-
3	P	-
6	L	-
7	L	-
8	SB	-
9	R	-
10	LA/W	-
11	LA/BR	-
12	W	-
13	P	-
14	R	-
15	P	-
16	P	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Type	TR86MDCY-ZS16-TM4



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
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Connector No.	B9
Connector Name	WIRE TO WIRE
Connector Type	TH2MM-AH



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal Color Of No.	Wire	Signal Name [Specification]
4	W	-
5	R	-
6	B	-
7	W	-
8	SHIELD	-

13	W	-
14	V	-
15	BR	-
16	SB	-
17	LA/W	-
18	LA/BR	-
19	LG	-
20	LA/G	-
21	LA/G	-
22	LA/R	-
23	LA/R	-
24	R	-
29	Y	-
30	G	-
31	GR	-
32	LG	-



Connector No.	B20
Connector Name	WIRE TO WIRE
Connector Type	NS16MM-CS

1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

Terminal Color Of No.	Wire	Signal Name [Specification]
8	LA/G	-
9	LA/R	-
10	LA/V	-
12	L	-
13	SB	-
14	R	-
15	G	-
16	W	-

25	G	-
26	B	-
27	P	-
28	R	-
29	LG	-
30	P	-
92	BR	-
93	GR	-
94	Y	-
95	LG	-
97	LG	-

Connector No.	B27
Connector Name	FRONT DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH04FW-NH



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Terminal Color Of No.	Wire	Signal Name [Specification]
3	GR	- [For LHD models]
3	SB	- [For RHD models]

Connector No.	B34
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Type	TH04FW-NH



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Terminal Color Of No.	Wire	Signal Name [Specification]
3	SB	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

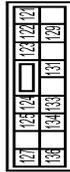
EXTERIOR LIGHTING SYSTEM

Connector No.	B43
Connector Name	REAR HEIGHT SENSOR
Connector Type	RH03FB



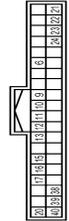
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	B	-
3	G	-

Connector No.	B46
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FY-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
121	LAV	BACK DOOR OPENER CONT
122	Y	REAR FOG LAMP OUTPUT
123	LA/R	REAR WIPER OUTPUT
124	W	REAR DOOR UNLOCK OUTPUT
125	L	REAR DOOR LOCK OUTPUT
127	R	LUGGAGE ROOM LAMP CONT
129	LA/W	STOP LAMP LH OUT
131	R	REAR DOOR SUPERLOCK OUTPUT
133	GR	TURN SIG LH (REAR)
134	LAV	STOP LAMP RH OUT
136	P	TURN SIG RH (REAR)

Connector No.	B47
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH04FG-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	BACK DOOR OPENER REQUEST SW
9	G	HANDS FREE SENSOR
10	W	REAR RH DOOR SW
11	LG	BACK DOOR SW
12	R	REAR LH DOOR SW
13	SB	PASSENGER DOOR SW
15	LAG	REAR WIPER AUTO STOP
16	Y	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CANH
21	BR	BUMPER ANTENNA(-)
22	Y	REAR ANTENNA(-)
23	L	REAR ANTENNA(+)
24	G	BUMPER ANTENNA(+)
38	V	SIREN
39	LA/W	HIGH-MOUNTED STOP LAMP
40	P	CANH

Connector No.	B53
Connector Name	REAR DOOR SWITCH RH
Connector Type	TH04FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	-

Connector No.	B54
Connector Name	OPTION CONNECTOR (13)
Connector Type	NS02MBRC-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-

Connector No.	B55
Connector Name	OPTION CONNECTOR (14)
Connector Type	NS02FBR-CS



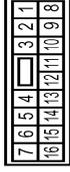
Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	SB	-

Connector No.	B59
Connector Name	REAR COMBINATION LAMP (RH BODY SIDE)
Connector Type	NS04MV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/R	-
2	LAV	-
3	LAV	-
4	B	-

Connector No.	B60
Connector Name	WIRE TO WIRE
Connector Type	NS16FY-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LALG	-
2	LA/GR	-
3	P	-
6	L	-
7	L	-
8	GR	- [For LHD models]
8	SB	- [For RHD models]
9	LA/R	-
10	LAV	-
11	LAV	-
12	W	-
13	LAV	-
14	R	-
15	P	-
16	P	-

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

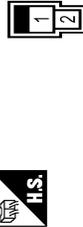
EXTERIOR LIGHTING SYSTEM

Connector No.	B71
Connector Name	REAR DOOR SWITCH LH
Connector Type	TH04FV-NH



Terminal Color Of No.	Wife	Signal Name [Specification]
3	R	-

Connector No.	B79
Connector Name	WIRE TO WIRE
Connector Type	M02MW-LC



Terminal Color Of No.	Wife	Signal Name [Specification]
1	B	-

Connector No.	B80
Connector Name	REAR COMBINATION LAMP (RIGHT SIDE)
Connector Type	NS04MW-GS



Terminal Color Of No.	Wife	Signal Name [Specification]
1	LA/R	-
2	LA/Y	-
3	GR	-
4	B	-

Connector No.	B106
Connector Name	FUSE BLOCK (JIB)
Connector Type	NS06FW-GS



Terminal Color Of No.	Wife	Signal Name [Specification]
1G	LA/R	-
2G	P	-
3G	G	-
4G	P	-
5G	G	-

Connector No.	B134
Connector Name	WIRE TO WIRE
Connector Type	RH08MB



Terminal Color Of No.	Wife	Signal Name [Specification]
4	SB	-
8	B	-

Connector No.	B135
Connector Name	WIRE TO WIRE
Connector Type	RH08MB



Terminal Color Of No.	Wife	Signal Name [Specification]
4	SB	-
8	B	-

Connector No.	B153
Connector Name	WIRE TO WIRE
Connector Type	RH08FB



Terminal Color Of No.	Wife	Signal Name [Specification]
4	Y	-
8	B	-

Connector No.	B154
Connector Name	WIRE TO WIRE
Connector Type	RH08FB



Terminal Color Of No.	Wife	Signal Name [Specification]
4	Y	-
8	B	-

Connector No.	B155
Connector Name	REAR FOG LAMP
Connector Type	RS02FGY



Terminal Color Of No.	Wife	Signal Name [Specification]
1	B	-
2	Y	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	B156
Connector Name	REAR FOG LAMP
Connector Type	RS02FGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	Y	-

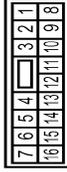
Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TR24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/B	-
2	LA/B	-
3	W	-
4	V	-
5	SB	-
6	LG	-
7	GR	-
8	G	-
9	Y	-
10	B	-
11	R	-
13	LA/W	-
14	LAY	-
15	LA/G	-
16	LAV	-
17	LAL	-
18	LA/SE	-
19	LAR	-

22	LAG	-
23	L	-
24	BG	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAV	-
2	R	-
3	LAG	-
4	B	-
5	B	-
6	LAL	-
7	LA/BR	-
8	SB	-
9	LA/GR	-
10	LA/SE	-
11	P	-
12	LG	-
13	LAY	-
14	LAW	-
15	LAVR	-
16	B	-

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH16MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	-
3	LAP	-
4	LA/BR	-
5	LAW	-
7	GR	-
8	G	-
10	B	-
11	LA/SE	-
12	LA/GR	-
14	LAB	-
15	B	-
16	Y	-

Connector No.	D11
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY (PASSENGER SIDE)
Connector Type	RH4FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	SB	-
3	P	-
4	B	-

Connector No.	D15
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE)
Connector Type	RH4FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	SB	-
3	W	-
4	B	-

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TR24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	B	-
4	W	-
5	V	-
6	SB	-
7	L	-
8	G	-
9	Y	-
10	B	-
11	G	-
13	LAW	-
14	LAG	-
15	LA/GR	-
16	LAP	-
17	LA/SE	-
18	LAR	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

19	LA5E	-
20	GR	-
21	LAG	-
22	R	-
23	BG	-
24	L	-

Connector No.	D22
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-GS



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAB	-
2	Y	-
3	G	-
4	V	-
5	LG	-
6	G	-
7	SB	-
8	LAB	-
9	LAGR	-
10	LAV	-
11	LAL	-
12	LAG	-
13	LAR	-
14	LAG	-
15	LAR	-
16	B	-

Connector No.	D23
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH16MW-NH



8	7	5	4	3	2
16	15	14	12	11	10

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	LAL	-
4	LAR	-
5	LAY	-
7	L	-
8	G	-
11	LABG	-
12	LAV	-
14	LAV	-
15	B	-
16	Y	-

Connector No.	D33
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE)
Connector Type	RHMFB



1	2	3	4
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	SB	-
3	W	-
4	B	-

Connector No.	D34
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY (PASSENGER SIDE)
Connector Type	RHMFB



1	2	3	4
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	SB	-
3	B	-
4	B	-

Connector No.	D41
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	B	-
4	P	-
5	R	-
6	SB	-
7	L	-
8	V	-
9	Y	-
10	B	-
11	G	-
13	LAY	-
12	LAR	-
13	LAV	-
16	LAL	-
17	LABG	-
18	GR	-

21	LAG	-
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Connector No.	D42
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-GS



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAB	-
2	B	-
6	LAGR	-
9	LAY	-
10	LARB	-
11	LAL	-
12	LAV	-
13	LAR	-
14	LAG	-

Connector No.	D43
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MW-NH



8	7	5	4	3	2
16	15	14	12	11	10

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	LAL	-
4	LAR	-
5	LAY	-
7	L	-
8	V	-
10	B	-
11	LABG	-

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EXTERIOR LIGHTING SYSTEM

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[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

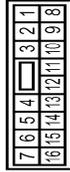
12	LAV	-
14	LAVB	-
15	B	-
16	Y	-

Connector No.	D61
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LAVB	-
3	P	-
4	R	-
5	SB	-
6	LG	-
7	L	-
8	V	-
9	Y	-
10	B	-
11	R	-
13	B	-
14	LAVW	-
15	LAG	-
16	LAGR	-
17	LAP	-
18	LASE	-
19	B	-
20	LG	-
21	BR	-
22	LAG	-

Connector No.	D62
Connector Name	WIRE TO WIRE
Connector Type	NS18FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	V	-
3	B	-
4	R	-
5	B	-
6	LAL	-
7	LABR	-
9	LAV	-
10	LABR	-
11	LAL	-

Connector No.	D98
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MM-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	-
3	LAP	-
4	LAG	-
5	LAW	-
7	L	-
8	V	-
11	LASE	-
12	LAGR	-
14	LAB	-
15	B	-

16	Y	-
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Connector No.	D154
Connector Name	HIGH MOUNTED STOP LAMP
Connector Type	TK02AW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-

Connector No.	D155
Connector Name	REAR COMBINATION LAMP (L/BACK DOOR SIDE)
Connector Type	NS03MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	GR	-

Connector No.	D156
Connector Name	REAR COMBINATION LAMP (R/BACK DOOR SIDE)
Connector Type	NS03MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	W	-

Connector No.	D159
Connector Name	WIRE TO WIRE
Connector Type	MO2PW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	D160
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH



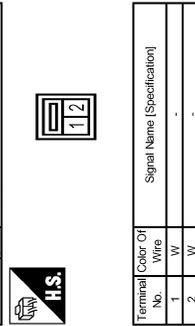
Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	-
5	W	-
6	W	-
7	W	-
8	W	-
13	W	-
14	W	-
15	W	-
16	W	-
17	W	-
18	W	-
19	W	-
20	W	-
21	W	-
22	W	-
23	W	-
24	W	-
29	W	-
30	W	-
31	W	-
32	W	-

Connector No.	D161
Connector Name	LICENSE PLATE LAMP RH
Connector Type	TK02FBR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-

Connector No.	D162
Connector Name	LICENSE PLATE LAMP LH
Connector Type	TK02FBR



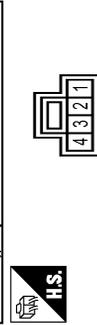
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-

Connector No.	D164
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
8	W	-
9	W	-
10	W	-
12	W	-
13	W	-
14	W	-
15	W	-
16	W	-

Connector No.	D168
Connector Name	BACK DOOR LOCK ASSEMBLY
Connector Type	NS04FW-CS



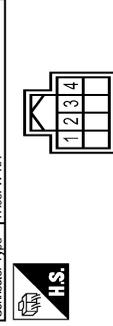
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	GR	-
3	W	-
4	GR	-

Connector No.	D169
Connector Name	BACK DOOR OPENER SWITCH ASSEMBLY
Connector Type	TH04MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	GR	-
3	GR	-
4	BR	- [Without PBD]
4	W	- [With PBD]

Connector No.	D170
Connector Name	HANDS FREE SENSOR
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	Signal Name [Specification]
2	W	Power Management Port
3	W	Output Sensor
4	W	GND
		Cancel Signal

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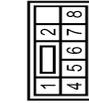
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

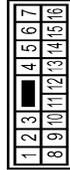
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Connector No.	D172
Connector Name	BACK DOOR LOCK ASSEMBLY
Connector Type	NS08FW-CS



Terminal No.	Wire	Signal Name [Specification]
1	W	-
2	W	-
4	W	-
5	W	-
6	W	-
7	W	-
8	B	-

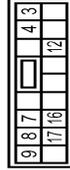
Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Type	NS16MR-CS



Terminal No.	Wire	Signal Name [Specification]
1	BR	- [With MR20 or QR25 engine]
1	SB	- [With R3M engine]
2	BR	- [With MR20 or QR25 engine]
2	GR	- [With R3M engine]
3	G	-
4	R	-
5	B	- [With MR20 engine]
5	I	- [With R3M engine]
6	LG	- [With QR25 engine]
6	BG	-
7	G	-
8	V	- [With MR20 engine or R3M engine]
8	W	- [With QR25 engine]

9	BG	- [With R3M engine]
9	BR	- [With MR20 engine]
10	BR	-
11	Y	-
12	L	- [With R3M Engine]
12	LG	- [With QR25 engine]
13	BR	- [With MR20 or QR25 engine]
13	R	-
15	L	- [With R3M engine]
16	SB	-

Connector No.	E10
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	NS16EY-CS



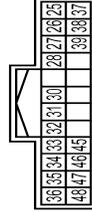
Terminal No.	Wire	Signal Name [Specification]
3	P	-
4	Y	-
7	L	-
8	BG	-
9	L	-
12	B	-
16	G	-
17	W	-

Connector No.	E11
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	renault_243405408R



Terminal No.	Wire	Signal Name [Specification]
19	V	-
20	R	-
21	LG	-
22	Y	-
23	B	-
24	W	-

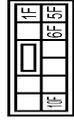
Connector No.	E12
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	TH24EY-NH



Terminal No.	Wire	Signal Name [Specification]
25	LG	-
26	W	-
27	SB	-
28	P	-
30	L	-
31	G	-
32	B	-
33	BG	-
34	LG	-
35	V	-
36	Y	-
37	B	-
38	GR	-
39	BR	-

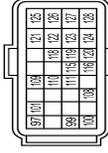
45	L	-
46	P	-
47	W	-
48	R	-

Connector No.	E15
Connector Name	FUSE BLOCK (JB)
Connector Type	NS10FW-CS



Terminal No.	Wire	Signal Name [Specification]
10P	L	-
1F	W	-
5F	V	-
6F	Y	-

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FB-R2B-L1H



Terminal No.	Wire	Signal Name [Specification]
97	W	BAROMETRIC PRESSURE SENSOR
99	P	CANL
100	L	CANH
101	Y	SENSOR POWER SUPPLY
108	R	CLUTCH PEDAL POSITION SWITCH
109	LG	IGNITION SWITCH
110	G	ASCO STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	BRAKE PEDAL POSITION SWITCH

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

118	SB	SENSOR POWER SUPPLY
119	Y	ACCELERATOR PEDAL POSITION SENSOR 2
120	LG	SENSOR GROUND
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY
123	B	ECM GROUND
124	R	SENSOR GROUND
125	B	ECM GROUND
126	GR	ACCELERATOR PEDAL POSITION SENSOR 1
127	R	SENSOR GROUND
128	B	ECM GROUND

Connector No.	E23
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	IT24FB-NH



Terminal No.	Color	Wire	Signal Name (Specification)
156	V		CLUTCH INTERLOCK SW
157	LG		STOP LAMP SW 2
158	W		STOP LAMP SW 1
159	R		ASCD CLUTCH SWITCH
164	Y		INTELLIGENT KEY WARNING BUZZER
166	P		STEERING LOCK UNIT POWER SUPPLY
167	BR		TURN SIG LH (FRONT)
168	GR		TURN SIG RH (FRONT)
170	L		PTC RELAY-3 CONTROL
171	G		STARTER RELAY CONT
172	V		PTC RELAY-1 CONTROL
173	BG		PTC RELAY-2 CONTROL

Connector No.	E27
Connector Name	FRONT TURN SIGNAL LAMP LH
Connector Type	RS02FGY



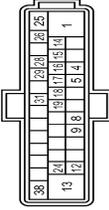
Terminal No.	Color	Wire	Signal Name (Specification)
1	BR		
2	B		

Connector No.	E28
Connector Name	FRONT HEIGHT SENSOR
Connector Type	RH08FB



Terminal No.	Color	Wire	Signal Name (Specification)
1	W		SIGNAL
2	B		
3	BR		VDC

Connector No.	E36
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	BE24FB-BHY-2-BJZ-RH



Terminal No.	Color	Wire	Signal Name (Specification)
1	Y		MOTOR POWER SUPPLY
4	SB		FR RH WHEEL SENSOR SIGNAL
5	W		BRAKE VACUUM SENSOR POWER SUPPLY
6	P		FR LH WHEEL SENSOR SIGNAL
9	Y		IM (gear) control SWITCH SIGNAL
12	LG		BRAKE VACUUM SENSOR SIGNAL
13	B		GROUND (MOTOR)
14	P		CAN-L
15	BR		VDC OFF SWITCH SIGNAL
16	R		FR RH WHEEL SENSOR POWER SUPPLY
17	Y		FR RH WHEEL SENSOR SIGNAL
18	G		RR LH WHEEL SENSOR SIGNAL
19	W		FR LH WHEEL SENSOR POWER SUPPLY
24	SHIELD		BRAKE VACUUM SENSOR GROUND
25	BR		VALVE POWER SUPPLY
26	L		CAN-H
28	GR		IGNITION POWER SUPPLY
29	LG		RR RH WHEEL SENSOR SIGNAL
31	BR		RR LH WHEEL SENSOR POWER SUPPLY
38	B		GROUND (VALVE)

Connector No.	E46
Connector Name	FRONT TURN SIGNAL LAMP RH
Connector Type	RS02FGY



Terminal No.	Color	Wire	Signal Name (Specification)
1	GR		
2	B		

Connector No.	E50
Connector Name	WIRE TO WIRE
Connector Type	MO2MM-GY-LC



Terminal No.	Color	Wire	Signal Name (Specification)
1	GR		
2	B		

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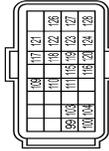
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	E60
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH



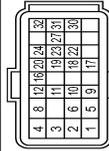
Terminal No.	Color Of Wire	Signal Name [Specification]
99	P	CAN COMMUNICATION LINE (CANL)
100	L	CAN COMMUNICATION LINE (CANH)
103	Y	REFRIGERANT PRESSURE SENSOR
104	R	SENSOR POWER SUPPLY
109	LG	IGNITION SWITCH
110	G	ASC/D STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	BRAKE PEDAL POSITION SWITCH
117	W	PNP SIGNAL
118	SB	SENSOR POWER SUPPLY
119	Y	ACCELERATOR PEDAL POSITION SENSOR 2
120	LG	SENSOR GROUND
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY
123	BR	ECM GROUND
124	W	SENSOR GROUND
126	GR	ACCELERATOR PEDAL POSITION SENSOR 1
127	R	SENSOR GROUND
128	BR	ECM GROUND

Connector No.	E61
Connector Name	WIRE TO WIRE
Connector Type	TH24MV-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	
2	L	
3	P	
4	W	
6	P	
7	G	
9	P	
10	BR	
12	GR	
13	SHIELD	
14	LG	
15	P	
16	V	
17	SB	
18	P	
19	LG	
22	R	
23	Y	
24	GR	

Connector No.	E79
Connector Name	ECM
Connector Type	RH24FB-RZ8-R-RH



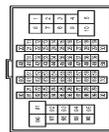
EXTERIOR LIGHTING SYSTEM

Connector No.	E101
Connector Name	WIRE TO WIRE
Connector Type	TH80FDGY-GS16-TM4



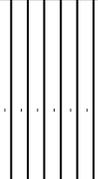
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	ECM GROUND
2	W	ACCELERATOR PEDAL POSITION SENSOR 1
3	Y	SENSOR GROUND
4	B	ACCELERATOR PEDAL POSITION SENSOR 2
5	L	ECM GROUND
6	G	POWER SUPPLY FOR ECM
8	B	SENSOR POWER SUPPLY / ACCELERATOR PEDAL POSITION SENSOR 1
9	L	ECM GROUND
10	L	FUEL HEATER AND WATER IN FUEL LEVEL SENSOR
11	L	SENSOR POWER SUPPLY / ACCELERATOR PEDAL POSITION SENSOR 2
12	V	ACCELERATOR PEDAL POSITION SENSOR 2
16	BG	SENSOR GROUND
17	R	STOP LAMP SWITCH (With MIT)
18	LG	BRAKE PEDAL POSITION SWITCH (With CVT)
19	G	IGNITION SWITCH
20	BR	ASC/D STEERING SWITCH
21	BR	SENSOR GROUND (ASC/D STEERING SWITCH)
22	GR	FUEL IN MAP CONTROL INJECTOR (COMMON)
23	G	FUEL MAP CONTROL INJECTOR (COMMON)
24	V	SPEED LIMITER MAIN SWITCH
27	R	CLUTCH PEDAL POSITION SWITCH
30	BR	CLUTCH INTERLOCK SWITCH
31	P	ASC/D MAIN SWITCH
32	L	CANH

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80FV-GS16-TM4



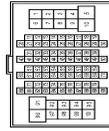
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	
2	W	
5	G	
11	BR	
12	W	
13	P	
14	SB	
15	V	

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FV-GS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
16	P	
17	P	
18	G	
19	P	
20	G	
21	BR	
22	LG	
23	Y	
24	SB	
25	G	
26	B	
27	P	
28	R	
29	LG	
30	P	
32	BR	
33	GR	
34	R	
35	L	
37	LG	

Connector No.	E106
Connector Name	WIRE TO WIRE
Connector Type	TH80FV-GS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	
5	V	
5	W	
8	L	
9	LG	
10	W	
20	W	
21	B	
22	SHIELD	
31	Y	
32	W	
33	SB	
34	LG	
35	BG	

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

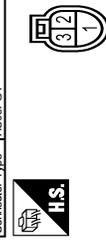
EXTERIOR LIGHTING SYSTEM	
36	LG
37	V
38	G
39	BR
40	L
41	P
47	GR
48	SB
51	P
52	L
53	W
54	Y
55	BR
56	P
57	B
58	B
59	W
60	G
61	BR
62	V
63	BR
64	GR
65	LG
66	BG
67	L
68	R
71	V
72	L
73	R
76	L
77	V
78	LG
79	SHIELD
80	GR
82	Y
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91	R
92	BR
93	W
96	GR
97	R
98	V
99	Y

Connector No.	E123
Connector Name	HEADLAMP AIMING MOTOR LH
Connector Type	HS03FGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E143
Connector Name	HEADLAMP AIMING MOTOR LH
Connector Type	HS03FGY



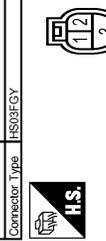
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E121
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	LG	-
3	Y	-
4	W	-

Connector No.	E122
Connector Name	HEADLAMP AIMING MOTOR RH
Connector Type	HS03FGY



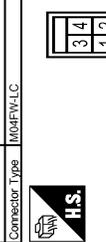
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E115
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	LG	-
3	Y	-
4	W	-

Connector No.	E120
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	LG	-
3	Y	-
4	W	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

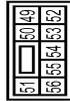
EXTERIOR LIGHTING SYSTEM

Connector No.	E144
Connector Name	HEADLAMP AIMING MOTOR RH
Connector Type	HS08FGY



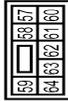
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E146
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	NS08FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
49	R	-
50	L	-
51	V	-
52	W	-
53	GR	-
54	LG	-
55	SB	-
56	BG	-

Connector No.	E149
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	NS08FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
57	W	-
58	R	-
59	G	-
60	Y	-
61	GR	-
62	SB	-
63	B	-
64	V	-

Connector No.	E150
Connector Name	WIRE TO WIRE
Connector Type	MO2FW-GY-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-

Connector No.	E151
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FGY-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	GR	-
5	L	-
6	LG	-

Connector No.	E152
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FE-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
7	SB	-
8	B	-
10	SB	-
11	B	-
12	W	-

Connector No.	E153
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FGY-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	BG	-
5	B	-
6	G	-

Connector No.	E154
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FE-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
7	L	-
8	B	-
10	L	-
11	B	-
12	P	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	E155
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FB-FR



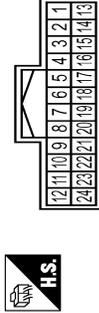
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	H. Lo-BEAM_GND
2	LG	Lo-BEAM +B
3	SB	Lo-BEAM +B
4	Y	ECU OUTPUT
5	R	DRL+
6	GR	CLL+
8	B	DRL CLL FSM_L GND

Connector No.	E156
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FB-FR



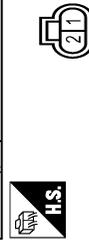
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	H. Lo-BEAM_GND
2	G	H-BEAM +B
3	L	Lo-BEAM +B
4	GR	ECU OUTPUT
5	R	DRL+
6	BG	CLL+
8	B	DRL CLL FSM_L GND

Connector No.	E157
Connector Name	WIRES TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	L	-
3	P	-
4	W	-
6	P	-
7	G	-
9	P	-
10	BR	-
12	GR	-
13	SHIELD	-
14	LG	-
15	P	-
16	V	-
17	SB	-
18	P	-
19	LG	-
22	R	-
23	V	-
24	GR	-

Connector No.	E158
Connector Name	FRONT FOG LAMP RH
Connector Type	FHZ02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	GR	-

Connector No.	E159
Connector Name	FRONT FOG LAMP LH
Connector Type	FHZ02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	GR	-

Connector No.	E162
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FB



Terminal No.	Color Of Wire	Signal Name [Specification]
9	L	-
10	B	-
11	V	-

Connector No.	E163
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FB



Terminal No.	Color Of Wire	Signal Name [Specification]
9	SB	-
10	B	-
11	V	-

Connector No.	F22
Connector Name	TRANSMISSION RANGE SWITCH
Connector Type	YD08FB-HS4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	-
2	GR	-
3	W	-
4	V	-
5	G	-
6	BR	-
7	Y	-
8	GR	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

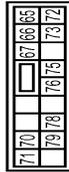
EXTERIOR LIGHTING SYSTEM

Connector No.	F46
Connector Name	REVERSE / NEUTRAL POSITION SWITCH
Connector Type	FEA03FG-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-
3	SB	-

Connector No.	F72
Connector Name	IGNITION INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
65	P	-
66	L	- [With RSM Engine]
67	R	- [With MR20 or QR25 Engine]
70	BG	- [With CVT]
71	SB	- [With MT]
72	GR	-
73	R	- [With RSM Engine]
75	BR	- [With MR20 or QR25 Engine]
76	P	- [With RSM Engine]
78	L	- [With QR25 engine]
78	R	- [With RSM Engine]
79	G	-

Connector No.	F121
Connector Name	WIRE TO WIRE
Connector Type	NS16FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	- [With MR20 or QR25 engine]
1	P	- [With RSM engine]
2	BR	- [With QR25 engine]
2	GR	- [With MR20 engine]
2	Y	- [With RSM engine]
3	G	-
4	BG	- [With MR20 engine]
5	B	- [With RSM engine]
5	L	- [With QR25 engine]
6	V	-
7	G	-
8	V	- [With MR20 engine or RSM engine]
8	W	- [With QR25 engine]
9	W	- [With RSM engine]
10	BR	-
11	P	- [Without ISS]
11	R	- [With ISS]
12	G	- [With QR25 engine]
12	L	- [With RSM engine]
13	R	- [With RSM engine]
13	Y	- [With MR20 or QR25 engine]
15	L	-
16	LG	-

Connector No.	F157
Connector Name	BACK-UP LAMP SWITCH
Connector Type	IRK02FB



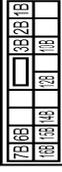
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FM-M2



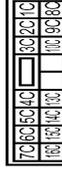
Terminal No.	Color Of Wire	Signal Name [Specification]
1A	L	-
2A	LG	-
3A	Y	-
4A	LG	-
5A	R	-
6A	BG	-
7A	BR	-
8A	SB	-

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10B	GR	- [With MR20 engine or RSM engine]
10B	LAGR	- [With QR25 Engine]
12B	BR	-
14B	W	-
16B	W	-
16B	GR	-
1B	G	-
2B	R	-
3B	V	-
6B	LAV	-
7B	LAV	-

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FM-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	LG	-
13C	LAG	-
14C	R	-
15C	L	-
16C	LAW	-
1C	R	-
2C	G	-
3C	Y	-
4C	LG	-

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EXTERIOR LIGHTING SYSTEM

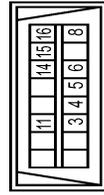
< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

5C	GR	-
6C	LA/R	-
7C	Y	-
8C	BR	- [With ISS]
8C	LA/BR	- [Without ISS]
9C	L	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
8	Y	-
11	SB	-
14	P	-
15	BR	-
16	W	-

Connector No.	M6
Connector Name	HEADLAMP AIMING SWITCH
Connector Type	TH04FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	GR	GND
3	G	-

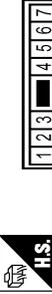
4	LG	-
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Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



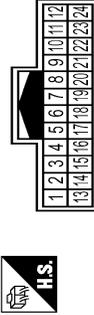
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	V	-
5	BR	-
6	LG	-
7	L	-
8	Y	-
9	G	-
10	SHIELD	-
11	R	-
13	GR	-
14	LA/SE	-
15	LA/GR	-
16	LA/V	-
17	LA/L	-
18	LA/BG	-
19	LA/R	-
22	LA/G	-
23	BG	-
24	SB	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	R	-
3	G	-
4	B	-
5	B	-
6	Y	-
7	R	-
8	L	-
9	BR	-
10	GR	-
11	Y	-
12	BG	-
13	G	-
14	R	-
15	P	-
16	B	-

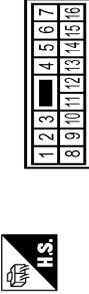
Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	GR	-
5	V	-

6	BR	-
7	L	-
8	Y	-
9	G	-
10	SHIELD	-
11	G	-
13	LA/W	-
14	LA/G	-
15	LA/GR	-
16	LA/P	-
17	LA/SB	-
18	LA/R	-
19	GR	-
20	GR	-
21	LA/Y	-
22	R	-
23	SB	-
24	BG	-

Connector No.	M21
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	G	-
3	R	-
4	V	-
5	W	-
6	G	-
7	L	-
8	B	-
9	BR	-
10	GR	-
11	Y	-
12	BG	-
13	GR	-
14	W	-
15	P	-
16	B	-

JRLWD5708GB

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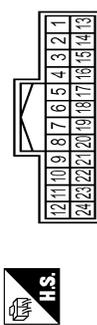
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

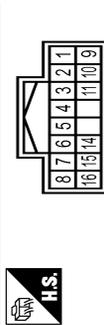
EXTERIOR LIGHTING SYSTEM

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TH24FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
7	Y	-
8	L	-
9	R	-
10	SB	-
11	SB	-
12	GR	-
13	V	-
14	G	-
15	SB	-
16	R	-
17	B	-
18	-	-
19	-	-
20	-	-
21	-	-

Connector No.	M31
Connector Name	COMBINATION SWITCH
Connector Type	TH8FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	INPUT 5
2	SB	OUTPUT 1
3	GR	INPUT 4
4	BG	OUTPUT 4
5	G	INPUT 3
6	W	INPUT 2
7	V	-
8	G	RR WASH MOTOR

10	BR	OUTPUT 2
11	Y	FR WASH MOTOR
14	LG	IGN
15	P	OUTPUT 3
16	GR	GND

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Type	NS08FV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	R	-
3	B	-

Connector No.	M42
Connector Name	COMBINATION METER
Connector Type	TH2FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CANH
42	P	CANL
43	W	ILLUMINATION CONTROL SIGNAL
44	LAV	FUEL LEVEL SENSOR GROUND
45	LAIG	BATTERY POWER SUPPLY
46	LABR	IGNITION SIGNAL (Without ISS)
47	V	IGNITION SIGNAL (With ISS)
48	LG	AV COMMUNICATION SIGNAL (I)
49	Y	AV COMMUNICATION SIGNAL (L)
50	BG	OIL LEVEL SENSOR SIGNAL

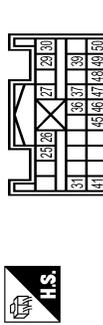
51	LAL	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M45
Connector Name	HAZARD SWITCH
Connector Type	TH04FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	R	-
4	GR	-

Connector No.	M59
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	HF28FV-EX



Terminal No.	Color Of Wire	Signal Name [Specification]
25	LG	INFLATOR AS-
26	SB	AST(+)
27	B	AST(-)
29	Y	DR1(+)
30	G	DR1(-)
31	B	ECZS(+)
36	BR	DEACTIVE
37	R	ACTIVE
39	SHIELD	GND
41	W	ECZS(+)
45	P	CANL
46	L	CANH

47	GR	AB ON IND
48	W	AB OFF IND
49	BG	K LINE
50	R	IGN

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80MMV-CS16-TM4



EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Terminal No.	Wire	Signal Name [Specification]
59	W	-
60	LA/R	-
61	P	-
62	V	-
63	LA/BR	- [With SOW] - [Without SOW]
64	Y	-
65	GR	-
66	BG	-
67	L	-
68	R	-
71	V	-
72	L	-
73	Y	-
76	L	-
77	V	-
78	LG	-
79	SHIELD	-
80	L	- [With ISS] - [Without ISS]
82	GR	-
83	LG	-
84	SB	-
85	G	-
86	G	-
87	B	-
91	L	-
92	W	-
93	W	-
96	LG	-
97	BR	-
98	V	-
99	R	-

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	GR	-
4	V	-
5	BR	-
6	SB	-
7	B	-
8	L	-
9	Y	-
10	SHIELD	-
11	G	-
13	LA/SE	-
14	LA/GR	-
15	LA/V	-
16	LA/L	-
17	LA/BG	-
18	GR	-
21	LAV	-

Connector No.	M82
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

Connector No.	M83
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	-
3	W	-
4	B	-
5	SB	-
6	LG	-
7	B	-
8	L	-
9	Y	-
10	SHIELD	-
11	R	-
13	B	-
14	LAV	-
15	LA/G	-
16	LA/GR	-
17	LAP	-
18	LA/SE	-
19	B	-
20	LG	-
21	BR	-
22	LA/G	-

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	Y	-
3	W	-
4	B	-
5	B	-
6	Y	-
7	R	-
9	BR	-
10	GR	-
11	SB	-

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FBR-CS



13	14	15	16	17	18	19
20	21	22	23	24	25	26

Terminal No.	Color Of Wire	Signal Name [Specification]
137	W	BAT POWER SUPPLY (FUSE)
138	SB	INT ROOM LAMP CONT
139	L	PASSENGER DOOR UNLOCK OUTPUT
141	V	FRONT DOOR LOCK OUTPUT
143	LAV	POWER SUPPLY (FR DOOR LK ACT)
144	BG	POWER SUPPLY (TURN SIGNAL)
145	GR	POWER SUPPLY (STOP LAMP)
146	B	GROUND
147	B	GROUND
148	G	DRIVER DOOR UNLOCK OUTPUT

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EXTERIOR LIGHTING SYSTEM

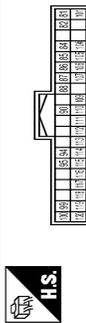
< WIRING DIAGRAM >

[LED HEADLAMP]

EXTERIOR LIGHTING SYSTEM

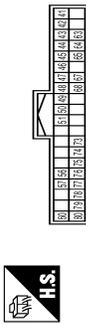
149	W	FRONT DOOR SUPERLOCK OUTPUT
151	R	POWER SUPPLY (REAR DOOR LK ACT)
152	LG	POWER SUPPLY (REAR WIPER)

Connector No.	M86
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
81	L	KEY SWITCH
82	LAR	KEY SW (S1) (Without intelligent key)
82	W	PASS DOOR REQ SW (With intelligent key)
84	BR	COMBI SW OUTPUT 2
85	SB	COMBI SW OUTPUT 1
86	P	COMBI SW OUTPUT 3
87	BG	COMBI SW OUTPUT 4
88	W	PUSH BTN IGN SW ILL CONT
90	Y	SIL CONDITION
94	G	DETECTION SW
95	V	EXTENDED STORAGE FUSE SW
99	R	STOP/START OFF SW
100	V	DRIVER DOOR ANT +
101	Y	PUSH SW
104	R	DR DOOR UNLK SENS
105	Y	DR DOOR REQ SW
106	W	ACC OUTPUT
107	V	SENSOR CANCEL SW
109	P	NATS ANTENNA AMP
110	BG	DIMMER SIGNAL
111	R	DOOR LK STAT IND OUTPUT
112	SB	STOP/START OFF SW INDICATOR
113	LG	NATS ANTENNA AMP
114	Y	NATS ANTENNA AMP
115	W	NATS ANTENNA AMP
116	BG	ROOM ANT 1 +
117	GR	ROOM ANT 1 +
118	SB	PASSENGER DOOR ANT -
119	P	PASSENGER DOOR ANT +
120	BR	RRIVER DOOR ANT +

Connector No.	M87
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40GY-NH



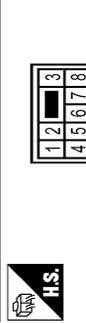
Terminal No.	Color Of Wire	Signal Name [Specification]
41	V	STEERING LOCK UNIT POWER SUPPLY
42	LAG	TURN SIG LH (SIDE)
43	LAY	TURN SIG RH (SIDE)
44	P	INTERIOR ROOM LAMP RELAY CONT
45	R	CAN-L
46	L	CAN-H
47	G	LIGHT & RAIN SENSOR
48	L	CAN-H
49	R	CAN-L
50	BG	DOOR LOCK SW
51	Y	HAZARD SW
56	P	DONGLE
57	L	CVT SHIFT SELECT (DETENT SW) FWR
60	R	HEADLAMP WASHER SW
63	G	POWER WINDOW RELAY CON
64	LAR	REAR WINDOW DEFROGGER RELAY CONT
65	BR	ACC RELAY CONT
67	Y	IGN RELAY (FIB) CONT OUTPUT
68	LAW	BLOWER RELAY CONT
73	LG	COMBI SW INPUT 5
74	Y	COMBI SW OUTPUT 5
75	BG	SECURITY IND LAMP CONT
76	G	COMBI SW INPUT 3
77	GR	COMBI SW INPUT 4
78	V	COMBI SW INPUT 1
79	W	COMBI SW INPUT 2
80	SB	DOOR UNLOCK SW

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TH24MV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	-	-
7	-	-
8	-	-
9	-	-
12	-	-
13	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	NS08MV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
2	-	-
3	-	-
4	B	-

Connector No.	R20
Connector Name	LIGHT & RAIN SENSOR
Connector Type	AAE03FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	R22
Connector Name	FRONT CAMERA UNIT
Connector Type	(default: 8200280781)



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	CAN-H
3	R	CAN-L
6	R	IGNITION POWER SUPPLY
7	B	GROUND

JRLWD5711GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[LED HEADLAMP]

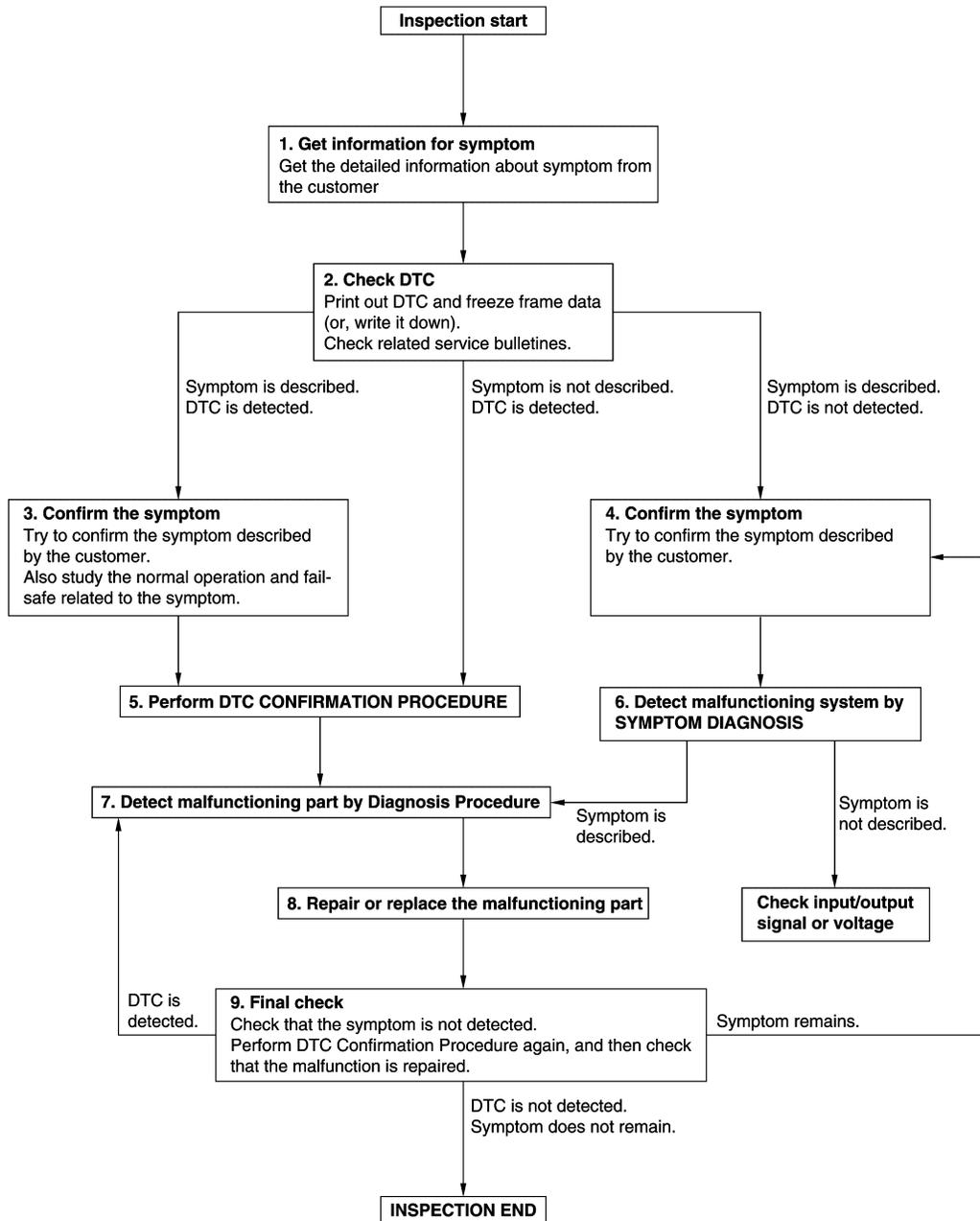
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000010788785

OVERALL SEQUENCE



DETAILED FLOW

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[LED HEADLAMP]

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

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

Are any symptoms described and any DTC detected?

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

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

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

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to 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-44. "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.

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[LED HEADLAMP]

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-44. "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.

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LED HEADLAMP OPERATION INSPECTION

< BASIC INSPECTION >

[LED HEADLAMP]

LED HEADLAMP OPERATION INSPECTION

Work Procedure

INFOID:000000010788786

1. CHECK START

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

Is the inspection result normal?

YES >> INSPECTION END

NO >> Refer to [EXL-176, "Symptom Table"](#).

SENSOR INITIALIZE

Description

INFOID:0000000010788787

Perform the sensor initialize when the following operation is performed.

- Replacing IPDM E/R
- Removing, installing or replacing front height sensor / rear height sensor
- Adjusting, removing, installing or replacing suspension components

Work Procedure

INFOID:0000000010788788

1. VEHICLE CONDITION CHECK

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

>> GO TO 2.

2. SENSOR INITIALIZE

 With CONSULT

1. Turn ignition switch ON.
2. Select "SENSOR INITIALIZE" in "Work Support" mode of "IPDM E/R" using CONSULT.
3. Touch "Start".
4. When "INITIALISE COMPLETE", touch "End".

NOTE:

If "INITIALISE NOT DONE" is indicated, IPDM E/R detects that the front height sensor signal or rear height sensor signal changes. The sensor initialize is cancelled. In this case, turn the ignition switch OFF to prevent the vehicle from the height change. Perform the sensor initialize again.

Is the sensor initialize completed?

- YES >> GO TO 3.
 NO >> Perform the sensor initialize again.

3. SELF DIAGNOSTIC RESULT CHECK

 With CONSULT

1. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
2. Check DTC.

Is DTC detected?

- YES >> GO TO 2.
 NO >> WORK END

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EXL

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

DTC/CIRCUIT DIAGNOSIS

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:0000000010788789

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B121A	FR FOG LAMP LH PWR SPLY CIRC (Front fog lamp left hand power supply circuit)	[CIRC SHORT TO GRND] When front fog lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the front fog lamp LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front fog lamp LH bulb
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the front fog lamp LH power supply circuit until the front fog lamp ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "F FOG LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
F FOG LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the front fog lamp LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-100, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST, and front fog lamp switch ON.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-100, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010788790

1. CHECK FRONT FOG LAMP LH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

2. Turn lighting switch OFF, and front fog lamp switch OFF.
3. Disconnect IPDM E/R connector and front fog lamp LH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E148	51	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK FRONT FOG LAMP LH POWER SUPPLY

Ⓜ With CONSULT

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

+		-	Test item	Voltage	
Front fog lamp LH					
Connector	Terminal				
E159	1	Ground	FRONT FOG LAMP	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK FRONT FOG LAMP LH BULB

Check the front fog lamp LH bulb. Refer to [EXL-101, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front fog lamp LH bulb. Refer to [EXL-193, "Replacement"](#).

Component Inspection

INFOID:000000010788791

EXL

1.CHECK FRONT FOG LAMP LH BULB

1. Turn ignition switch OFF.
2. Disconnect front fog lamp LH connector.
3. Check resistance of front fog lamp LH terminals.

Front fog lamp LH		Resistance
Terminal		
1	2	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front fog lamp LH bulb. Refer to [EXL-193, "Replacement"](#).

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788792

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1231	DTRL RH PWR SPLY CIRC (Daytime running light right hand power supply circuit)	[CIRC SHORT TO GRND] When daytime running light ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the daytime running light RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp RH internal circuit
 - LED (Daytime running light)
 - Control circuit
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the daytime running light RH power supply circuit until the daytime running light ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "DTRL RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
DTRL RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the daytime running light RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-102, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Start engine.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-102, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788793

1. CHECK DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT (SHORT)

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

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

IPDM E/R		—	Continuity
Connector	Terminal		
E149	58	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK DAYTIME RUNNING LIGHT RH POWER SUPPLY

Ⓜ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp RH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp RH					
Connector	Terminal				
E155	5	Ground	DAYTIME RUNNING LIGHT	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK DAYTIME RUNNING LIGHT RH

Check the daytime running light RH. Refer to [EXL-103, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:0000000010788794

EXL

1.CHECK DAYTIME RUNNING LIGHT RH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check resistance of front combination lamp RH terminals.

Front combination lamp RH		Resistance
Terminal		
5	8	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-191, "Removal and Installation"](#).

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788795

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1256	FR FOG LAMP RH PWR SPLY CIRC (Front fog lamp right hand power supply circuit)	[CIRC SHORT TO GRND] When front fog lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the front fog lamp RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front fog lamp RH bulb
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the front fog lamp RH power supply circuit until the front fog lamp ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

④ With CONSULT

1. Turn ignition switch ON.
2. Select "F FOG RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
F FOG RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the front fog lamp RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-104, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

④ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST, and front fog lamp switch ON.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-104, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788796

1. CHECK FRONT FOG LAMP RH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF, and front fog lamp switch OFF.
3. Disconnect IPDM E/R connector and front fog lamp RH connector.

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

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

IPDM E/R		—	Continuity
Connector	Terminal		
E149	57	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK FRONT FOG LAMP RH POWER SUPPLY

④ With CONSULT

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

+		-	Test item		Voltage
Front fog lamp RH					
Connector	Terminal				
E158	1	Ground	FRONT FOG LAMP	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK FRONT FOG LAMP RH BULB

Check the front fog lamp RH bulb. Refer to [EXL-105, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front fog lamp RH bulb. Refer to [EXL-193, "Replacement"](#).

Component Inspection

INFOID:000000010788797

1. CHECK FRONT FOG LAMP RH BULB

1. Turn ignition switch OFF.
2. Disconnect front fog lamp RH connector.
3. Check resistance of front fog lamp RH terminals.

Front fog lamp RH		Resistance
Terminal		
1	2	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front fog lamp RH bulb. Refer to [EXL-193, "Replacement"](#).

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EXL

B1C00 HEIGHT SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1C00 HEIGHT SENSOR POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788798

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1C00	HEIGHT SENSOR PWR SPLY CIRC (Height sensor power supply circuit)	[CIRC SHORT TO GRND] When ignition switch is ON and the height sensor power voltage that is output to the front height sensor (3-row seat models) and rear height sensor is 0.5 V or less continually for 2 seconds or more.
		[CIRC SHORT TO BATTERY] When ignition switch is ON and the height sensor power voltage that is output to the front height sensor (3-row seat models) and rear height sensor is 5.5 V or more continually for 2 seconds or more.

POSSIBLE CAUSE

[CIRC SHORT TO GRND]

- Harness or connector
- IPDM E/R

[CIRC SHORT TO BATTERY]

- Harness or connector
- IPDM E/R

FAIL-SAFE

Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓟ With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds or more.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-106, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788799

1. CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

[CIRC SHORT TO GRND]>>GO TO 2.

[CIRC SHORT TO BATTERY]>>GO TO 3.

2. CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - IPDM E/R
 - Front height sensor (3-row seat models)
 - Rear height sensor
3. Check continuity between IPDM E/R harness connector and ground.

B1C00 HEIGHT SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

IPDM E/R		—	Continuity
Connector	Terminal		
E12	31	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

3. CHECK HEIGHT SENSOR POWER SUPPLY CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - IPDM E/R
 - Front height sensor (3-row seat models)
 - Rear height sensor
3. Check the voltage between IPDM E/R harness connector and ground.

+		-	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E12	31	Ground	0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Connect the each connectors.
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-106. "DTC Description"](#).

Is DTC detected again?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> INSPECTION END

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EXL

B1C01 FRONT HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1C01 FRONT HEIGHT SENSOR SIGNAL

DTC Description

INFOID:000000011008913

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1C01	FR HEIGHT SENSOR SIGNAL (Front height sensor signal)	[CIRC SHORT TO BATTERY] When ignition switch is ON and the front height sensor signal voltage that is input from the front height sensor is 4.95 V or more continually for 2 seconds or more.
		[CIRC SHORT TO GROUND OR OPEN] When ignition switch is ON and the front height sensor signal voltage that is input from the front height sensor is 0.05 V or less continually for 2 seconds or more.
		[CIRC VOLTAGE OUT OF RANGE] When ignition switch is ON and the front height sensor signal voltage that is input from the front height sensor is 4.375 V – 4.95 V, or 0.05 V – 0.625 V continually for 2 seconds or more.

POSSIBLE CAUSE

[CIRC SHORT TO BATTERY]

- Harness or connector
- Front height sensor
- IPDM E/R

[CIRC SHORT TO GROUND OR OPEN]

- Harness or connector
- Front height sensor
- IPDM E/R

[CIRC VOLTAGE OUT OF RANGE]

- Front height sensor installation condition
- Front height sensor
- IPDM E/R

FAIL-SAFE

Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds or more.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-108, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011008914

1.CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

- [CIRC SHORT TO BATTERY]>>GO TO 2.
[CIRC SHORT TO GROUND OR OPEN]>>GO TO 4.
[CIRC VOLTAGE OUT OF RANGE]>>GO TO 7.

B1C01 FRONT HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

2. CHECK FRONT HEIGHT SENSOR GROUND CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front height sensor connector.
3. Check continuity between IPDM E/R harness connector and front height sensor harness connector.

IPDM E/R		Front height sensor		Continuity
Connector	Terminal	Connector	Terminal	
E12	32	E28	2	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK FRONT HEIGHT SENSOR SIGNAL CIRCUIT (SHORT TO BATTERY)

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

+		-	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E12	26	Ground	0 V

Is the inspection result normal?

- YES >> GO TO 8.
NO >> Repair or replace harness.

4. CHECK FRONT HEIGHT SENSOR POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front height sensor connector.
3. Check continuity between IPDM E/R harness connector and front height sensor harness connector.

IPDM E/R		Front height sensor		Continuity
Connector	Terminal	Connector	Terminal	
E12	31	E28	3	Existed

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Repair or replace harness.

5. CHECK FRONT HEIGHT SENSOR SIGNAL CIRCUIT (OPEN)

Check continuity between IPDM E/R harness connector and front height sensor harness connector.

IPDM E/R		Front height sensor		Continuity
Connector	Terminal	Connector	Terminal	
E12	26	E28	1	Existed

Is the inspection result normal?

- YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK FRONT HEIGHT SENSOR SIGNAL CIRCUIT (SHORT TO GROUND)

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

IPDM E/R		—	Continuity
Connector	Terminal		
E12	26	Ground	Not existed

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EXL

B1C01 FRONT HEIGHT SENSOR SIGNAL

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 8.
- NO >> Repair or replace harness.

7. CHECK INSTALLATION OF FRONT HEIGHT SENSOR

Check front height sensor is properly installed. Refer to [EXL-199, "Exploded View"](#).

Is the inspection result normal?

- YES >> GO TO 8.
- NO >> Repair or replace malfunctioning parts and perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

8. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Connect IPDM E/R connector and front height sensor connector.
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-108, "DTC Description"](#).

Is DTC detected again?

- YES >> GO TO 9.
- NO >> INSPECTION END

9. REPLACE FRONT HEIGHT SENSOR

Ⓜ With CONSULT

1. Replace front height sensor. Refer to [EXL-200, "FRONT HEIGHT SENSOR : Removal and Installation"](#).
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-108, "DTC Description"](#).

Is DTC detected again?

- YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).
- NO >> INSPECTION END

B1C02 REAR HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1C02 REAR HEIGHT SENSOR SIGNAL

DTC Description

INFOID:000000010788800

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1C02	RR HEIGHT SENSOR SIGNAL (Rear height sensor signal)	[CIRC SHORT TO BATTERY] When ignition switch is ON and the rear height sensor signal voltage that is input from the rear height sensor is 4.95 V or more continually for 2 seconds or more.
		[CIRC SHORT TO GROUND OR OPEN] When ignition switch is ON and the rear height sensor signal voltage that is input from the rear height sensor is 0.05 V or less continually for 2 seconds or more.
		[CIRC VOLTAGE OUT OF RANGE] When ignition switch is ON and the rear height sensor signal voltage that is input from the rear height sensor is 4.375 V – 4.95 V, or 0.05 V – 0.625 V continually for 2 seconds or more.

POSSIBLE CAUSE

[CIRC SHORT TO BATTERY]

- Harness or connector
- Rear height sensor
- IPDM E/R

[CIRC SHORT TO GROUND OR OPEN]

- Harness or connector
- Rear height sensor
- IPDM E/R

[CIRC VOLTAGE OUT OF RANGE]

- Rear height sensor installation condition
- Rear height sensor
- IPDM E/R

FAIL-SAFE

Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

④With CONSULT

1. Turn ignition switch ON and wait at least 2 seconds or more.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-111, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788801

1.CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

- [CIRC SHORT TO BATTERY]>>GO TO 2.
- [CIRC SHORT TO GROUND OR OPEN]>>GO TO 4.
- [CIRC VOLTAGE OUT OF RANGE]>>GO TO 7.

B1C02 REAR HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

2. CHECK REAR HEIGHT SENSOR GROUND CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and rear height sensor connector.
3. Check continuity between IPDM E/R harness connector and rear height sensor harness connector.

IPDM E/R		Rear height sensor		Continuity
Connector	Terminal	Connector	Terminal	
E12	32	B43	2	Existed

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK REAR HEIGHT SENSOR SIGNAL CIRCUIT (SHORT TO BATTERY)

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

+		-	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E12	27	Ground	0 V

Is the inspection result normal?

- YES >> GO TO 8.
NO >> Repair or replace harness.

4. CHECK REAR HEIGHT SENSOR POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and rear height sensor connector.
3. Check continuity between IPDM E/R harness connector and rear height sensor harness connector.

IPDM E/R		Rear height sensor		Continuity
Connector	Terminal	Connector	Terminal	
E12	31	B43	3	Existed

Is the inspection result normal?

- YES >> GO TO 5.
NO >> Repair or replace harness.

5. CHECK REAR HEIGHT SENSOR SIGNAL CIRCUIT (OPEN)

Check continuity between IPDM E/R harness connector and rear height sensor harness connector.

IPDM E/R		Rear height sensor		Continuity
Connector	Terminal	Connector	Terminal	
E12	27	B43	1	Existed

Is the inspection result normal?

- YES >> GO TO 6.
NO >> Repair or replace harness.

6. CHECK REAR HEIGHT SENSOR SIGNAL CIRCUIT (SHORT TO GROUND)

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

IPDM E/R		—	Continuity
Connector	Terminal		
E12	27	Ground	Not existed

B1C02 REAR HEIGHT SENSOR SIGNAL

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

7. CHECK INSTALLATION OF REAR HEIGHT SENSOR

Check rear height sensor is properly installed. Refer to [EXL-199, "Exploded View"](#).

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace malfunctioning parts and perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

8. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Connect IPDM E/R connector and rear height sensor connector.
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-111, "DTC Description"](#).

Is DTC detected again?

YES >> GO TO 9.

NO >> INSPECTION END

9. REPLACE REAR HEIGHT SENSOR

Ⓜ With CONSULT

1. Replace rear height sensor. Refer to [EXL-200, "REAR HEIGHT SENSOR : Removal and Installation"](#).
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-111, "DTC Description"](#).

Is DTC detected again?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> INSPECTION END

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EXL

B1C07 AIMING MOTOR DRIVE SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1C07 AIMING MOTOR DRIVE SIGNAL

DTC Description

INFOID:000000010788802

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1C07	AIMING MOTOR DRIVE SIGNAL (Aiming motor drive signal)	[CIRC SHORT TO GRND] When ignition switch is ON, headlamp (LO) ON conditions are satisfied, and the aiming motor drive signal voltage that is output to the headlamp aiming motor is 1.25 V or less continually for 2 seconds or more.
		[CIRC SHORT TO BATTERY] When ignition switch is ON, headlamp (LO) ON conditions are satisfied, and the aiming motor drive signal voltage that is output to the headlamp aiming motor is 11.25 V or more continually for 2 seconds or more.
		[SIGNAL COMPARE FAILURE] When ignition switch is ON, headlamp (LO) ON conditions are satisfied, and the difference between the calculated value and actual output value for the aiming motor drive signal voltage that is output to the headlamp aiming motor is 1.75 V or more continually for 2 seconds or more.

POSSIBLE CAUSE

[CIRC SHORT TO GRND]

- Harness or connector
- Headlamp aiming motor
- IPDM E/R

[CIRC SHORT TO BATTERY]

- Harness or connector
- Headlamp aiming motor
- IPDM E/R

[SIGNAL COMPARE FAILURE]

- Harness or connector
- Headlamp aiming motor
- IPDM E/R

FAIL-SAFE

Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓟ With CONSULT

1. Turn ignition switch ON.
2. Turn lighting switch 2ND and wait at least 2 seconds or more.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-114, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788803

1. CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

[CIRC SHORT TO GRND]>>GO TO 2.

B1C07 AIMING MOTOR DRIVE SIGNAL

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

[CIRC SHORT TO BATTERY]>>GO TO 3.
[SIGNAL COMPARE FAILURE]>>GO TO 4.

2.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT (SHORT TO GROUND)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect the following connectors.
 - IPDM E/R
 - Headlamp aiming motor LH
 - Headlamp aiming motor RH
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E149	64	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

3.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT (SHORT TO BATTERY)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect the following connectors.
 - IPDM E/R
 - Headlamp aiming motor LH
 - Headlamp aiming motor RH
4. Check the voltage between IPDM E/R harness connector and ground.

+		-	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E149	64	Ground	0 V

Is the inspection result normal?

YES >> GO TO 6.
NO >> Repair or replace harness.

4.CHECK AIMING MOTOR DRIVE SIGNAL

④ With CONSULT

1. Select "OPTIC AXIS ACTIVE TEST" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+		-	Test item	Voltage (Approx.)
IPDM E/R				
Connector	Terminal			
E149	64	Ground	OPTIC AXIS ACTIVE TEST	Default 8.75 V
			Lower 3.25 V	

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 6.

5.CHECK AIMING MOTOR DRIVE SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - IPDM E/R
 - Headlamp aiming motor LH

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

EXL

B1C07 AIMING MOTOR DRIVE SIGNAL

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

- Headlamp aiming motor RH
- 3. Check continuity between IPDM E/R harness connector and headlamp aiming motor harness connector.

IPDM E/R		Headlamp aiming motor		Continuity	
Connector	Terminal	Connector	Terminal		
RH	E149	64	E144	3	Existed
LH			E143		

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Repair or replace harness.

6. PERFORM DTC CONFIRMATION PROCEDURE

Ⓟ With CONSULT

1. Connect IPDM E/R connector and headlamp aiming motor connector.
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-114, "DTC Description"](#).

Is DTC detected again?

- YES >> GO TO 7.
- NO >> INSPECTION END

7. REPLACE HEADLAMP AIMING MOTOR

Ⓟ With CONSULT

1. Replace headlamp aiming motor. Refer to [EXL-192, "Disassembly and Assembly"](#).
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-114, "DTC Description"](#).

Is DTC detected again?

- YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).
- NO >> INSPECTION END

B1C11 FRONT HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1C11 FRONT HEIGHT SENSOR SIGNAL

DTC Description

INFOID:000000011008915

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1C11	FR HEIGHT SENSOR SIGNAL (Front height sensor signal)	[SIG PRTCTN CLCLTN IN-CRCT] When ignition switch is ON and the front height sensor signal voltage that is input from the front height sensor is 4.75 V or more, or 0.25 V or less compared to the initial setting value continually for 30 seconds or more.

POSSIBLE CAUSE

- Front height sensor installation condition
- Front height sensor
- IPDM E/R

FAIL-SAFE

Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch ON and wait at least 30 seconds or more.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-117, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000011008916

1. CHECK FRONT HEIGHT SENSOR SIGNAL

1. Unload the vehicle (no passenger aboard).
2. Turn ignition switch ON.
3. Check the voltage between IPDM E/R harness connector and ground.

+		-	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E12	26	Ground	2.4 V

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> GO TO 2.

2. CHECK INSTALLATION OF FRONT HEIGHT SENSOR

Check front height sensor is properly installed. Refer to [EXL-199, "Exploded View"](#).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair or replace malfunctioning parts and perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

3. PERFORM SENSOR INITIALIZE

Perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

B1C11 FRONT HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Is the sensor initialize completed?

YES >> GO TO 4.

NO >> Replace front height sensor. Refer to [EXL-200. "FRONT HEIGHT SENSOR : Removal and Installation"](#).

4.PERFORM DTC CONFIRMATION PROCEDURE

ⓅWith CONSULT

1. Turn ignition switch ON.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Touch "ERASE" to erase DTC memory of IPDM E/R.
4. Turn ignition switch OFF.
5. Perform DTC confirmation procedure. Refer to [EXL-117. "DTC Description"](#).

Is DTC detected again?

YES >> GO TO 5.

NO >> INSPECTION END

5.REPLACE FRONT HEIGHT SENSOR

ⓅWith CONSULT

1. Replace front height sensor. Refer to [EXL-200. "FRONT HEIGHT SENSOR : Removal and Installation"](#).
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-117. "DTC Description"](#).

Is DTC detected again?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> INSPECTION END

B1C12 REAR HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B1C12 REAR HEIGHT SENSOR SIGNAL

DTC Description

INFOID:000000010788804

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)		DTC detection condition
B1C12	RR HEIGHT SENSOR SIGNAL (Rear height sensor signal)	[SIG PRTCTN CLCLTN IN- CRCT]	When ignition switch is ON and the rear height sensor signal voltage that is input from the rear height sensor is 4.75 V or more, or 0.25 V or less compared to the initial setting value continually for 30 seconds or more.

POSSIBLE CAUSE

- Rear height sensor installation condition
- Rear height sensor
- IPDM E/R

FAIL-SAFE

Right and left headlamp aiming motors stop at the position when DTC is detected.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch ON and wait at least 30 seconds or more.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-119, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788805

1. CHECK REAR HEIGHT SENSOR SIGNAL

1. Unload the vehicle (no passenger aboard).
2. Turn ignition switch ON.
3. Check the voltage between IPDM E/R harness connector and ground.

+		-	Voltage (Approx.)
IPDM E/R			
Connector	Terminal		
E12	27	Ground	1.8 V

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> GO TO 2.

2. CHECK INSTALLATION OF REAR HEIGHT SENSOR

Check rear height sensor is properly installed. Refer to [EXL-199, "Exploded View"](#).

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Repair or replace malfunctioning parts and perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

3. PERFORM SENSOR INITIALIZE

Perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

B1C12 REAR HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Is the sensor initialize completed?

YES >> GO TO 4.

NO >> Replace rear height sensor. Refer to [EXL-200. "REAR HEIGHT SENSOR : Removal and Installation"](#).

4.PERFORM DTC CONFIRMATION PROCEDURE

ⓅWith CONSULT

1. Turn ignition switch ON.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Touch "ERASE" to erase DTC memory of IPDM E/R.
4. Turn ignition switch OFF.
5. Perform DTC confirmation procedure. Refer to [EXL-119. "DTC Description"](#).

Is DTC detected again?

YES >> GO TO 5.

NO >> INSPECTION END

5.REPLACE REAR HEIGHT SENSOR

ⓅWith CONSULT

1. Replace rear height sensor. Refer to [EXL-200. "REAR HEIGHT SENSOR : Removal and Installation"](#).
2. Turn ignition switch ON.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Touch "ERASE" to erase DTC memory of IPDM E/R.
5. Turn ignition switch OFF.
6. Perform DTC confirmation procedure. Refer to [EXL-119. "DTC Description"](#).

Is DTC detected again?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> INSPECTION END

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788806

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20CB	DTRL LH PWR SPLY CIRC (Daytime running light left hand power supply circuit)	[CIRC SHORT TO GRND] When daytime running light ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the daytime running light LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED (Daytime running light)
 - Control circuit
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the daytime running light LH power supply circuit until the daytime running light ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "DTRL LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
DTRL LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the daytime running light LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-121, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Start engine.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-121, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788807

1. CHECK DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT (SHORT)

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

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

IPDM E/R		—	Continuity
Connector	Terminal		
E148	49	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK DAYTIME RUNNING LIGHT LH POWER SUPPLY

 With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp LH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp LH					
Connector	Terminal				
E156	5	Ground	DAYTIME RUNNING LIGHT	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK DAYTIME RUNNING LIGHT LH

Check the daytime running light LH. Refer to [EXL-122, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:000000010788808

1.CHECK DAYTIME RUNNING LIGHT LH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check resistance of front combination lamp LH terminals.

Front combination lamp LH		Resistance
Terminal		
5	8	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788809

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20CE	HL (HI) LH PWR SPLY CIRC [Headlamp (high) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (HI) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (HI) LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED [Headlamp (HI)]
 - LED headlamp control module
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (HI) LH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (HI) LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (HI) LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (HI) LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-123, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND, and lighting switch HI.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-123, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788810

1. CHECK HEADLAMP (HI) LH POWER SUPPLY CIRCUIT (SHORT)

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect IPDM E/R connector and front combination lamp LH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E149	59	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK HEADLAMP (HI) LH POWER SUPPLY

 With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp LH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp LH					
Connector	Terminal				
E156	2	Ground	HEADLAMP (HI)	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK HEADLAMP (HI) LH

Check the headlamp (HI) LH. Refer to [EXL-124, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:000000010788811

1.CHECK HEADLAMP (HI) LH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check resistance of front combination lamp LH terminals.

Front combination lamp LH		Resistance
Terminal		
2	1	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788812

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20CF	HL (HI) RH PWR SPLY CIRC [Headlamp (high) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (HI) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (HI) RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp RH internal circuit
 - LED [Headlamp (HI)]
 - LED headlamp control module
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (HI) RH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (HI) RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (HI) RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (HI) RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-125, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND, and lighting switch HI.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-125, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788813

1. CHECK HEADLAMP (HI) RH POWER SUPPLY CIRCUIT (SHORT)

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect IPDM E/R connector and front combination lamp RH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E148	54	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK HEADLAMP (HI) RH POWER SUPPLY

 With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp RH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp RH					
Connector	Terminal				
E155	2	Ground	HEADLAMP (HI)	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK HEADLAMP (HI) RH

Check the headlamp (HI) RH. Refer to [EXL-126, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:000000010788814

1.CHECK HEADLAMP (HI) RH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check resistance of front combination lamp RH terminals.

Front combination lamp RH		Resistance
Terminal		
2	1	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-191, "Removal and Installation"](#).

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788815

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D0	HL (LO) LH PWR SPLY CIRC [Headlamp (low) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (LO) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (LO) LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED [Headlamp (LO)]
 - LED headlamp control module
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (LO) LH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (LO) LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (LO) LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (LO) LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-127, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-127, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788816

1. CHECK HEADLAMP (LO) LH POWER SUPPLY CIRCUIT (SHORT)

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect IPDM E/R connector and front combination lamp LH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E148	50	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK HEADLAMP (LO) LH POWER SUPPLY

 With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp LH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp LH					
Connector	Terminal				
E156	3	Ground	HEADLAMP (LO)	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK HEADLAMP (LO) LH

Check the headlamp (LO) LH. Refer to [EXL-128, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:000000010788817

1.CHECK HEADLAMP (LO) LH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check resistance of front combination lamp LH terminals.

Front combination lamp LH		Resistance
Terminal		
3	1	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788818

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D1	HL (LO) RH PWR SPLY CIRC [Headlamp (low) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (LO) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (LO) RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp RH internal circuit
 - LED [Headlamp (LO)]
 - LED headlamp control module
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (LO) RH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (LO) RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (LO) RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (LO) RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-129, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-129, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788819

1. CHECK HEADLAMP (LO) RH POWER SUPPLY CIRCUIT (SHORT)

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect IPDM E/R connector and front combination lamp RH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E149	62	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK HEADLAMP (LO) RH POWER SUPPLY

 With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp RH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp RH					
Connector	Terminal				
E155	3	Ground	HEADLAMP (LO)	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK HEADLAMP (LO) RH

Check the headlamp (LO) RH. Refer to [EXL-130, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:00000001078820

1.CHECK HEADLAMP (LO) RH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check resistance of front combination lamp RH terminals.

Front combination lamp RH		Resistance
Terminal		
3	1	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-191, "Removal and Installation"](#).

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788821

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D2	PARKING LAMP PWR SPLY CIRC (Parking lamp power supply circuit)	[CIRC SHORT TO GRND] When the parking lamp, license plate lamp, and tail lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the parking lamp LH power supply circuit or parking lamp RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED (Parking lamp)
 - Control circuit
 - Harness
- Front combination lamp RH internal circuit
 - LED (Parking lamp)
 - Control circuit
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the parking lamp (LH/RH) power supply circuit until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "P LAMP CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
P LAMP CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the parking lamp LH or parking lamp RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-132, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-132, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788822

1. CHECK PARKING LAMP POWER SUPPLY CIRCUIT (SHORT)

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

IPDM E/R			—	Continuity
Connector		Terminal		
RH	E149	61	Ground	Not existed
LH	E148	56		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK PARKING LAMP POWER SUPPLY

Ⓜ With CONSULT

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

+			-	Test item	Voltage			
Front combination lamp								
Connector		Terminal	Ground	PARKING LAMP				
RH	E155	6			Ground	PARKING LAMP	On	9 – 16 V
							Off	0 – 1 V
LH	E156	6			Ground	PARKING LAMP	On	9 – 16 V
			Off	0 – 1 V				

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK PARKING LAMP

Check the parking lamp. Refer to [EXL-132, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the corresponding front combination lamp. Refer to [EXL-191, "Removal and Installation"](#).

Component Inspection

INFOID:000000010788823

1. CHECK PARKING LAMP

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Check resistance of front combination lamp terminals.

Parking lamp LH

Front combination lamp LH		Resistance
Terminal		
6	8	Except 0 Ω

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Parking lamp RH

Front combination lamp RH		Resistance
Terminal		
6	8	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the corresponding front combination lamp. Refer to [EXL-191, "Removal and Installation"](#).

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B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010788824

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)		DTC detection condition
B20D4	TAIL LAMP LH PWR SPLY CIRC (Tail lamp left hand power supply circuit)	[CIRC SHORT TO GRND]	When the parking lamp, license plate lamp, and tail lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the following power supply circuit. <ul style="list-style-type: none"> • Tail lamp LH (body side) • Tail lamp LH (back door side) • License plate lamp LH • License plate lamp RH

POSSIBLE CAUSE

- Harness or connector
- Tail lamp LH (body side) bulb
- Tail lamp LH (back door side) bulb
- Tail lamp LH (body side) bulb socket or harness
- Tail lamp LH (back door side) bulb socket or harness
- License plate lamp LH bulb
- License plate lamp RH bulb
- License plate lamp LH bulb socket
- License plate lamp RH bulb socket
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

- Tail lamp LH (body side)
- Tail lamp LH (back door side)
- License plate lamp LH
- License plate lamp RH

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "T LAMP LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
T LAMP LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the tail lamp LH (body side), tail lamp LH (back door side), license plate lamp LH or license plate lamp RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-135, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-135, "Diagnosis Procedure"](#).
- NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
- NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010788825

1. CHECK TAIL LAMP LH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect the following connectors.
 - IPDM E/R
 - Rear combination lamp LH (body side)
 - Rear combination lamp LH (back door side)
 - License plate lamp LH
 - License plate lamp RH
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E10	4	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Repair or replace harness.

2. CHECK TAIL LAMP LH POWER SUPPLY

With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between rear combination lamp LH (body side) harness connector and ground.

+		-	Test item		Voltage
Rear combination lamp LH (body side)					
Connector	Terminal	Ground	TAIL LAMP	On	9 – 16 V
B80	1				

Is the inspection result normal?

- YES >> GO TO 3.
- NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK TAIL LAMP LH

Check the tail lamp LH. Refer to [EXL-136, "Component Inspection \(Tail Lamp\)"](#).

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Repair or replace the malfunctioning part.

4. CHECK LICENSE PLATE LAMP

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Check the license plate lamp. Refer to [EXL-136, "Component Inspection \(License Plate Lamp\)"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace the malfunctioning part.

Component Inspection (Tail Lamp)

INFOID:000000001078826

1.CHECK TAIL LAMP LH

1. Turn ignition switch OFF.
2. Disconnect rear combination lamp LH (body side) and rear combination lamp LH (back door side) connector.
3. Check resistance of rear combination lamp LH (body side) and rear combination lamp LH (back door side) terminals.

Rear combination lamp LH (body side)

Rear combination lamp LH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

Tail lamp LH (back door side)

Rear combination lamp LH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK TAIL LAMP LH

1. Remove tail lamp LH bulb
2. Check resistance of rear combination lamp LH (body side) and rear combination lamp LH (back door side) terminals.

Rear combination lamp LH (body side)

Rear combination lamp LH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

Tail lamp LH (back door side)

Rear combination lamp LH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

Is the inspection result normal?

YES >> Replace the corresponding tail lamp LH bulb. Refer to [EXL-204, "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (body side) or [EXL-206, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Replacement"](#) (back door side).

NO >> Repair or replace the corresponding tail lamp LH bulb socket and harness.

Component Inspection (License Plate Lamp)

INFOID:000000001078827

1.CHECK LICENSE PLATE LAMP

1. Turn ignition switch OFF.
2. Disconnect license plate lamp connector.
3. Check resistance of license plate lamp terminals.

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

License plate lamp LH

License plate lamp LH		Resistance
Terminal		
2	1	Except 0 Ω

License plate lamp RH

License plate lamp RH		Resistance
Terminal		
2	1	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK LICENSE PLATE LAMP

1. Remove license plate lamp bulb.
2. Check resistance of license plate lamp terminals.

License plate lamp LH

License plate lamp LH		Resistance
Terminal		
2	1	Except 0 Ω

License plate lamp RH

License plate lamp RH		Resistance
Terminal		
2	1	Except 0 Ω

Is the inspection result normal?

YES >> Replace the corresponding license plate lamp bulb. Refer to [EXL-209. "Replacement"](#).

NO >> Repair or replace the corresponding license plate lamp bulb socket.

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EXL

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:00000001078828

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D5	TAIL LAMP RH PWR SPLY CIRC (Tail lamp right hand power supply circuit)	[CIRC SHORT TO GRND] When the parking lamp, license plate lamp, and tail lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the following power supply circuit. <ul style="list-style-type: none">• Tail lamp RH (body side)• Tail lamp RH (back door side)

POSSIBLE CAUSE

- Harness or connector
- Tail lamp RH (body side) bulb
- Tail lamp RH (back door side) bulb
- Tail lamp RH (body side) bulb socket or harness
- Tail lamp RH (back door side) bulb socket or harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

- Tail lamp RH (body side)
- Tail lamp RH (back door side)

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "T LAMP RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
T LAMP RH CIRC MALFUNCTN	0
	1

What is the monitor status?

- "0" >> GO TO 2.
"1" >> A short circuit is detected multiple times in the tail lamp RH (body side) or tail lamp RH (back door side) power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-139, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-139, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

INFOID:000000010788829

Diagnosis Procedure

1. CHECK TAIL LAMP RH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect the following connectors.
 - IPDM E/R
 - Rear combination lamp RH (body side)
 - Rear combination lamp RH (back door side)
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E10	17	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair or replace harness.

2. CHECK TAIL LAMP RH POWER SUPPLY

Ⓜ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between rear combination lamp RH (body side) harness connector and ground.

+		-	Test item	Voltage				
Connector	Terminal							
B59	1	Ground	TAIL LAMP	<table border="1"> <tr><td>On</td><td>9 – 16 V</td></tr> <tr><td>Off</td><td>0 – 1 V</td></tr> </table>	On	9 – 16 V	Off	0 – 1 V
On	9 – 16 V							
Off	0 – 1 V							

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

3. CHECK TAIL LAMP RH

Check the tail lamp RH. Refer to [EXL-139. "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Repair or replace the malfunctioning part.

Component Inspection

INFOID:000000010788830

1. CHECK TAIL LAMP RH

1. Turn ignition switch OFF.
2. Disconnect rear combination lamp RH (body side) and rear combination lamp RH (back door side) connector.
3. Check resistance of rear combination lamp RH (body side) and rear combination lamp RH (back door side) terminals.

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EXL

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Rear combination lamp RH (body side)

Rear combination lamp RH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

Tail lamp RH (back door side)

Rear combination lamp RH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK TAIL LAMP RH

1. Remove tail lamp RH bulb
2. Check resistance of rear combination lamp RH (body side) and rear combination lamp RH (back door side) terminals.

Rear combination lamp RH (body side)

Rear combination lamp RH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

Tail lamp RH (back door side)

Rear combination lamp RH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

Is the inspection result normal?

YES >> Replace the corresponding tail lamp RH bulb. Refer to [EXL-204. "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (body side) or [EXL-206. "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Replacement"](#) (back door side).

NO >> Repair or replace the corresponding tail lamp RH bulb socket and harness.

B20DB HEIGHT SENSOR INITIALIZE NOT DONE

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

B20DB HEIGHT SENSOR INITIALIZE NOT DONE

DTC Description

INFOID:000000010788831

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20DB	HEIGHT SENS INITIALIZE NOT DONE (Height Sensor Initialize not done)	[MISSING CALIBRATION] Initialization incomplete status of the height sensor is detected when the ignition switch is turned ON.
		[NOT CONFIGURED] "HLL" vehicle specification is not written to IPDM E/R when ignition switch is turned ON.

POSSIBLE CAUSE

[MISSING CALIBRATION]

Sensor initialize is not completed

[NOT CONFIGURED]

Configuration is not completed

FAIL-SAFE

Right and left headlamp aiming motors fix at the initial aiming position.

DTC CONFIRMATION PROCEDURE

1. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
3. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-141, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788832

1. CHECK DTC

Perform each inspection according to the displayed DTC.

Which DTC is displayed?

- [MISSING CALIBRATION]>>GO TO 2.
[NOT CONFIGURED]>>GO TO 3.

2. PERFORM SENSOR INITIALIZE

Perform sensor initialize. Refer to [EXL-99, "Work Procedure"](#).

>> INSPECTION END

3. PERFORM CONFIGURATION

Perform configuration for "HLL" of IPDM E/R. Refer to [PCS-48, "Work Procedure"](#).

>> INSPECTION END

B20E2 LED HEADLAMP RH**DTC Description**

INFOID:000000010788833

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20E2	LED HEADLAMP RH (Light emitting diode headlamp right hand)	[CMPNENT INTERNAL MLFNCTN] When headlamp (LO) ON conditions are satisfied, and the headlamp warning RH signal voltage that is input from the LED headlamp control module is 2.2 V or more continually for 2 seconds or more.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp RH internal circuit
 - LED [Headlamp (LO)]
 - LED headlamp control module
 - Harness
- IPDM E/R

FAIL-SAFE

Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)

DTC CONFIRMATION PROCEDURE**1. CHECK DTC PRIORITY**

If DTC B20E2 is displayed with DTC B20D1, first perform the confirmation procedure (trouble diagnosis) for DTC B20D1.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [EXL-129, "DTC Description"](#).
 NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE**Ⓟ With CONSULT**

1. Turn ignition switch ON.
2. Turn lighting switch 2ND and wait at least 2 seconds or more.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-142, "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788834

1. CHECK HEADLAMP (LO) RH OPERATION**Ⓟ With CONSULT**

1. Turn ignition switch ON.
2. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
3. With operating the test items, check that the headlamp (LO) RH is turned ON.

- On** : Headlamp (LO) RH ON
Off : Headlamp (LO) RH OFF

Is the inspection result normal?

- YES >> GO TO 2.

B20E2 LED HEADLAMP RH

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Perform the headlamp (LO) RH circuit diagnosis. Refer to [EXL-147. "Diagnosis Procedure"](#).

2. CHECK HEADLAMP WARNING RH SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Turn ignition switch ON
4. Check voltage between front combination lamp RH harness connector and ground.

+		-	Voltage
Front combination lamp RH			
Connector	Terminal	Ground	9 – 16 V
E155	4		

Is the inspection result normal?

YES >> Replace front combination lamp RH. Refer to [EXL-191. "Removal and Installation"](#).

NO >> GO TO 3.

3. CHECK HEADLAMP WARNING RH SIGNAL CIRCUIT

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

Front combination lamp RH		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E155	4	E149	60	Existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> Repair or replace harness.

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B20E3 LED HEADLAMP LH**DTC Description**

INFOID:000000010788835

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20E3	LED HEADLAMP LH (Light emitting diode headlamp left hand)	[CMPNENT INTERNAL MLFNCTN] When headlamp (LO) ON conditions are satisfied, and the headlamp warning LH signal voltage that is input from the LED headlamp control module is 2.2 V or more continually for 2 seconds or more.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED [Headlamp (LO)]
 - LED headlamp control module
 - Harness
- IPDM E/R

FAIL-SAFE

Transmits the headlamp warning signal (CAN communication) to the combination meter when the headlamp (LO) ON conditions are satisfied. (When the ignition switch turns ON, the headlamp warning is displayed on the information display of the combination meter.)

DTC CONFIRMATION PROCEDURE**1.CHECK DTC PRIORITY**

If DTC B20E3 is displayed with DTC B20D0, first perform the confirmation procedure (trouble diagnosis) for DTC B20D0.

Is applicable DTC detected?

- YES >> Perform diagnosis of applicable. Refer to [EXL-127, "DTC Description"](#).
 NO >> GO TO 2.

2.PERFORM DTC CONFIRMATION PROCEDURE**ⓅWith CONSULT**

1. Turn ignition switch ON.
2. Turn lighting switch 2ND and wait at least 2 seconds or more.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-144, "Diagnosis Procedure"](#).
 NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
 NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010788836

1.CHECK HEADLAMP (LO) LH OPERATION**ⓅWith CONSULT**

1. Turn ignition switch ON.
2. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
3. With operating the test items, check that the headlamp (LO) LH is turned ON.

- On** : Headlamp (LO) LH ON
Off : Headlamp (LO) LH OFF

Is the inspection result normal?

- YES >> GO TO 2.

B20E3 LED HEADLAMP LH

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Perform the headlamp (LO) LH circuit diagnosis. Refer to [EXL-147, "Diagnosis Procedure"](#).

2. CHECK HEADLAMP WARNING LH SIGNAL

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Turn ignition switch ON
4. Check voltage between front combination lamp LH harness connector and ground.

+		-	Voltage
Front combination lamp LH			
Connector	Terminal		
E156	4	Ground	9 – 16 V

Is the inspection result normal?

YES >> Replace front combination lamp LH. Refer to [EXL-191, "Removal and Installation"](#).

NO >> GO TO 3.

3. CHECK HEADLAMP WARNING LH SIGNAL CIRCUIT

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

Front combination lamp LH		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E156	4	E148	53	Existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Repair or replace harness.

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HEADLAMP (HI) CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:000000010788837

1. CHECK HEADLAMP (HI) OPERATION

④ With CONSULT

1. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the headlamp (HI) is turned ON.

On : Headlamp (HI) ON

Off : Headlamp (HI) OFF

Is the inspection result normal?

- YES >> Headlamp (HI) circuit is normal.
NO >> Refer to [EXL-146, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788838

1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Turn ignition switch ON.
4. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	HEADLAMP (HI)		
RH	E148	54			On	9 – 16 V
					Off	0 – 1 V
LH	E149	59			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK HEADLAMP (HI) POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E148	54	E155	2	Existed
LH	E149	59	E156		

Is the inspection result normal?

- YES >> Perform the LED headlamp diagnosis. Refer to [EXL-148, "Diagnosis Procedure"](#).
NO >> Repair or replace harness.

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

HEADLAMP (LO) CIRCUIT

Component Function Check

INFOID:000000010788839

1. CHECK HEADLAMP (LO) OPERATION

④ With CONSULT

1. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the inspection result normal?

YES >> Headlamp (LO) circuit is normal.

NO >> Refer to [EXL-147, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788840

1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Turn ignition switch ON.
4. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	HEADLAMP (LO)		
RH	E149	62			On	9 – 16 V
					Off	0 – 1 V
LH	E148	50			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK HEADLAMP (LO) POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	62	E155	3	Existed
LH	E148	50	E156		

Is the inspection result normal?

YES >> Perform the LED headlamp diagnosis. Refer to [EXL-148, "Diagnosis Procedure"](#).

NO >> Repair or replace harness.

LED HEADLAMP

Diagnosis Procedure

INFOID:000000010788841

1.CHECK LED HEADLAMP GROUND CIRCUIT

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

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E155	1	Ground	Existed
LH	E156			

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair or replace harness.

2.CHECK LED HEADLAMP

Install the normal front combination lamp to the applicable headlamp. Check that the headlamp is turned ON. Refer to [EXL-98, "Work Procedure"](#).

Is the headlamp turned ON?

- YES >> Replace the corresponding front combination lamp. Refer to [EXL-191, "Removal and Installation"](#).
 NO >> LED headlamp is normal.

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

HEADLAMP LEVELIZER CIRCUIT

Component Function Check

INFOID:000000010788842

1. CHECK HEADLAMP LEVELIZER OPERATION

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Turn lighting switch 2ND.
3. Select "OPTIC AXIS ACTIVE TEST" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test item, check light axis operation.

Test item		Light axis operation
OPTIC AXIS ACTIVE TEST	Default	Moves the light axis to the initial position.
	Lower	Moves the light axis to the lowest position.

Is the inspection result normal?

- YES >> Headlamp levelizer circuit is normal.
 NO >> Refer to [EXL-149, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788843

1. CHECK HEADLAMP AIMING MOTOR FUSE

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

Unit	Location	Fuse No.	Capacity
Headlamp aiming motor	IPDM E/R	#97	10 A

Is the inspection result normal?

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

2. CHECK HEADLAMP AIMING MOTOR POWER SUPPLY

1. Disconnect headlamp aiming motor connector.
2. Turn ignition switch ON.
3. Check voltage between headlamp aiming motor harness connector and ground.

+		Terminal	-	Voltage
Headlamp aiming motor				
Connector		1	Ground	9 – 16 V
RH	E144			
LH	E143			

Is the inspection result normal?

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

3. CHECK HEADLAMP AIMING MOTOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connectors.
3. Check continuity between headlamp aiming motor harness connector and IPDM E/R connector.

HEADLAMP LEVELIZER CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Headlamp aiming motor		IPDM E/R			Continuity
Connector		Terminal	Connector	Terminal	
RH	E144	1	E148	55	Existed
LH	E143				

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Repair or replace harness.

4. CHECK HEADLAMP AIMING MOTOR GROUND CIRCUIT

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

Headlamp aiming motor		IPDM E/R			Continuity
Connector		Terminal	Connector	Terminal	
RH	E144	2	E149	63	Existed
LH	E143				

Is the inspection result normal?

YES >> Replace the corresponding front combination lamp. Refer to [EXL-191, "Removal and Installation"](#).

NO >> Repair or replace harness.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

PARKING LAMP CIRCUIT

Component Function Check

INFOID:000000010788844

1. CHECK PARKING LAMP OPERATION

④ With CONSULT

1. Select "PARKING LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the parking lamp is turned ON.

On : Parking lamp ON
Off : Parking lamp OFF

Is the inspection result normal?

- YES >> Parking lamp circuit is normal.
 NO >> Refer to [EXL-151, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788845

1. CHECK PARKING LAMP OUTPUT VOLTAGE

④ With CONSULT

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

+			-	Test item	Voltage		
IPDM E/R							
Connector		Terminal	Ground	PARKING LAMP			
RH	E149	61				On	9 – 16 V
						Off	0 – 1 V
LH	E148	56				On	9 – 16 V
			Off	0 – 1 V			

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK PARKING LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	61	E155	6	Existed
LH	E148	56	E156		

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3. CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E155	8	Ground	Existed
LH	E156			

Is the inspection result normal?

- YES >> Replace the corresponding front combination lamp. Refer to [EXL-191, "Removal and Installation"](#).
NO >> Repair or replace harness.

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

TAIL LAMP CIRCUIT

Component Function Check

INFOID:000000010788846

1. CHECK TAIL LAMP OPERATION

④ With CONSULT

1. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the tail lamp is turned ON.

On : Tail Lamp ON
Off : Tail lamp OFF

Is the inspection result normal?

- YES >> Tail lamp circuit is normal.
 NO >> Refer to [EXL-153, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788847

1. CHECK TAIL LAMP OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - Rear combination lamp LH (body side)
 - Rear combination lamp RH (body side)
 - Rear combination lamp LH (back door side)
 - Rear combination lamp RH (back door side)
3. Turn ignition switch ON.
4. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector	Terminal					
RH	E10	17	Ground	TAIL LAMP	On	9 – 16 V
					Off	0 – 1 V
LH		4			On	9 – 16 V
					Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK TAIL LAMP POWER SUPPLY CIRCUIT

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

Body side

IPDM E/R			Rear combination lamp (body side)		Continuity
Connector	Terminal		Connector	Terminal	
RH	E10	17	B59	1	Existed
LH		4	B80		

TAIL LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Back door side

IPDM E/R		Rear combination lamp (back door side)		Continuity
Connector	Terminal	Connector	Terminal	
RH	E10	17	D156	Existed
LH		4	D155	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK TAIL LAMP GROUND CIRCUIT

Check continuity between each tail lamp harness connector and ground.

Body side

Rear combination lamp (body side)		Terminal	—	Continuity
Connector	Terminal			
RH	B59	1	Ground	Existed
LH	B80			

Back door side

Rear combination lamp (back door side)			—	Continuity
Connector	Terminal	Terminal		
RH	D156	1	Ground	Existed
LH	D155			

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK TAIL LAMP BULB

Check the applicable tail lamp bulb.

Is the inspection result normal?

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

NO >> Replace the corresponding tail lamp bulb. Refer to [EXL-204, "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (body side) or [EXL-206, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Replacement"](#) (back door side).

LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

LICENSE PLATE LAMP CIRCUIT

Component Function Check

INFOID:000000010788848

1.CHECK TAIL LAMP LH OPERATION

Check that tail lamp LH is turned ON when lighting switch is turned 1ST.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to [EXL-153, "Component Function Check"](#).

2.CHECK LICENSE PLATE LAMP OPERATION

Ⓜ With CONSULT

1. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.

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

On : License plate lamp ON

Off : License plate lamp OFF

Is the inspection result normal?

YES >> License plate lamp circuit is normal.

NO >> Refer to [EXL-155, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788849

1.CHECK LICENSE PLATE LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector and license plate lamp connector.

3. Check continuity between IPDM E/R harness connector and license plate lamp harness connector.

IPDM E/R		License plate lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E10	D161	2	Existed
LH		D162		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK LICENSE PLATE LAMP GROUND CIRCUIT

Check continuity between license plate lamp harness connector and ground.

License plate lamp		—	Continuity
Connector	Terminal		
RH	D161	Ground	Existed
LH	D162		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK LICENSE PLATE LAMP BULB

Check the applicable license plate lamp bulb.

Is the inspection result normal?

YES >> Check the corresponding license plate lamp bulb socket. Repair or replace if necessary.

NO >> Replace the corresponding license plate lamp bulb. Refer to [EXL-209, "Replacement"](#).

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EXL

DAYTIME RUNNING LIGHT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

DAYTIME RUNNING LIGHT CIRCUIT

Component Function Check

INFOID:000000010788850

1. CHECK DAYTIME RUNNING LIGHT OPERATION

④ With CONSULT

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

On : Daytime running light ON

Off : Daytime running light OFF

Is the inspection result normal?

- YES >> Daytime running light circuit is normal.
NO >> Refer to [EXL-156, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788851

1. CHECK DAYTIME RUNNING LIGHT OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Turn ignition switch ON.
4. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	DAYTIME RUNNING LIGHT		
RH	E149	58			On	9 – 16 V
					Off	0 – 1 V
LH	E148	49			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK DAYTIME RUNNING LIGHT POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	58	E155	5	Existed
LH	E148	49	E156		

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK DAYTIME RUNNING LIGHT GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

DAYTIME RUNNING LIGHT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E155	8	Ground	Existed
LH	E156			

Is the inspection result normal?

- YES >> Replace the corresponding front combination lamp. Refer to [EXL-191, "Removal and Installation"](#).
- NO >> Repair or replace harness.

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EXL

STOP LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

STOP LAMP CIRCUIT

Component Function Check

INFOID:000000010788852

1.CHECK STOP LAMP OPERATION

1. Turn ignition switch ON.
2. With operating the brake pedal, check that the stop lamp and high-mounted stop lamp is turned ON.

Depressed : Stop lamp and high-mounted stop lamp
ON

Fully re-leased : Stop lamp and high-mounted stop lamp
OFF

Is the inspection result normal?

- YES >> Stop lamp circuit is normal.
NO >> Refer to [EXL-158, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788853

1.CHECK SYMPTOM

Check symptom (A or B)

Symptom	
A	All of stop lamp and high-mounted stop lamp are not turned ON
B	Any of stop lamp and high-mounted stop lamp are not turned ON

Which symptom is detected?

- A >> GO TO 2.
B >> GO TO 7.

2.CHECK FUSE

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

CVT models

Unit	Location	Fuse No.	Capacity
• BCM • Stop lamp switch	Fuse block (J/B)	#10	10 A
Stop lamp switch		#30	

M/T models

Unit	Location	Fuse No.	Capacity
• BCM • Stop lamp switch	Fuse block (J/B)	#10	10 A
Stop lamp switch		#20	

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

3.CHECK BCM POWER SUPPLY (STOP LAMP)

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

STOP LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

+		-	Voltage
BCM			
Connector	Terminal		
M85	145	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK STOP LAMP SWITCH POWER SUPPLY

1. Disconnect stop lamp switch connector.
2. Connect BCM connector.
3. Turn ignition switch ON.
4. Check voltage between stop lamp switch harness connector and ground.

CVT models

+		-	Voltage
Stop lamp switch			
Connector	Terminal		
E115	1	Ground	9 – 16 V
	3		

M/T models

+		-	Voltage
Stop lamp switch			
Connector	Terminal		
E121	1	Ground	9 – 16 V
	3		

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK STOP LAMP SWITCH SIGNAL CIRCUIT (OPEN)

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

CVT models

BCM		Stop lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
E23	157	E115	2	Existed
	158		4	Existed

M/T models

BCM		Stop lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
E23	157	E121	2	Existed
	158		4	Existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6. CHECK STOP LAMP SWITCH

Check stop lamp switch. Refer to [EXL-161. "Component Inspection"](#).

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STOP LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

NO >> Replace stop lamp switch. Refer to [BR-21, "Removal and Installation"](#) (LHD models) or [BR-85, "Removal and Installation"](#) (RHD models).

7. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP OUTPUT VOLTAGE

ⓑ With CONSULT

1. Disconnect rear combination lamp (body side) and high-mounted stop lamp connectors.
2. Turn ignition switch ON.
3. Select "HEAD LAMP" of "BCM" using CONSULT.
4. Select "STOP LAMP 1", "STOP LAMP 2" or "STOP LAMP 3" in "Active Test" mode.
5. With operating the test items, check voltage between BCM harness connector and ground.

Stop lamp RH

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
B46	129	Ground	STOP LAMP 1	On	9 – 16 V
			Off	0 V	

Stop lamp LH

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
B46	134	Ground	STOP LAMP 2	On	9 – 16 V
			Off	0 V	

High-mounted stop lamp

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
B47	39	Ground	STOP LAMP 3	On	9 – 16 V
			Off	0 V	

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

8. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP POWER SUPPLY CIRCUIT (SHORT)

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

Stop lamp

BCM			—	Continuity
Connector	Terminal			
RH	B46	129	Ground	Not existed
LH		134		

High-mounted stop lamp

BCM			—	Continuity
Connector	Terminal			
B47	39		Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

STOP LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

9. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and each stop lamp harness connector.

Stop lamp

BCM		Rear combination lamp (body side)		Continuity
Connector	Terminal	Connector	Terminal	
RH	B46		B59	Existed
LH			B80	

High-mounted stop lamp

BCM		High-mounted stop lamp		Continuity
Connector	Terminal	Connector	Terminal	
B47	39	D154	1	Existed

Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace harness.

10. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP GROUND CIRCUIT

Check continuity between each stop lamp harness connector and ground.

Stop lamp

Rear combination lamp (body side)		—	Continuity
Connector	Terminal		
RH	B59	4	Ground Existed
LH	B80		

High-mounted stop lamp

High-mounted stop lamp		—	Continuity
Connector	Terminal		
D154	2	Ground	Existed

Is the inspection result normal?

YES-1 >> Stop lamp: GO TO 11.

YES-2 >> High-mounted stop lamp: Replace high-mounted stop lamp. Refer to [EXL-207. "Removal and Installation"](#).

NO >> Repair or replace harness.

11. CHECK STOP LAMP BULB

Check the applicable stop lamp bulb.

Is the inspection result normal?

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

NO >> Replace the corresponding stop lamp bulb. Refer to [EXL-204. "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#).

Component Inspection

INFOID:0000000010788854

1. CHECK STOP LAMP SWITCH-1

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch connector.
3. Check continuity of stop lamp switch terminals.

STOP LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

CVT models

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Existed
		Fully released	Not existed

M/T models

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Not existed
		Fully released	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK STOP LAMP SWITCH-2

- Adjust stop lamp switch installation. Refer to [BR-11, "Inspection and Adjustment"](#) (LHD models) or [BR-75, "Inspection and Adjustment"](#) (RHD models).
- Check continuity of stop lamp switch terminals.

CVT models

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Existed
		Fully released	Not existed

M/T models

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Not existed
		Fully released	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace stop lamp switch. Refer to [BR-21, "Removal and Installation"](#) (LHD models) or [BR-85, "Removal and Installation"](#) (RHD models).

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:000000010788855

1.CHECK FRONT FOG LAMP OPERATION

④ With CONSULT

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

On : Front fog lamp ON
Off : Front fog lamp OFF

Is the inspection result normal?

- YES >> Front fog lamp circuit is normal.
 NO >> Refer to [EXL-163, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788856

1.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

④ With CONSULT

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

+			-	Test item	Voltage
IPDM E/R					
Connector		Terminal			
RH	E149	57	Ground	FRONT FOG LAMP On	9 – 16 V
				FRONT FOG LAMP Off	0 – 1 V
LH	E148	51		FRONT FOG LAMP On	9 – 16 V
				FRONT FOG LAMP Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2.CHECK FRONT FOG LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front fog lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	57	E158	1	Existed
LH	E148	51	E159		

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3.CHECK FRONT FOG LAMP GROUND CIRCUIT

Check continuity between front fog lamp harness connector and ground.

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Front fog lamp		Terminal	—	Continuity
Connector				
RH	E158	2	Ground	Existed
LH	E159			

Is the inspection result normal?

- YES >> Replace the corresponding front fog lamp bulb. Refer to [EXL-193, "Replacement"](#).
- NO >> Repair or replace harness.

REAR FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

REAR FOG LAMP CIRCUIT

Component Function Check

INFOID:000000010788857

1. CHECK REAR FOG LAMP OPERATION

④ With CONSULT

1. Select "HEAD LAMP" of "BCM" using CONSULT.
2. Select "RR FOG LAMP" in "Active Test" mode.
3. With operating the test items, check that the rear fog lamp is turned ON.

On : Rear fog lamp ON

Off : Rear fog lamp OFF

Is the inspection result normal?

YES >> Rear fog lamp circuit is normal.

NO >> Refer to [EXL-165, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788858

1. CHECK REAR FOG LAMP OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect rear fog lamp connector.
3. Turn ignition switch ON.
4. Select "HEAD LAMP" of "BCM" using CONSULT.
5. Select "RR FOG LAMP" in "Active Test" mode.
6. With operating the test items, check voltage between rear fog lamp harness connector and ground.

+		-	Test item	Voltage	
Rear fog lamp					
Connector	Terminal				
B152	2	Ground	RR FOG LAMP	On	9 – 16 V
				Off	0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

2. CHECK REAR FOG LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and rear fog lamp harness connector.

BCM		Rear fog lamp		Continuity
Connector	Terminal	Connector	Terminal	
B46	122	B152	2	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK REAR FOG LAMP POWER SUPPLY CIRCUIT (SHORT)

Check continuity between BCM harness connector and ground.

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REAR FOG LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

BCM		—	Continuity
Connector	Terminal		
B46	122	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

NO >> Repair or replace harness.

4.CHECK REAR FOG LAMP GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear fog lamp harness connector and ground.

Rear fog lamp		—	Continuity
Connector	Terminal		
B152	1	Ground	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK REAR FOG LAMP BULB

Check rear fog lamp bulb.

Is the inspection result normal?

YES >> Check rear fog lamp bulb socket. Repair or replace if necessary.

NO >> Replace rear fog lamp bulb. Refer to [EXL-204, "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#).

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

TURN SIGNAL LAMP CIRCUIT

Component Function Check

INFOID:000000010788859

1.CHECK TURN SIGNAL LAMP OPERATION

1. Turn ignition switch ON.
2. With operating the turn signal switch, check that the turn signal lamp is blinks.

Right : Turn signal lamps RH blink
Left : Turn signal lamps LH blink
Center : Turn signal lamps OFF

Is the inspection result normal?

- YES >> Turn signal lamp circuit is normal.
NO >> Refer to [EXL-167. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788860

1.CHECK SYMPTOM

Check symptom (A or B)

Symptom	
A	All of turn signal lamp are not blinks
B	Applicable side performs high flasher activation

Which symptom is detected?

- A >> GO TO 2.
B >> GO TO 4.

2.CHECK FUSE

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

Unit	Location	Fuse No.	Capacity
BCM	Fuse block (J/B)	#1	15 A

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

3.CHECK BCM POWER SUPPLY (TURN SIGNAL LAMP)

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

+		-	Voltage
BCM			
Connector	Terminal		
M85	144	Ground	9 – 16 V

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121. "Removal and Installation"](#).
NO >> Repair or replace harness.

4.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - Front turn signal lamp

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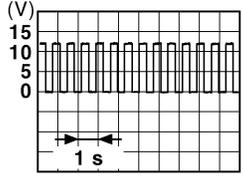
TURN SIGNAL LAMP CIRCUIT

[LED HEADLAMP]

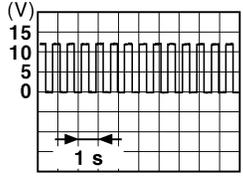
< DTC/CIRCUIT DIAGNOSIS >

- Door mirror
- Rear combination lamp (body side)
- 3. Turn ignition switch ON.
- 4. With operating the turn signal switch, check voltage between BCM harness connector and ground.

Front turn signal lamp

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
RH	E23	Ground	Turn signal switch	Right	
				Center	0 V
LH				167	Left
			Center	0 V	

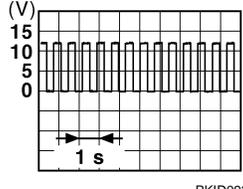
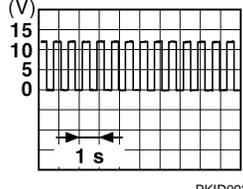
Side turn signal lamp

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
RH	M87	Ground	Turn signal switch	Right	
				Center	0 V
LH				42	Left
			Center	0 V	

TURN SIGNAL LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

+			-	Test item	Voltage (Approx.)		
BCM							
Connector	Terminal						
RH	B46	136	Ground	Turn signal switch	Right		
							
0 V							
LH	133	Left					
							
0 V							

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (SHORT)

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

Front turn signal lamp

BCM			—	Continuity
Connector	Terminal			
RH	E23	168	Ground	Not existed
LH		167		

Side turn signal lamp

BCM			—	Continuity
Connector	Terminal			
RH	M87	43	Ground	Not existed
LH		42		

Rear turn signal lamp

BCM			—	Continuity
Connector	Terminal			
RH	B46	136	Ground	Not existed
LH		133		

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).
- NO >> Repair or replace harness.

6. CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.

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TURN SIGNAL LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

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

Front turn signal lamp

BCM			Front turn signal lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E23	168	E46	1	Existed
LH		167	E27		

Side turn signal lamp (LHD models)

BCM			Door mirror		Continuity
Connector		Terminal	Connector	Terminal	
RH	M87	43	D43	13	Existed
LH		42	D3		

Side turn signal lamp (RHD models)

BCM			Door mirror		Continuity
Connector		Terminal	Connector	Terminal	
RH	M87	43	D23	13	Existed
LH		42	D98		

Rear turn signal lamp

BCM			Rear combination lamp (body side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	B46	136	B59	3	Existed
LH		133	B80		

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

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

Front turn signal lamp

Front combination lamp			—	Continuity
Connector		Terminal		
RH	E46	2	Ground	Existed
LH	E27			

Side turn signal lamp (LHD models)

Door mirror			—	Continuity
Connector		Terminal		
RH	D43	14	Ground	Existed
LH	D3			

Side turn signal lamp (RHD models)

Door mirror			—	Continuity
Connector		Terminal		
RH	D23	14	Ground	Existed
LH	D98			

TURN SIGNAL LAMP CIRCUIT

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Rear turn signal lamp

Rear turn signal lamp		Terminal	—	Continuity
Connector				
RH	B59	4	Ground	Existed
LH	B80			

Is the inspection result normal?

YES-1 >> Front turn signal lamp or rear turn signal lamp: GO TO 8.

YES-2 >> Side turn signal lamp: Replace side turn signal lamp. Refer to [EXL-198, "Removal and Installation"](#).

NO >> Repair or replace harness.

8. CHECK TURN SIGNAL LAMP BULB

Check the applicable turn signal lamp bulb.

Is the inspection result normal?

YES-1 >> Front turn signal lamp: Check the corresponding front turn signal lamp bulb socket. Repair or replace if necessary.

YES-2 >> Rear turn signal lamp: Check the corresponding rear turn signal lamp bulb socket and harness. Repair or replace if necessary.

NO >> Replace the corresponding turn signal lamp bulb. Refer to [EXL-191, "Replacement"](#) (front turn signal lamp) or [EXL-204, "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (rear turn signal lamp).

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LIGHT & RAIN SENSOR

Component Function Check

INFOID:000000010788861

1.CHECK LIGHT & RAIN SENSOR

1. Clean light & rain sensor detection area of windshield fully.
2. Turn ignition switch ON.
3. Turn lighting switch AUTO.
4. With the light & rain sensor illuminating, check the auto light function.

Condition		Auto light function
Light & rain sensor	When illuminating	Not operating
	When shutting off light	Operating

Is the inspection result normal?

- YES >> Light & rain sensor is normal.
 NO >> Refer to [EXL-172, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788862

1.CHECK LIGHT & RAIN SENSOR POWER SUPPLY

1. Turn ignition switch OFF
2. Disconnect light & rain sensor connector.
3. Turn ignition switch ON.
4. Check voltage between light & rain sensor harness connector and ground.

+		-	Voltage
Light & rain sensor			
Connector	Terminal	Ground	Battery voltage
R20	1		

Is the inspection result normal?

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

2.CHECK LIGHT & RAIN SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove interior room lamp relay.
3. Check continuity between interior room lamp relay harness connector and light & rain sensor harness connector.

Interior room lamp relay		Light & rain sensor		Continuity
Connector	Terminal	Connector	Terminal	
M44	5	R20	1	Existed

Is the inspection result normal?

- YES >> Perform the interior room lamp power supply circuit diagnosis. Refer to [INL-65, "Diagnosis Procedure"](#).
 NO >> Repair or replace harness.

3.CHECK LIGHT & RAIN SENSOR GROUND CIRCUIT

Check continuity between light & rain sensor harness connector and ground.

Light & rain sensor		—	Continuity
Connector	Terminal		
R20	3	Ground	Existed

LIGHT & RAIN SENSOR

[LED HEADLAMP]

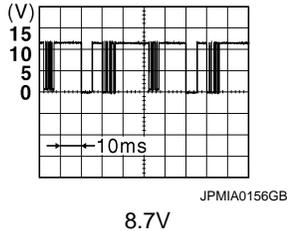
< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Repair or replace harness.

4.CHECK LIGHT & RAIN SENSOR SIGNAL

1. Connect light & rain sensor connector.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector and ground.

+		-	Condition	Voltage (Approx.)
BCM				
Connector	Terminal			
M87	47	Ground	Ignition switch ON	

Is the inspection result normal?

- YES >> Replace light & rain sensor. Refer to [EXL-195, "Removal and Installation"](#).
- NO >> GO TO 5.

5.CHECK LIGHT & RAIN SENSOR SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector and light & rain sensor connector.
3. Check continuity between BCM harness connector and light & rain sensor harness connector.

BCM		Light & rain sensor		Continuity
Connector	Terminal	Connector	Terminal	
M87	47	R20	2	Existed

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Repair or replace harness.

6.CHECK LIGHT & RAIN SENSOR SIGNAL CIRCUIT (SHORT)

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M87	47	Ground	Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).
- NO >> Repair or replace harness.

HAZARD SWITCH

Component Function Check

INFOID:000000010788863

1.CHECK HAZARD SWITCH SIGNAL

④ With CONSULT

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

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

Is the inspection result normal?

- YES >> Hazard switch circuit is normal.
 NO >> Refer to [EXL-174, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010788864

1.CHECK HAZARD SWITCH SIGNAL

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

+		-	Voltage
Hazard switch			
Connector	Terminal	Ground	9 – 16 V
M45	2		

Is the inspection result normal?

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

2.CHECK HAZARD SWITCH SIGNAL CIRCUIT (OPEN)

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

Hazard switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M45	2	M87	51	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3.CHECK HAZARD SWITCH SIGNAL CIRCUIT (SHORT)

Check continuity between hazard switch harness connector and ground.

Hazard switch		—	Continuity
Connector	Terminal		
M45	2	Ground	Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

HAZARD SWITCH

[LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

4.CHECK HAZARD SWITCH GROUND CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch		—	Continuity
Connector	Terminal		
M45	1	Ground	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK HAZARD SWITCH

Check hazard switch. Refer to [EXL-175, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace hazard switch. Refer to [EXL-197, "Removal and Installation"](#).

Component Inspection

INFOID:000000010788865

1.CHECK HAZARD SWITCH

1. Turn ignition switch OFF.
2. Disconnect hazard switch connector.
3. Check continuity of hazard switch terminals.

Hazard switch		Condition	Continuity
Terminal			
2	1	Hazard switch ON	Existed
		OFF	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace hazard switch. Refer to [EXL-197, "Removal and Installation"](#).

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000001078866

NOTE:

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

Symptom		Possible cause	Inspection item
Headlamp (HI) is not turned ON	One side	<ul style="list-style-type: none"> • Headlamp (HI) power supply circuit • Front combination lamp internal circuit - LED [Headlamp (HI)] - LED headlamp control module - Harness • IPDM E/R 	Headlamp (HI) circuit Refer to EXL-146, "Component Function Check" .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-180, "Diagnosis Procedure" .	
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	Combination meter Data monitor "HI-BEAM IND"
Headlamp (LO) is not turned ON	One side	<ul style="list-style-type: none"> • Headlamp (LO) power supply circuit • Front combination lamp internal circuit - LED [Headlamp (LO)] - LED headlamp control module - Harness • IPDM E/R 	Headlamp (LO) circuit Refer to EXL-147, "Component Function Check" .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-181, "Diagnosis Procedure" .	
Dipped beam indicator lamp is not turned ON [Headlamp (LO) is turned ON]		Combination meter	Combination meter Data monitor "DIPPED BEAM IND"
Headlamp (HI) and (LO) is not turned ON		<ul style="list-style-type: none"> • LED headlamp ground circuit • Front combination lamp internal circuit - LED headlamp control module - Harness 	LED headlamp Refer to EXL-148, "Diagnosis Procedure" .
Each lamp is not turned ON/OFF with lighting switch AUTO		<ul style="list-style-type: none"> • Combination switch input/output signal circuit • Combination switch • BCM 	Combination switch Refer to BCS-119, "Symptom Table" .
		<ul style="list-style-type: none"> • Light & rain sensor power supply/ground/signal circuit • Light & rain sensor • BCM 	Light & rain sensor Refer to EXL-172, "Component Function Check" .
Parking lamp is not turned ON		<ul style="list-style-type: none"> • Parking lamp power supply/ground circuit • Front combination lamp internal circuit - LED (Parking lamp) - Control circuit - Harness • IPDM E/R 	Parking lamp circuit Refer to EXL-151, "Component Function Check" .

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

Symptom	Possible cause	Inspection item
Tail lamp is not turned ON	<ul style="list-style-type: none"> • Tail lamp power supply/ground circuit • Tail lamp bulb • Tail lamp bulb socket/harness • IPDM E/R 	Tail lamp circuit Refer to EXL-153, "Component Function Check" .
License plate lamp is not turned ON	<ul style="list-style-type: none"> • License plate lamp power supply/ground circuit • License plate lamp bulb • License plate lamp bulb socket 	License plate lamp circuit Refer to EXL-155, "Component Function Check" .
Parking lamp, license plate lamp and tail lamp are not turned ON	Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-182, "Diagnosis Procedure" .	
Position lamp indicator is not turned ON (Parking lamp, license plate lamp and tail lamp are turned ON)	Combination meter	Combination meter Data monitor "LIGHT IND"
Daytime running light is not turned ON	<ul style="list-style-type: none"> • Daytime running light power supply/ground circuit • Front combination lamp internal circuit - LED (Daytime running light) - Control circuit - Harness • IPDM E/R 	Daytime running light circuit Refer to EXL-156, "Component Function Check" .
Turn signal lamp does not blink	Indicator lamp is normal (All of turn signal lamp is not blinks)	<ul style="list-style-type: none"> • Fuse • BCM power supply (turn signal lamp) circuit • BCM
	Indicator lamp is normal (Applicable side performs high flasher activation)	<ul style="list-style-type: none"> • Front turn signal lamp - Front turn signal lamp power supply/ground circuit - Front turn signal lamp bulb - Front turn signal lamp bulb socket - BCM • Side turn signal lamp - Side turn signal lamp power supply/ground circuit - Side turn signal lamp - BCM • Rear turn signal lamp - Rear turn signal lamp power supply/ground circuit - Rear turn signal lamp bulb - Rear turn signal lamp bulb socket/harness - BCM
	Indicator lamp is included	<ul style="list-style-type: none"> • Combination switch input/output signal circuit • Combination switch • BCM
Turn signal indicator lamp does not blink (Turn signal lamp is normal)	One side	Combination meter
	Both sides (Always)	<ul style="list-style-type: none"> • Turn indicator signal • BCM • Combination meter
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul style="list-style-type: none"> • Combination meter power supply/ground circuit • Combination meter

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EXL

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

Symptom	Possible cause	Inspection item
<ul style="list-style-type: none"> Hazard warning lamp does not activate (Turn signal is normal) Hazard warning lamp continues activating 	<ul style="list-style-type: none"> Hazard switch signal/ground circuit Hazard switch BCM 	Hazard switch Refer to EXL-174, "Component Function Check" .
Stop lamp and high-mounted stop lamp are not turned ON	All of stop lamp and high-mounted stop lamp are not turned ON	Stop lamp circuit Refer to EXL-158, "Component Function Check" .
	Any of stop lamp and high-mounted stop lamp are not turned ON	
Front fog lamp is not turned ON	One side	Front fog lamp circuit Refer to EXL-163, "Component Function Check" .
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-183, "Diagnosis Procedure" .
Front fog lamp indicator lamp is not turned ON (Front fog lamp is turned ON)	Combination meter	<ul style="list-style-type: none"> Combination meter Data monitor "FR FOG IND" BCM (HEAD LAMP) Active test "FR FOG LAMP"
Rear fog lamp is not turned ON	Rear fog lamp indicator lamp is normal	Rear fog lamp circuit Refer to EXL-165, "Component Function Check" .
	Rear fog lamp indicator lamp is included	Combination switch Refer to BCS-119, "Symptom Table" .
Rear fog lamp indicator lamp is not turned ON (Rear fog lamp is turned ON)	<ul style="list-style-type: none"> Rear fog lamp status signal BCM Combination meter 	<ul style="list-style-type: none"> Combination meter Data monitor "RR FOG IND" BCM (HEAD LAMP) Active test "RR FOG LAMP"
Headlamp auto aiming does not activate	<ul style="list-style-type: none"> Fuse Headlamp aiming motor power supply/ground circuit Front combination lamp (Headlamp aiming motor) IPDM E/R 	Headlamp levelizer circuit Refer to EXL-149, "Component Function Check" .

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

NORMAL OPERATING CONDITION

Description

INFOID:000000010788867

LED HEADLAMP

- LED brightness and color may slightly change until the temperature becomes stable. This is not malfunction.
- Illumination time lag may occur between right and left. This is not malfunction.
- Brightness may be reduced due to aged deterioration of LED.

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.

HIGH BEAM ASSIST SYSTEM

When driving while using the high beam assist system, the headlamp beam may not switch or the beam switching timing may vary according to the ambient environment (the condition of the vehicle ahead, the condition of the road, the position of the vehicle, etc.). This is due to control differences and is not a malfunction.

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BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

INFOID:000000010788868

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

Diagnosis Procedure

INFOID:000000010788869

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-119, "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HIGH BEAM REQUEST SIGNAL

Ⓔ With CONSULT

1. Select "HIGH BEAM REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the lighting switch, check the monitor status.

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

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:000000010788870

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

Diagnosis Procedure

INFOID:000000010788871

1. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-119, "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2. CHECK LOW BEAM REQUEST SIGNAL

 With CONSULT

1. Select "LOW BEAM REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the lighting switch, check the monitor status.

Monitor item	Condition	Monitor status
LOW BEAM REQ	Lighting switch	2ND On
		OFF Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

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EXL

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:000000010788872

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

Diagnosis Procedure

INFOID:000000010788873

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-119, "Symptom Table"](#).

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK POSITION LIGHT REQUEST SIGNAL

Ⓔ With CONSULT

1. Select "POSITION LIGHT REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the lighting switch, check the monitor status.

Monitor item	Condition	Monitor status
POSITION LIGHT REQ	Lighting switch	1ST On
		OFF Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:000000010788874

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

Diagnosis Procedure

INFOID:000000010788875

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-119. "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LIGHT REQUEST SIGNAL

Ⓜ With CONSULT

1. Select "FRONT FOG LAMP REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the front fog lamp switch, check the monitor status.

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

Is the item status normal?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121. "Removal and Installation"](#).

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EXL

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

LHD MODELS

LHD MODELS : Description

INFOID:000000010788876

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming adjustment 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 luggage room.)

NOTE:

Never remove the temporary tire, jack and on-vehicle tool.

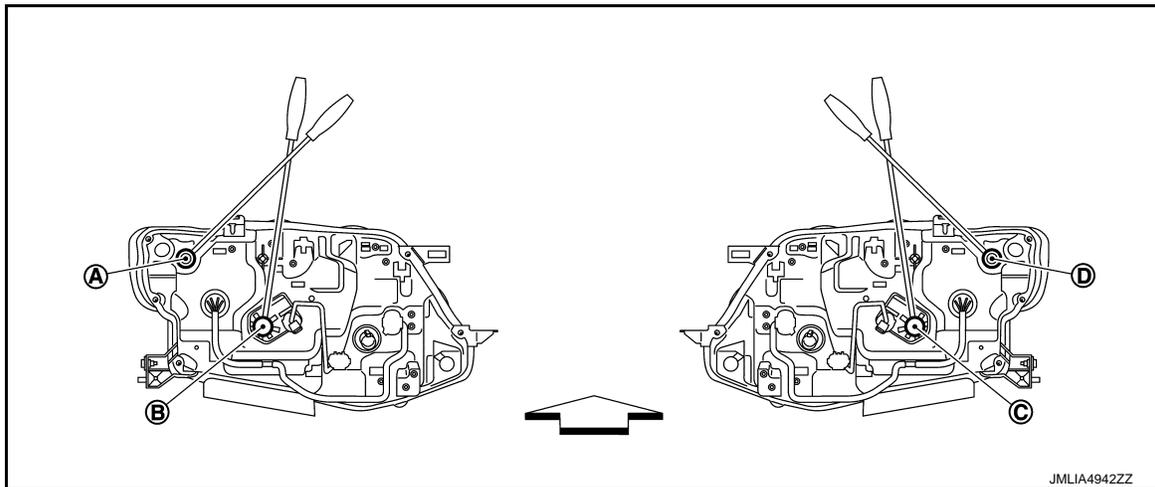
- Wipe out dirt on the headlamp.

CAUTION:

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

- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



- (A) Headlamp LH (INSIDE/OUTSIDE) adjustment screw (B) Headlamp LH (UP/DOWN) adjustment screw (C) Headlamp RH (UP/DOWN) adjustment screw
- (D) Headlamp RH (INSIDE/OUTSIDE) adjustment screw
- ← : Vehicle front

Adjustment screw		Screwdriver rotation	Facing direction
(A)	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
(B)	Headlamp LH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN
(C)	Headlamp RH (UP/DOWN)	Clockwise	UP
		Counterclockwise	DOWN

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

Unit: mm (in)

Aiming adjustment area		
Vertical direction (Y) (Lower side from headlamp center height)		Lateral direction (X) (Right side from headlamp center line)
Highest light axis	100 (3.94)	0 - 100 (3.94)
Target light axis	100 (3.94)	
Lowest light axis	130 (5.12)	

RHD MODELS

RHD MODELS : Description

INFOID:0000000010788878

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming adjustment 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 luggage room.)

NOTE:

Never remove the temporary tire, jack and on-vehicle tool.

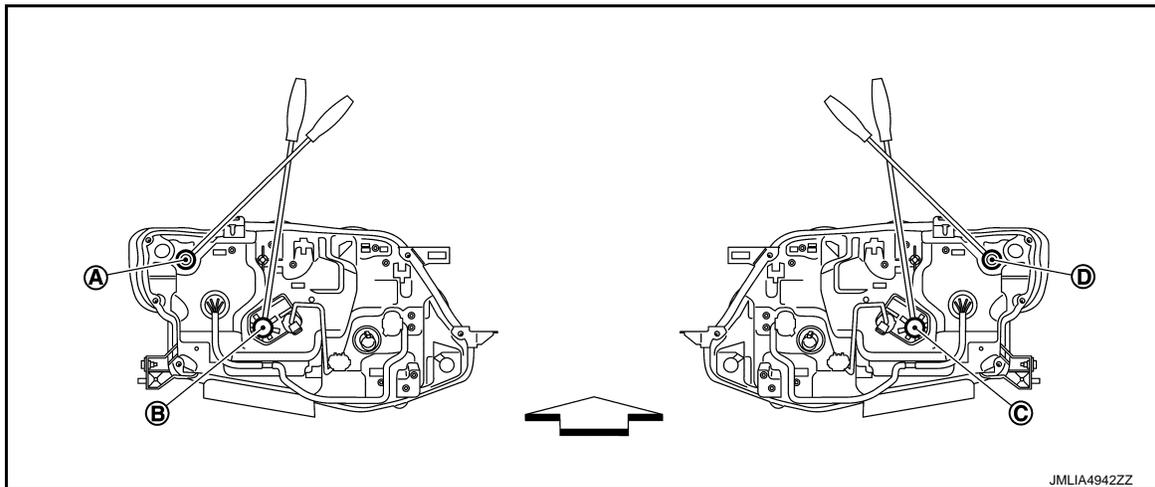
- Wipe out dirt on the headlamp.

CAUTION:

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

- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



(A) Headlamp LH (INSIDE/OUTSIDE) adjustment screw

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

(C) Headlamp RH (UP/DOWN) adjustment screw

(D) Headlamp RH (INSIDE/OUTSIDE) adjustment screw

↔ : Vehicle front

Adjustment screw	Screwdriver rotation	Facing direction
(A) Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
	Counterclockwise	OUTSIDE

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

Adjustment screw	Screwdriver rotation	Facing direction
Ⓑ Headlamp LH (UP/DOWN)	Clockwise	UP
	Counterclockwise	DOWN
Ⓒ Headlamp RH (UP/DOWN)	Clockwise	UP
	Counterclockwise	DOWN
Ⓓ Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
	Counterclockwise	OUTSIDE

RHD MODELS : Aiming Adjustment Procedure

INFOID:00000001078879

- Place the screen.

NOTE:

- Stop the vehicle at the perpendicular angle to the wall.
- Set the screen so that it is perpendicular to a level load surface.

- Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).

- Start the engine and illuminate the headlamp (LO).

CAUTION:

Never cover lens surface with tape, etc. because it is made from plastic.

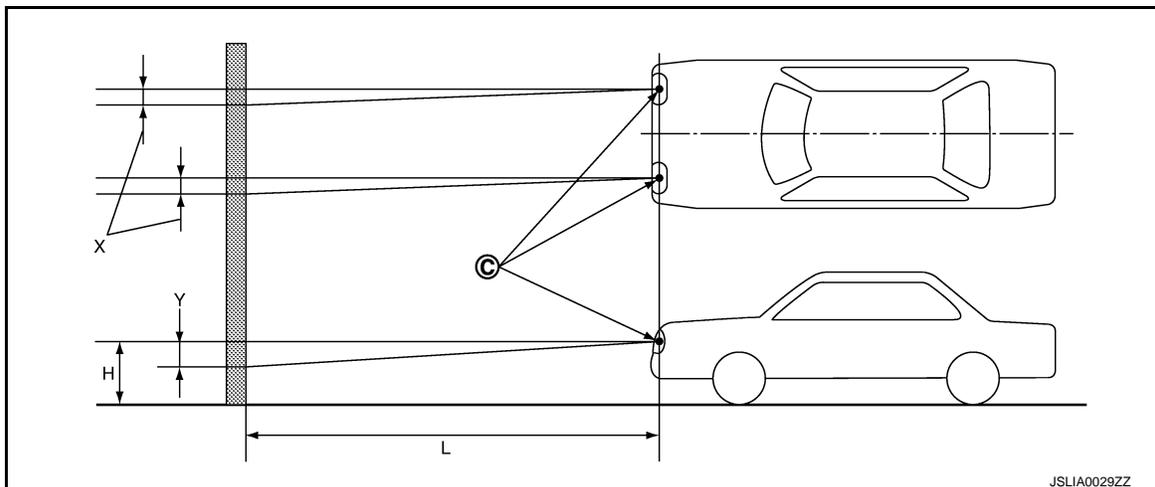
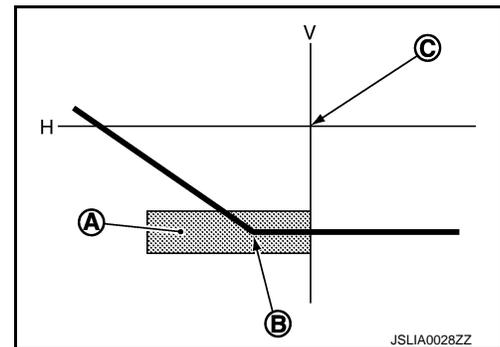
NOTE:

Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.

- Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

Low beam distribution on the screen

- Ⓐ Aiming adjustment area
- Ⓑ Elbow point
- Ⓒ Headlamp center
- H. Horizontal center line of headlamp
- V. Vertical center line of headlamp



- Ⓒ Vertical center line of headlamp
- H. Horizontal center line of headlamp
- L. Distance from headlamp center to screen
- X. Aiming adjustment area (Lateral)
- Y. Aiming adjustment area (Vertical)

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

Unit: mm (in)

Aiming adjustment area

Vertical direction (Y) (Lower side from headlamp center height)		Lateral direction (X) (Left side from headlamp center line)
Highest light axis	100 (3.94)	0 - 100 (3.94)
Target light axis	100 (3.94)	
Lowest light axis	130 (5.12)	

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[LED HEADLAMP]

FRONT FOG LAMP AIMING ADJUSTMENT

Description

INFOID:00000001078880

PREPARATION BEFORE ADJUSTING

NOTE:

For details, refer to the regulations in your own country.

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 luggage room.)

NOTE:

Never remove the temporary tire, jack and on-vehicle tool.

- Wipe out dirt on the headlamp.

CAUTION:

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

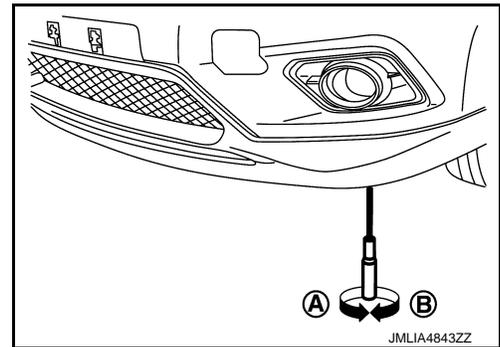
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

(A): DOWN

(B): UP



Aiming Adjustment Procedure

INFOID:00000001078881

1. Place the screen.

NOTE:

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

2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.

3. Start the engine. Turn the front fog lamp ON.

CAUTION:

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

NOTE:

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

4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 150 mm (5.90 in).

Front fog lamp light distribution on the screen

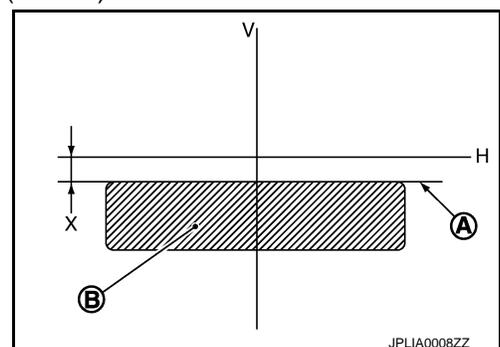
(A) : Cutoff line

(B) : High illuminance area

H : Horizontal center line of front fog lamp

V : Vertical center line of front fog lamp

X : Cutoff line height



FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

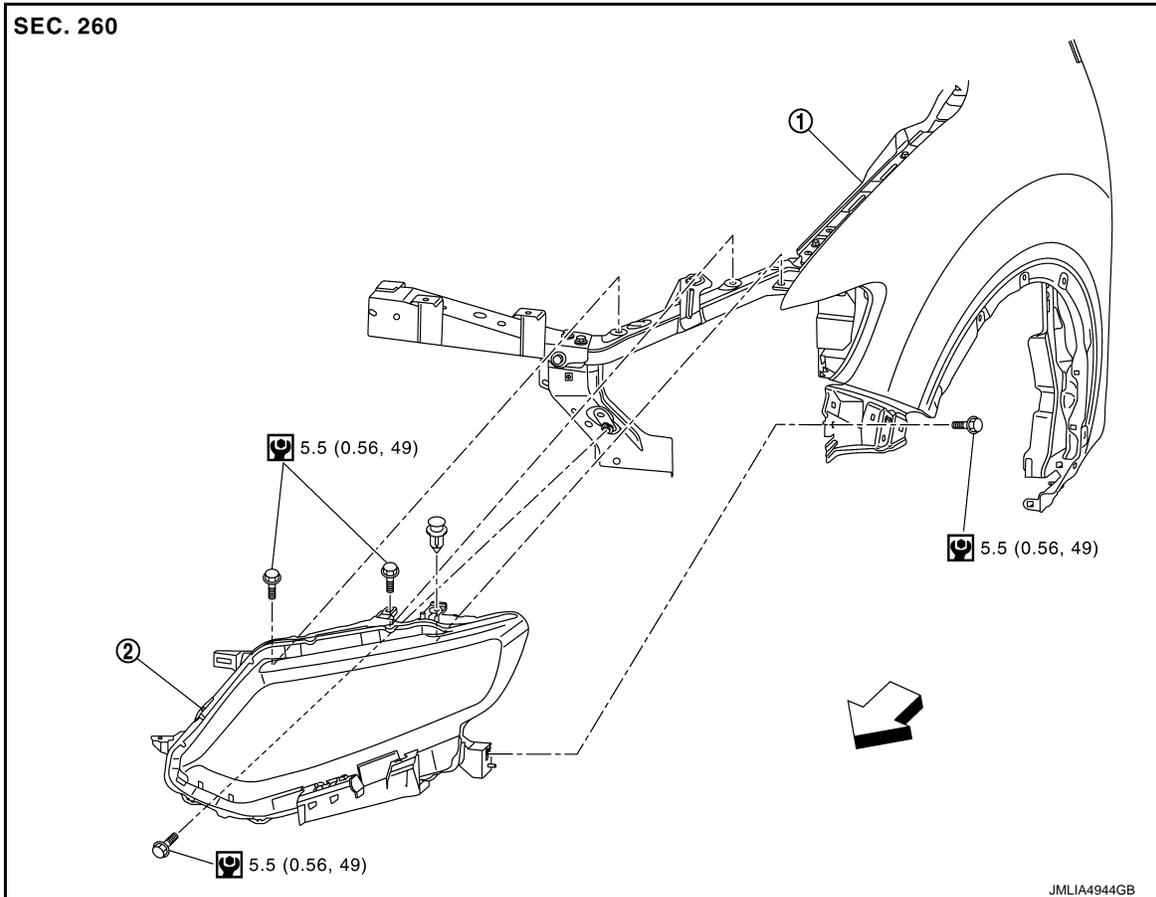
REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View

INFOID:00000001078882

REMOVAL



① Front fender panel

② Front combination lamp

← : Vehicle front

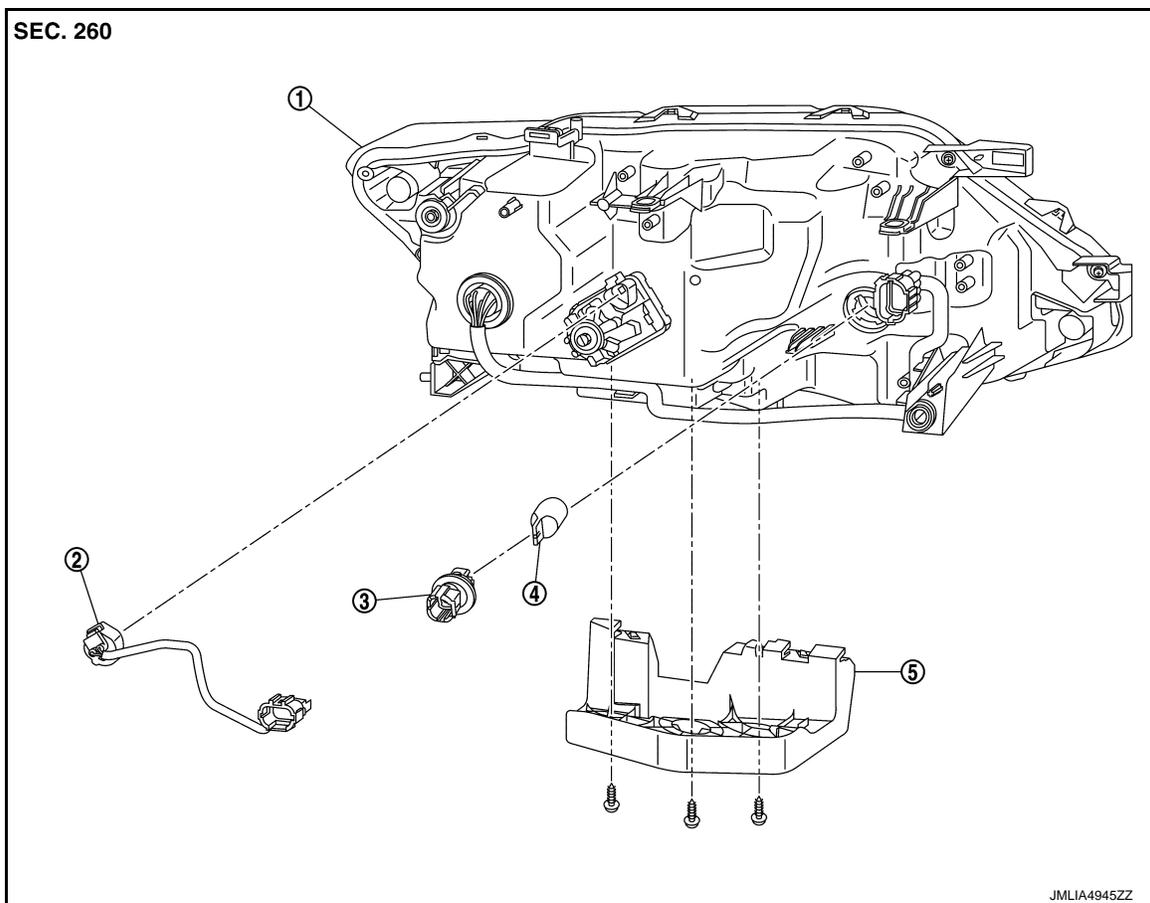
🔩 : N·m (kg-m, in-lb)

DISASSEMBLY

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]



- ① Front combination lamp housing ② Front combination lamp harness ③ Front turn signal lamp bulb socket
④ Front turn signal lamp bulb ⑤ Front combination lamp bracket

Removal and Installation

INFOID:0000000010788883

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove front bumper fascia. Refer to [EXT-15, "Removal and Installation"](#).
2. Remove front combination lamp mounting bolts and clip.
3. Remove harness clip of front combination lamp bracket.
4. Pull out front combination lamp forward the vehicle.
5. Disconnect front combination lamp harness connectors and then remove front combination lamp.

INSTALLATION

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

CAUTION:

After installation, perform aiming adjustment. Refer to the following.

- LHD MODELS: Refer to [EXL-184, "LHD MODELS : Description"](#).
- RHD MODELS: Refer to [EXL-186, "RHD MODELS : Description"](#).

Replacement

INFOID:0000000010788884

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).
- After installing the bulb, install the bulb socket securely for watertightness.

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

- 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 (HI)

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace front combination lamp as a set. Refer to [EXL-191, "Removal and Installation"](#).

HEADLAMP BULB (LO)

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace front combination lamp as a set. Refer to [EXL-191, "Removal and Installation"](#).

DAYTIME RUNNING LIGHT/ PARKING LAMP BULB

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace front combination lamp as a set. Refer to [EXL-191, "Removal and Installation"](#).

FRONT TURN SIGNAL LAMP BULB

LH side

1. Remove air duct 1. Refer to the following.
 - MR20DD: Refer to [EM-31, "Removal and Installation"](#).
 - QR25DE: Refer to [EM-175, "Removal and Installation"](#).
 - R9M: Refer to [EM-308, "Removal and Installation"](#).
2. Rotate front turn signal lamp bulb socket counterclockwise and unlock it.
3. Remove front turn signal lamp bulb from turn signal lamp bulb socket.

RH side

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

Disassembly and Assembly

INFOID:00000001078885

DISASSEMBLY

1. Remove front combination lamp bracket fixing screws, and then remove front combination lamp bracket.
2. Disconnect front combination lamp harness.
3. Rotate front turn signal lamp bulb socket counterclockwise and unlock it.
4. Remove front turn signal lamp bulb from front turn signal lamp bulb socket.

ASSEMBLY

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

CAUTION:

- After installing the bulb, install the bulb socket securely watertightness.
- After installation, perform aiming adjustment. Refer to following.
- LHD MODELS: Refer to [EXL-184, "LHD MODELS : Description"](#).
- RHD MODELS: Refer to [EXL-186, "RHD MODELS : Description"](#).

FRONT FOG LAMP

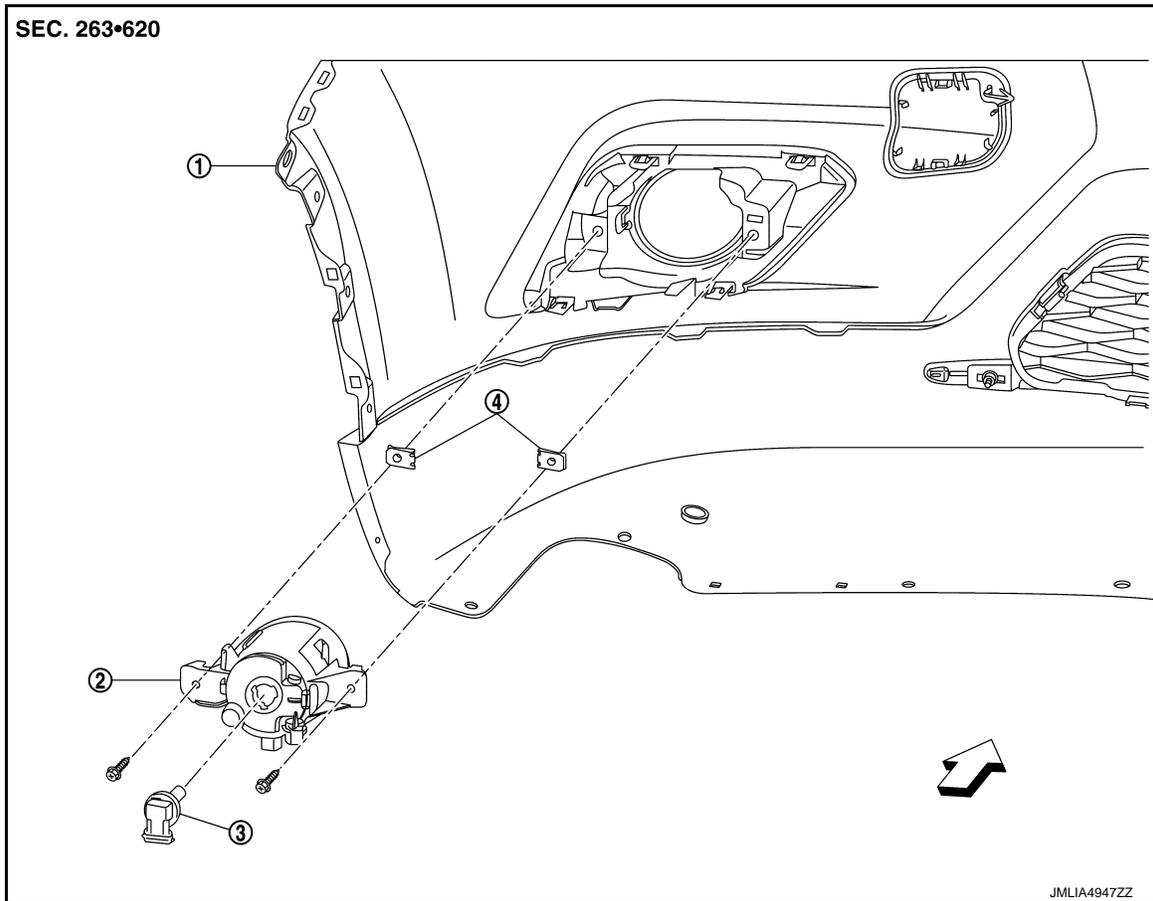
< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

FRONT FOG LAMP

Exploded View

INFOID:000000010788886



① Front bumper fascia

② Front fog lamp

③ Front fog lamp bulb

④ Spring nut

← : Vehicle front

Removal and Installation

INFOID:000000010788887

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove front fender protector to make work space. Refer to [EXT-35, "FENDER PROTECTOR : Removal and Installation"](#).
2. Disconnect front fog lamp harness connector.
3. Remove front fog lamp fixing screws, and then remove front fog lamp.

INSTALLATION

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

CAUTION:

After installation, perform aiming adjustment. Refer to [EXL-189, "Description"](#).

Replacement

INFOID:000000010788888

CAUTION:

FRONT FOG LAMP

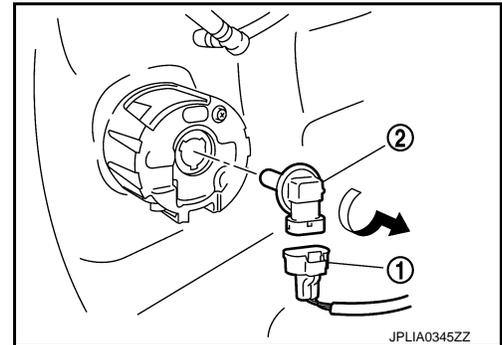
[LED HEADLAMP]

< REMOVAL AND INSTALLATION >

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

FRONT FOG LAMP BULB

1. Remove fender protector to make work space. Refer to [EXT-35, "FENDER PROTECTOR : Removal and Installation"](#).
2. Disconnect front fog lamp harness connector ①.
3. Rotate front fog lamp bulb ② counterclockwise and unlock it.



LIGHT & RAIN SENSOR

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

LIGHT & RAIN SENSOR

Exploded View

INFOID:000000011008687

Refer to [WW-109, "Exploded View"](#).

Removal and Installation

INFOID:000000010788889

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

Remove light & rain sensor. Refer to [WW-109, "Removal and Installation"](#).

INSTALLATION

Install in the reverse order of removal.

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EXL

LIGHTING & TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:000000010788890

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

Remove lighting & turn signal switch (combination switch). Refer to [BCS-122, "Removal and Installation"](#).

INSTALLATION

Install in the reverse order of removal.

HAZARD SWITCH

Removal and Installation

INFOID:000000010788891

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove center ventilator grille. Refer to following.
 - LHD MODELS: Refer to [IP-14, "Removal and Installation"](#).
 - RHD MODELS: Refer to [IP-41, "Removal and Installation"](#).
2. Disengage fixing pawls, and then remove hazard switch from center ventilator grille.

INSTALLATION

Install in the reverse order of removal.

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EXL

SIDE TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:000000010788892

Refer to [MIR-27, "Exploded View"](#).

Removal and Installation

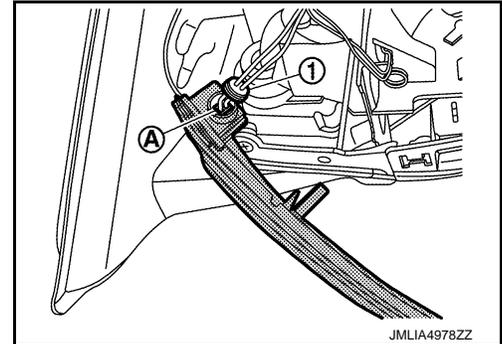
INFOID:000000010788893

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove door mirror cover. Refer to [MIR-30, "DOOR MIRROR COVER : Removal and Installation"](#).
2. Remove side turn signal lamp fixing screws.
3. Remove seal packing ① and disconnect side turn signal lamp harness connector ②, and then remove side turn signal lamp from door mirror housing.



INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000010788894

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

SIDE TURN SIGNAL LAMP BULB

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace side turn signal lamp as a set. Refer to [EXL-198, "Removal and Installation"](#).

HEIGHT SENSOR

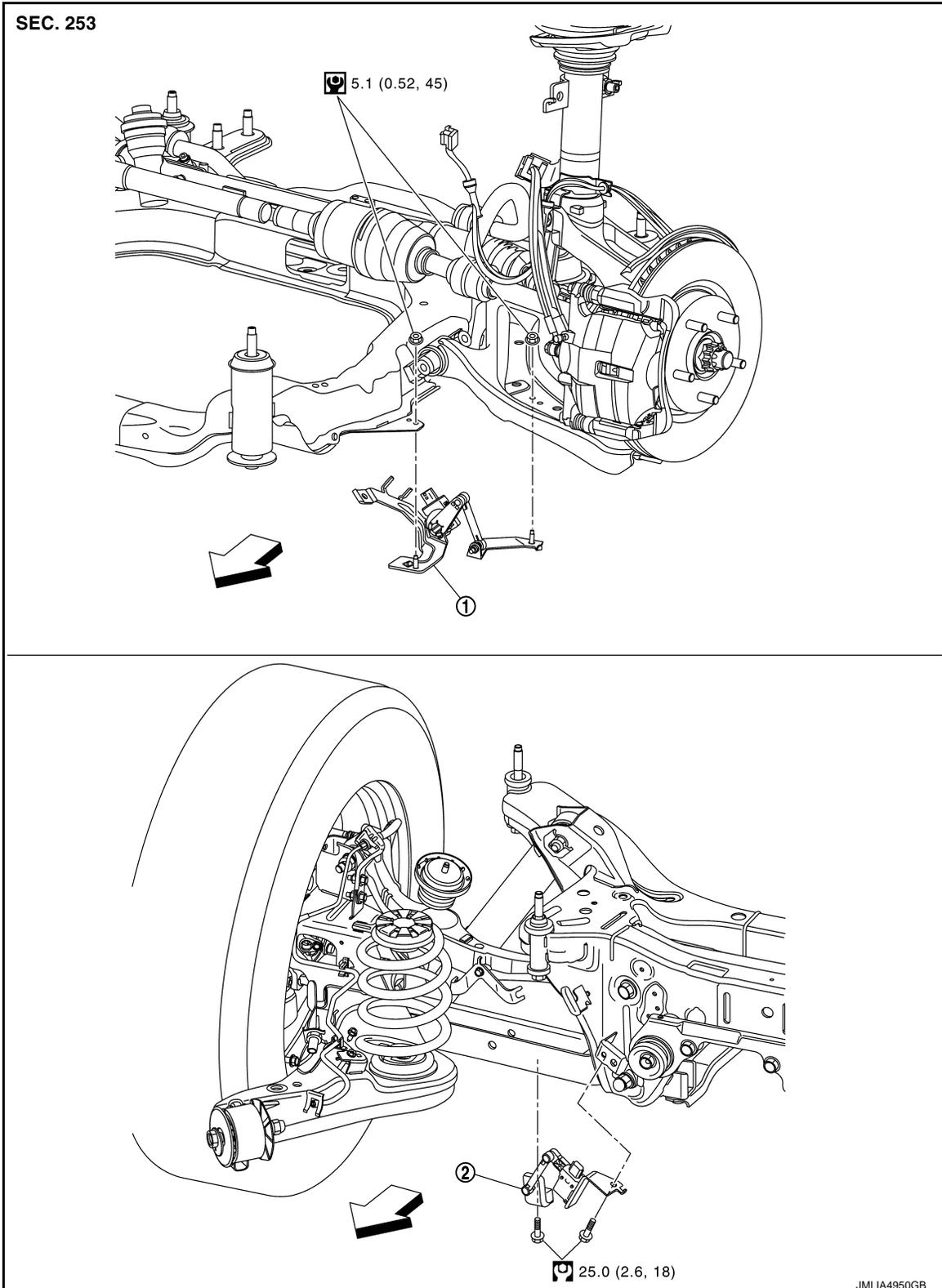
< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

HEIGHT SENSOR

Exploded View

INFOID:000000010788895



① Front height sensor
(with 3 row seat models)

② Rear height sensor

← : Vehicle front

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 : N·m (kg-m, in-lb)

 : N·m (kg-m, ft-lb)

FRONT HEIGHT SENSOR

FRONT HEIGHT SENSOR : Removal and Installation

INFOID:000000011008443

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Disconnect front height sensor harness connector.
2. Remove front height sensor mounting nuts, and then remove rear height sensor.

INSTALLATION

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

CAUTION:

Be sure to perform "SENSOR INITIALIZE" when removing the rear height sensor. Refer to [EXL-99, "Description"](#).

REAR HEIGHT SENSOR

REAR HEIGHT SENSOR : Removal and Installation

INFOID:000000010788896

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Disconnect rear height sensor harness connector.
2. Remove rear height sensor mounting bolts, and then remove rear height sensor.

INSTALLATION

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

CAUTION:

Be sure to perform "SENSOR INITIALIZE" when removing the rear height sensor. Refer to [EXL-99, "Description"](#).

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

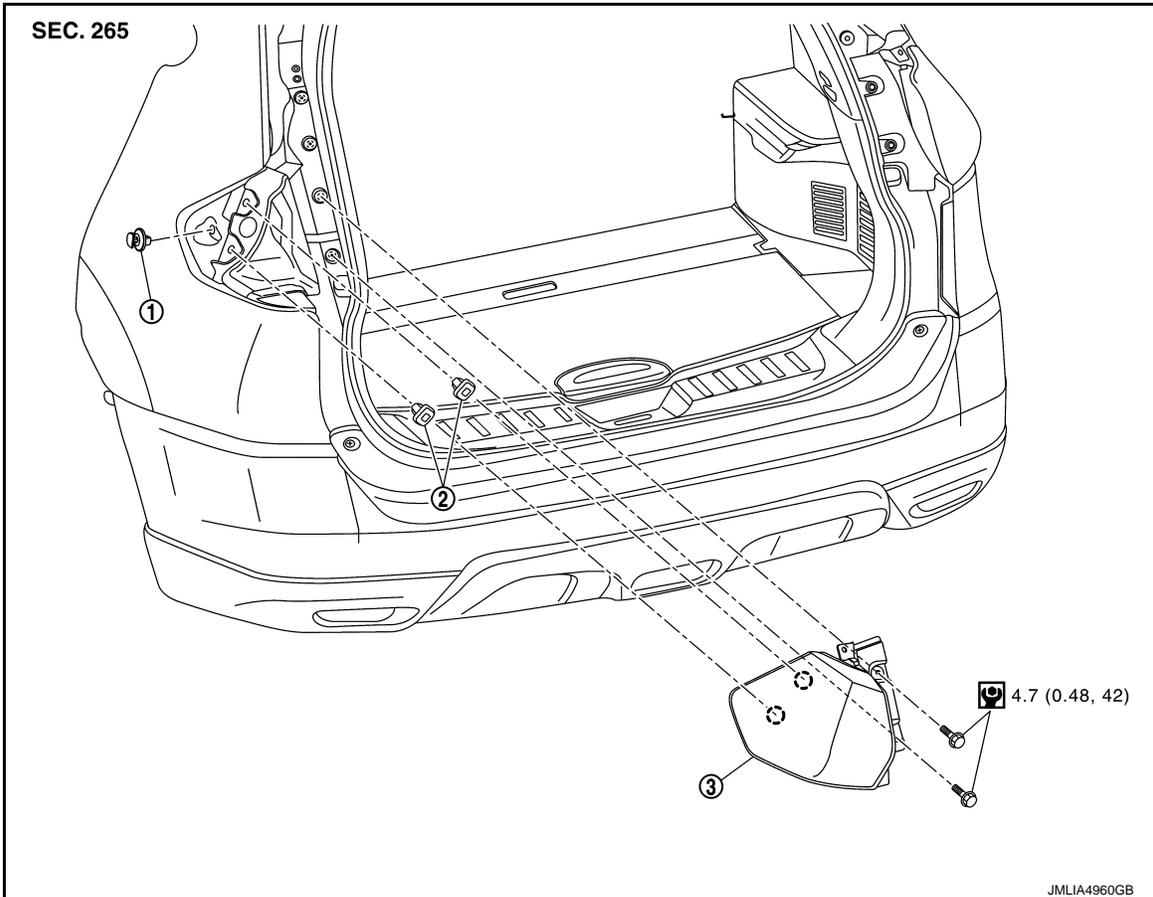
REAR COMBINATION LAMP

Exploded View

INFOID:000000010788897

REMOVAL

Body Side



① Clip

② Grommet

③ Rear combination lamp
(body side)

○ : Clip

⊙ : N-m (kg-m, in-lb)

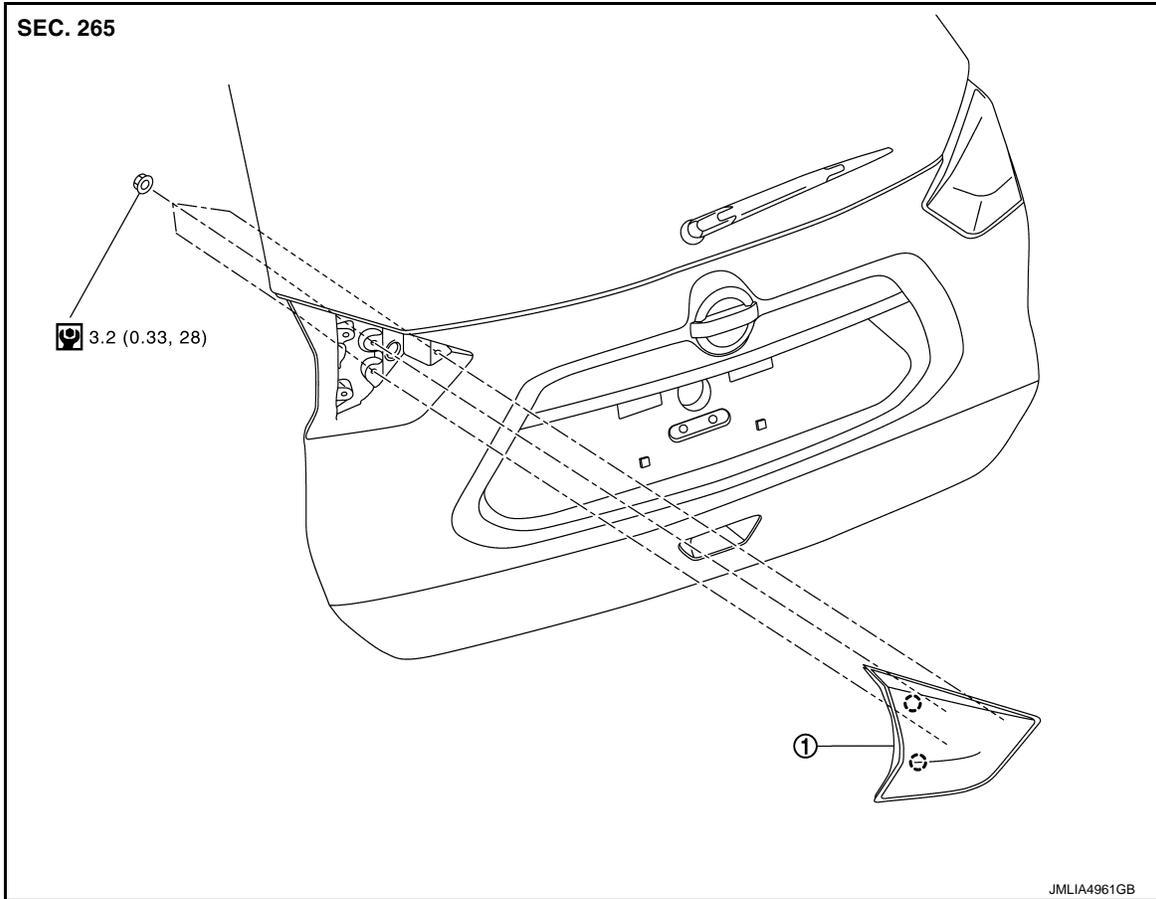
Back Door Side

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]



① Rear combination lamp
(back door side)

○ : Clip

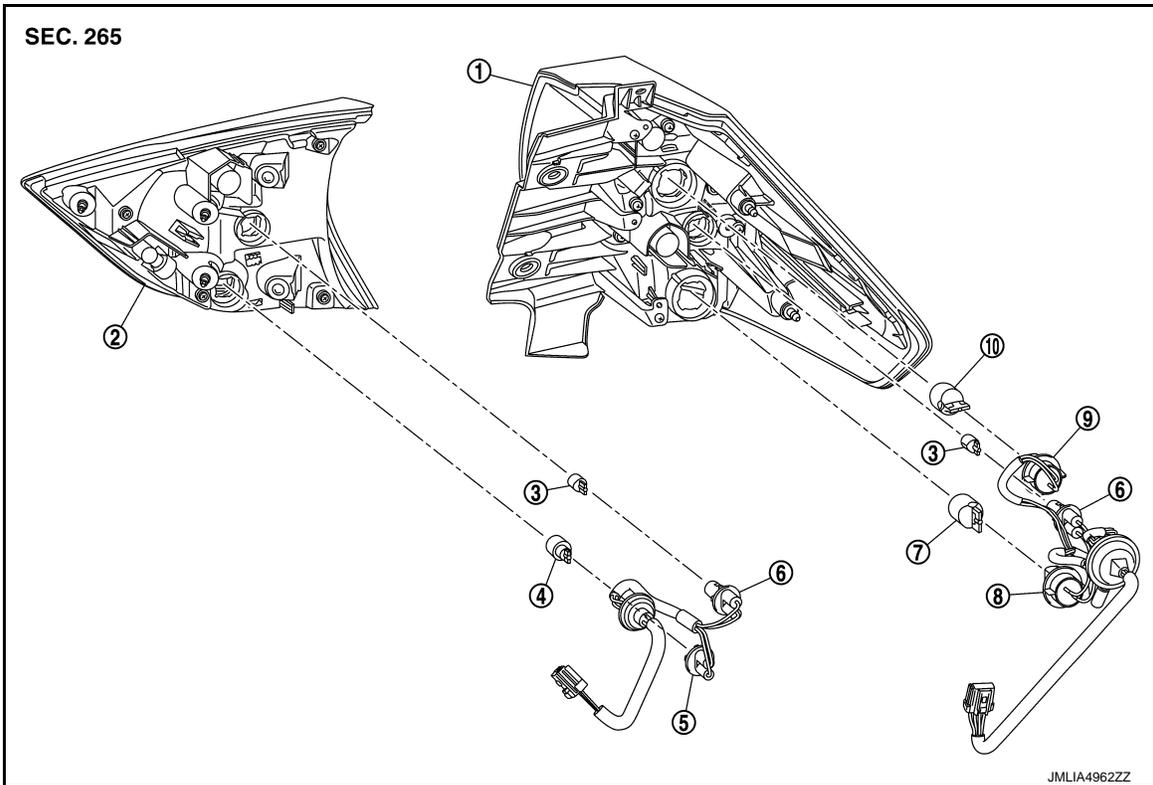
⊙ : N-m (kg-m, in-lb)

DISASSEMBLY

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]



- | | | |
|-------------------------------------|------------------------------------------|-------------------------|
| ① Rear combination lamp (body side) | ② Rear combination lamp (back door side) | ③ Tail lamp bulb |
| ④ Back-up lamp bulb | ⑤ Back-up lamp bulb socket | ⑥ Tail lamp bulb socket |
| ⑦ Rear turn signal lamp bulb | ⑧ Rear turn signal lamp bulb socket | ⑨ Stop lamp bulb socket |
| ⑩ Stop lamp bulb | | |

REAR COMBINATION LAMP (BODY SIDE)

REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation

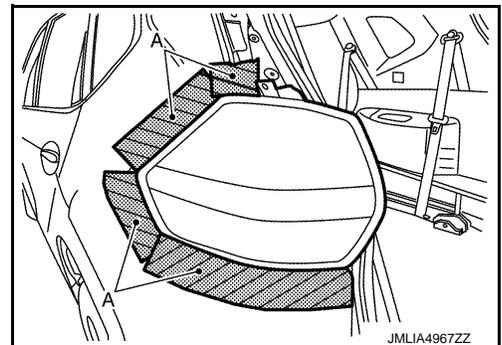
INFOID:000000010788898

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Fully open back door.
2. Remove rear spoiler. Refer to [EXT-64, "Removal and Installation"](#).
3. Remove rear combination lamp (body side) mounting bolts.
4. Apply protective tapes (A) on the part to protect it from damage.



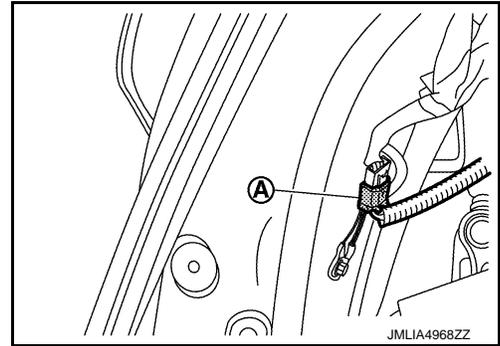
5. Remove luggage side lower finisher. Refer to [INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation"](#).

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

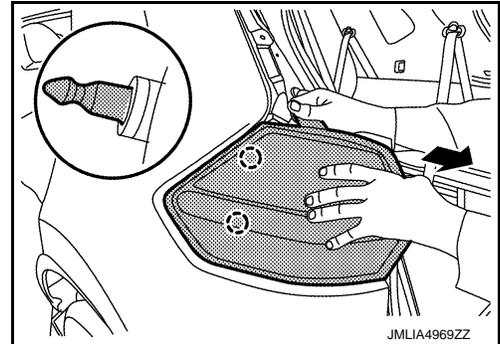
[LED HEADLAMP]

6. Disconnect rear combination lamp (body side) harness connector (A).



7. Pull rear combination lamp (body side) toward vehicle rear to disengage fixing clips, and then remove rear combination lamp (body side).

 : Clip



INSTALLATION

Install in the reverse order of removal.

REAR COMBINATION LAMP (BODY SIDE) : Replacement

INFOID:000000010788899

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

TAIL LAMP BULB

1. Remove rear combination lamp (body side). Refer to [EXL-203, "REAR COMBINATION LAMP \(BODY SIDE\) : Removal and Installation"](#).
2. Rotate tail lamp bulb socket counterclockwise, and then remove tail lamp bulb socket.
3. Remove tail lamp bulb from tail lamp bulb socket.

STOP LAMP BULB

1. Remove rear combination lamp (body side). Refer to [EXL-203, "REAR COMBINATION LAMP \(BODY SIDE\) : Removal and Installation"](#).
2. Rotate stop lamp bulb socket counterclockwise, and then remove stop lamp bulb socket.
3. Remove stop lamp bulb from stop lamp bulb socket.

REAR TURN SIGNAL LAMP BULB

1. Remove rear combination lamp (body side). Refer to [EXL-203, "REAR COMBINATION LAMP \(BODY SIDE\) : Removal and Installation"](#).
2. Rotate rear turn signal lamp bulb socket counterclockwise, and then remove rear turn signal lamp bulb socket.
3. Remove rear turn signal lamp bulb from rear turn signal lamp bulb socket.

REAR COMBINATION LAMP (BACK DOOR SIDE)

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

REAR COMBINATION LAMP (BACK DOOR SIDE) : Removal and Installation

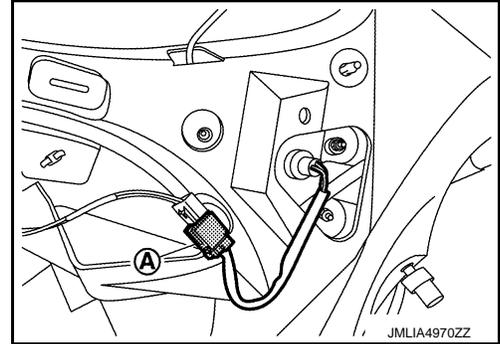
INFOID:000000010788900

CAUTION:

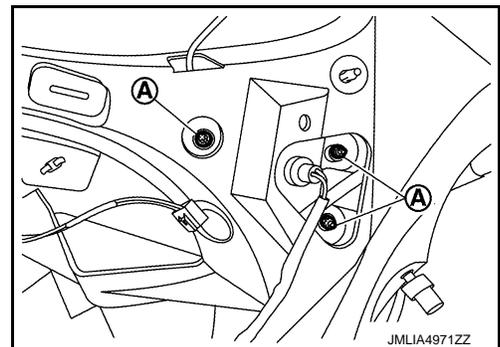
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

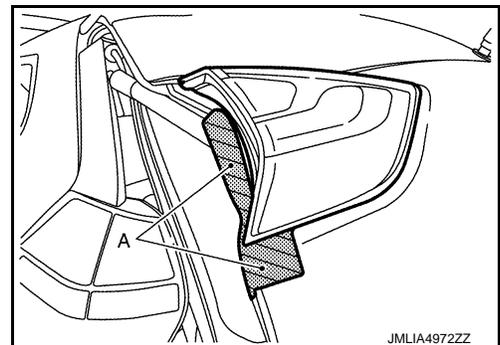
1. Fully open back door.
2. Remove back door inner finisher. Refer to [INT-47, "Removal and Installation"](#).
3. Disconnect rear combination lamp (back door side) harness connector (A).



4. Remove rear combination lamp (back door side) mounting nuts (A).

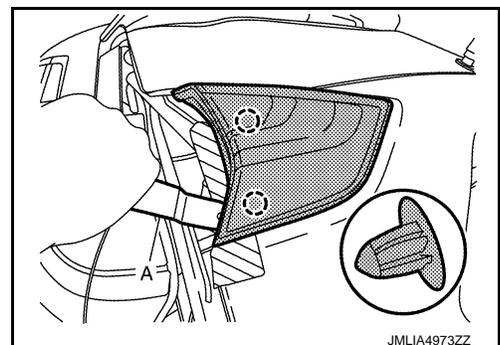


5. Apply protective tape (A) on the part to protect it from damage.



6. Disengage rear combination lamp (back door side) fixing clips using a remover tool (A), and then remove rear combination lamp (back door side).

 : Clip



INSTALLATION

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

Install in the reverse order of removal.

REAR COMBINATION LAMP (BACK DOOR SIDE) : Replacement

INFOID:000000010788901

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

TAIL LAMP BULB

1. Remove rear combination lamp (back door side). Refer to [EXL-205, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Removal and Installation"](#).
2. Rotate tail lamp bulb socket counterclockwise, and then remove tail lamp bulb socket.
3. Remove tail lamp bulb from tail lamp bulb socket.

BACK-UP LAMP BULB

1. Remove rear combination lamp (back door side). Refer to [EXL-205, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Removal and Installation"](#).
2. Rotate back-up lamp bulb socket counterclockwise, and then remove back-up lamp bulb socket.
3. Remove back-up lamp bulb from back-up lamp bulb socket.

HIGH-MOUNTED STOP LAMP

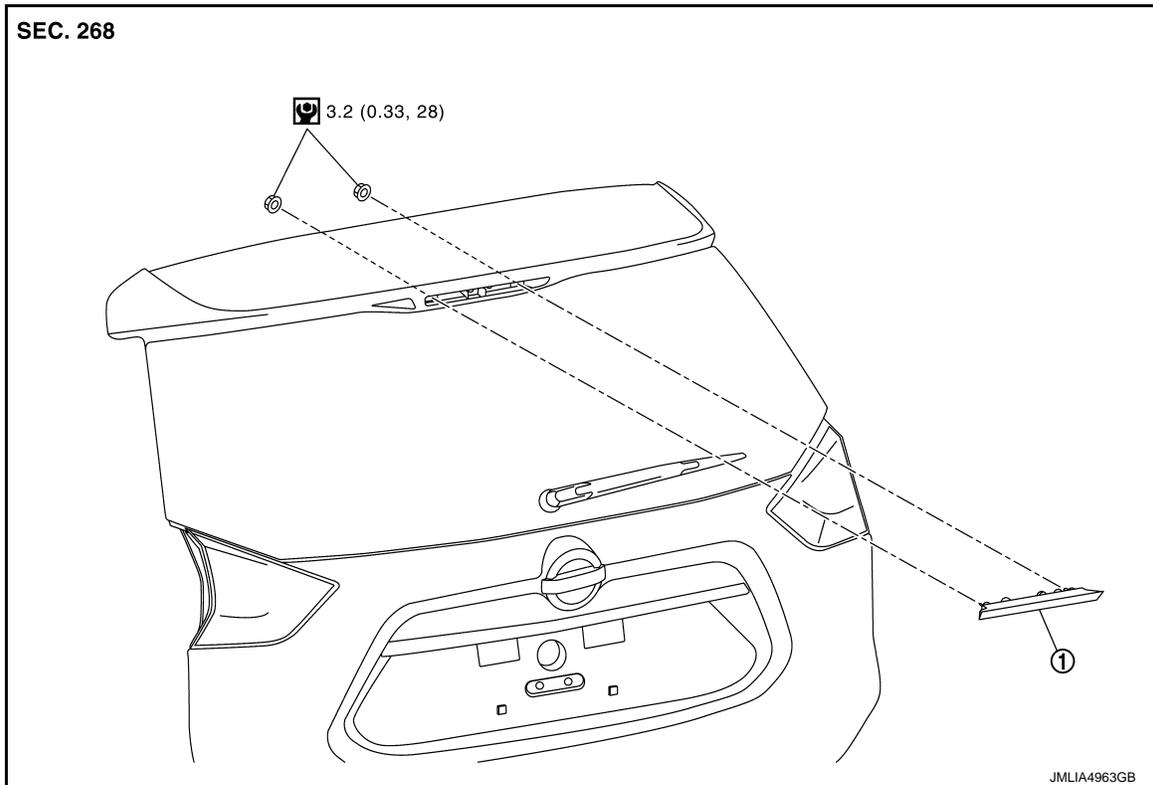
< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000010788902



① High-mounted stop lamp

 : N·m (kg·m, in·lb)

Removal and Installation

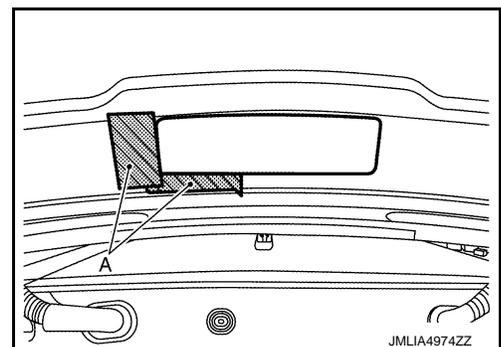
INFOID:000000010788903

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Fully open back door.
2. Apply protective tapes (A) on the part to protect it from damage.

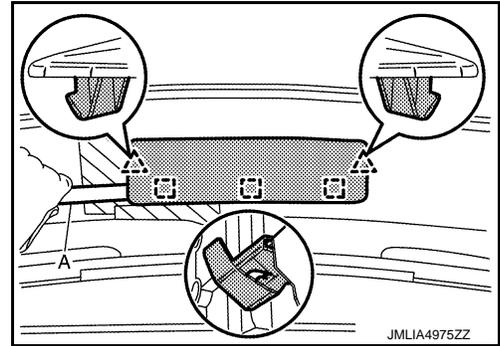
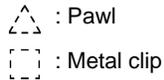


HIGH-MOUNTED STOP LAMP

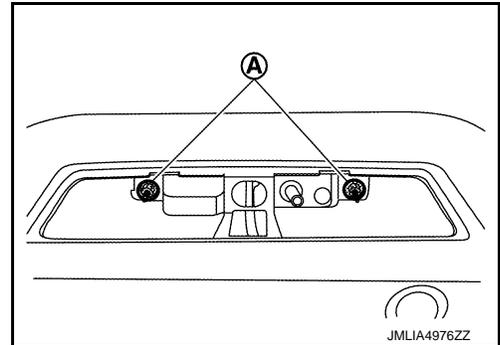
< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

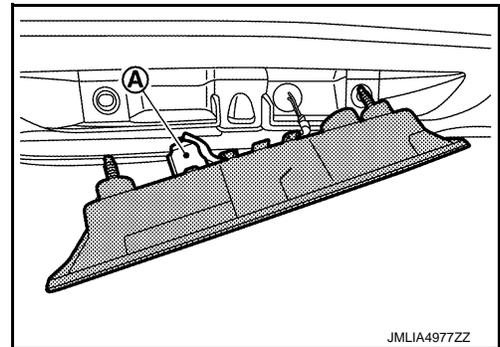
3. Disengage back door cover fixing metal clips and pawls using a remover tool (A), and then remove back door cover.



4. Remove high-mounted stop lamp mounting nuts (A).



5. Disconnect high-mounted stop lamp harness connector (A), and then remove high-mounted stop lamp.



INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:0000000010788904

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

HIGH-MOUNTED STOP LAMP BULB

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace high-mounted stop lamp unit as a set. Refer to [EXL-207, "Removal and Installation"](#).

LICENSE PLATE LAMP

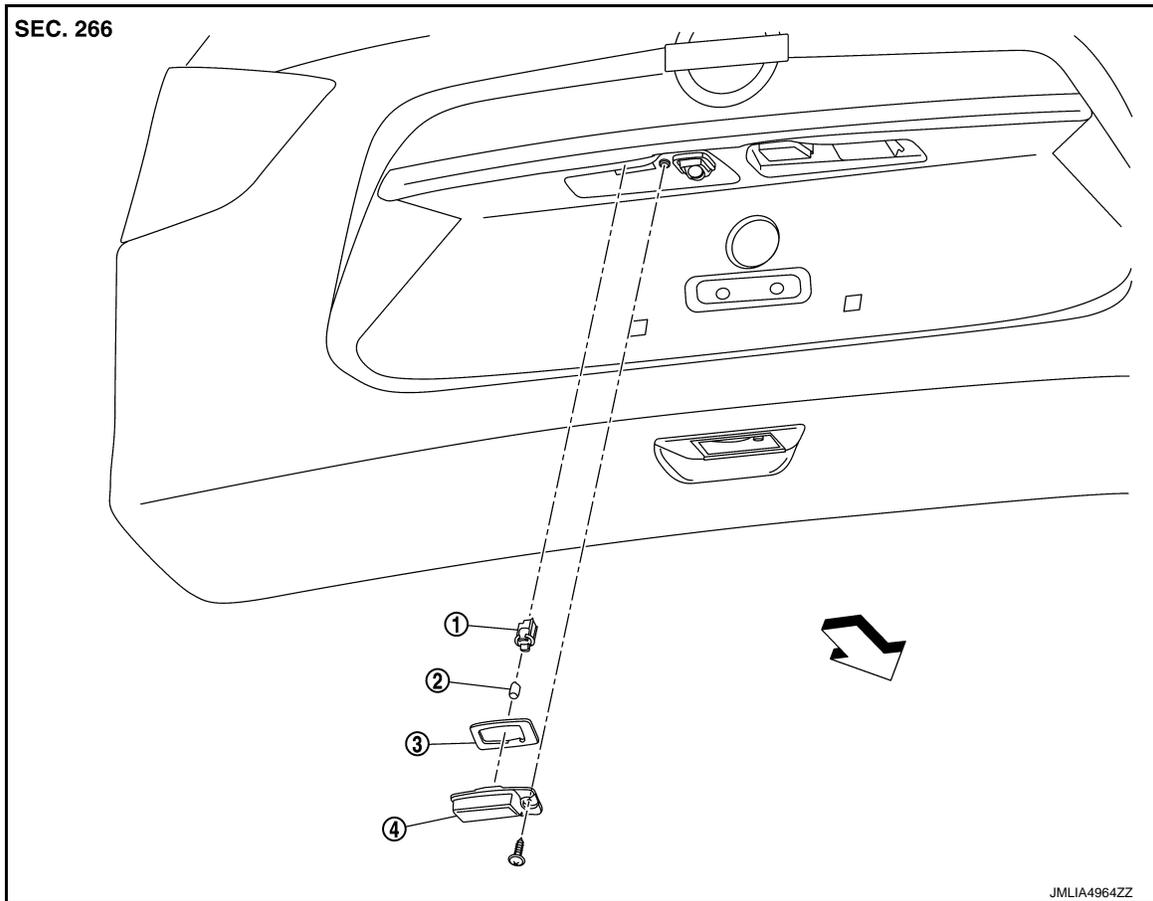
< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

LICENSE PLATE LAMP

Exploded View

INFOID:000000010788905



- ① License plate lamp bulb socket ② License plate lamp bulb ③ Seal packing
④ License plate lamp housing
← : Vehicle front

Removal and Installation

INFOID:000000010788906

CAUTION:
Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove back door finisher cap. Refer to [EXT-66, "Removal and Installation"](#).
2. Remove license plate lamp fixing screw.
3. Disengage license plate lamp housing fixing portion from back door.
4. Disconnect license plate lamp harness connector, and then remove license plate lamp.

INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000010788907

CAUTION:
• Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

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

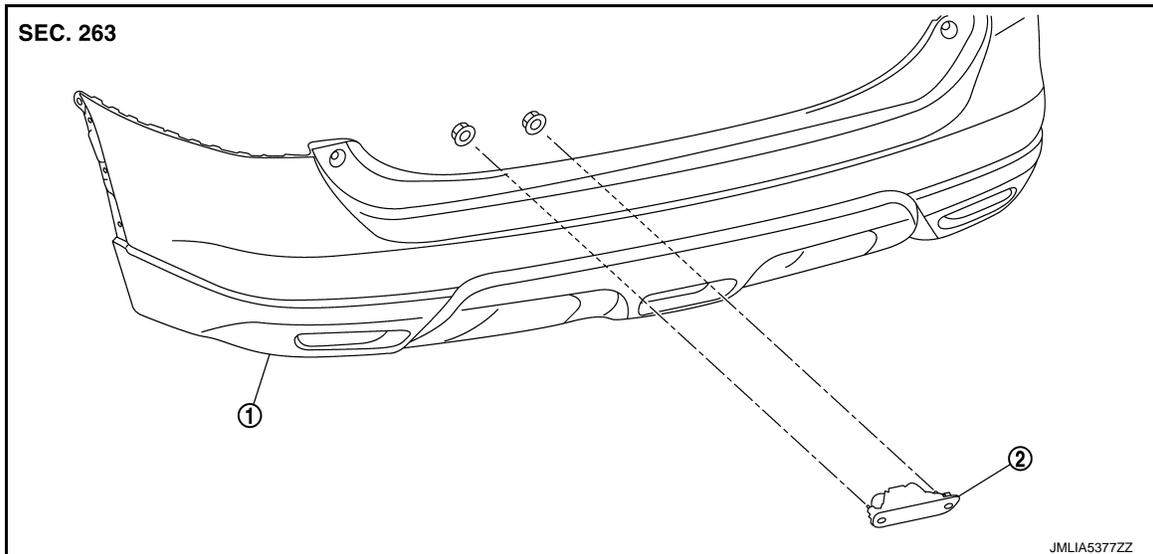
LICENSE PLATE LAMP BULB

1. Remove license plate lamp. Refer to [EXL-209, "Removal and Installation"](#).
2. Rotate license plate lamp bulb socket counterclockwise and unlock it.
3. Remove license plate lamp bulb from license plate lamp bulb socket.

REAR FOG LAMP

Exploded View

INFOID:000000010788908



① Rear bumper fascia

② Rear fog lamp

Removal and Installation

INFOID:000000010788909

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove rear bumper fascia. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove rear fog lamp mounting nuts.
3. Remove rear fog lamp from rear bumper fascia.

INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000010788910

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-9, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

REAR FOG LAMP BULB

1. Remove rear bumper fascia. Refer to [EXT-18, "Removal and Installation"](#).
2. Disconnect rear fog lamp bulb harness connector.
3. Rotate rear fog lamp bulb socket counterclockwise and unlock it.
4. Remove rear fog lamp bulb from rear fog lamp bulb socket.

REAR REFLEX REFLECTOR

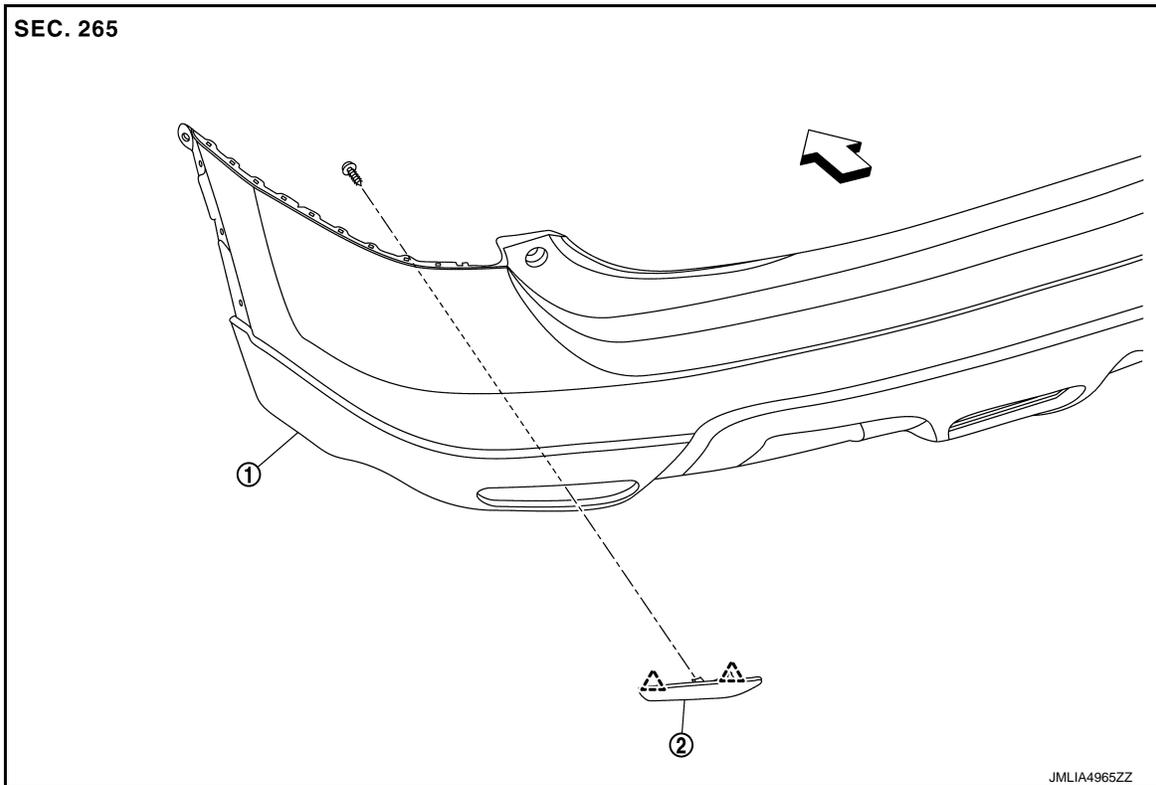
< REMOVAL AND INSTALLATION >

[LED HEADLAMP]

REAR REFLEX REFLECTOR

Exploded View

INFOID:000000010788911



① Rear bumper fascia

② Rear reflex reflector

△ : Pawl

⇨ : Vehicle front

Removal and Installation

INFOID:000000010788912

REMOVAL

1. Remove rear bumper fascia. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove rear reflex reflector fixing screw and pawls, and then remove rear reflex reflector.

INSTALLATION

Install in the reverse order of removal.

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[LED HEADLAMP]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000010788913

Item	Type	Wattage (W)
Front combination lamp	Headlamp (Hi)	—
	Headlamp (Lo)	—
	Parking lamp daytime running light	—
	Front turn signal lamp	WY21W (Amber)
Front fog lamp	H11	55
Side turn signal lamp (built in door mirror)	LED	—
Rear combination lamp	Stop lamp	W21W
	Tail lamp	W5W
	Rear turn signal lamp	WY21W
	Back-up lamp	W16W
Rear fog lamp	W21W	21
License plate lamp	W5W	5
High-mounted stop lamp	LED	—

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EXL

PRECAUTION

PRECAUTIONS

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

INFOID:000000010792452

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. 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.

Precautions for Removing Battery Terminal

INFOID:000000010792459

- With the adoption of Auto ACC function, ACC power is automatically supplied by operating the intelligent key or remote keyless entry or by opening/closing the driver side door. In addition, ACC power is supplied even after the ignition switch is turned to the OFF position, i.e. ACC power is supplied for a certain fixed time.
- When disconnecting the 12V battery terminal, turn off the ACC power before disconnecting the 12V battery terminal, observing "How to disconnect 12V battery terminal" described below.

NOTE:

Some ECUs operate for a certain fixed time even after ignition switch is turned OFF and ignition power supply is stopped. If the battery terminal is disconnected before ECU stops, accidental DTC detection or ECU data damage may occur.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

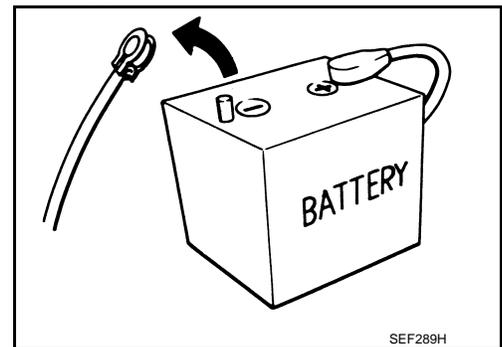
NOTE:

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

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

NOTE:

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



HOW TO DISCONNECT 12V BATTERY TERMINAL

Disconnect 12V battery terminal according to Instruction 1 or Instruction 2 described below. For vehicles parked by ignition switch OFF, refer to Instruction 2.

INSTRUCTION 1

1. Open the hood.

PRECAUTIONS

[HALOGEN HEADLAMP]

< PRECAUTION >

2. Turn key switch to the OFF position with the driver side door opened.
3. Get out of the vehicle and close the driver side door.
4. Wait at least 3 minutes. For vehicle with the engine listed below, remove the battery terminal after a lapse of the specified time.

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

CAUTION:

While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

5. Remove 12V battery terminal.

CAUTION:

After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

INSTRUCTION 2 (FOR VEHICLES PARKED BY IGNITION SWITCH OFF)

1. Unlock the door with intelligent key or remote keyless entry.

NOTE:

At this moment, ACC power is supplied.

2. Open the driver side door.
3. Open the hood.
4. Close the driver side door.
5. Wait at least 3 minutes.

CAUTION:

While waiting, never operate the vehicle such as locking, opening, and closing doors. Violation of this caution results in the activation of ACC power supply according to the Auto ACC function.

6. Remove 12V battery terminal.

CAUTION:

After installing 12V battery, always check self-diagnosis results of all ECUs and erase DTC.

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EXL

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

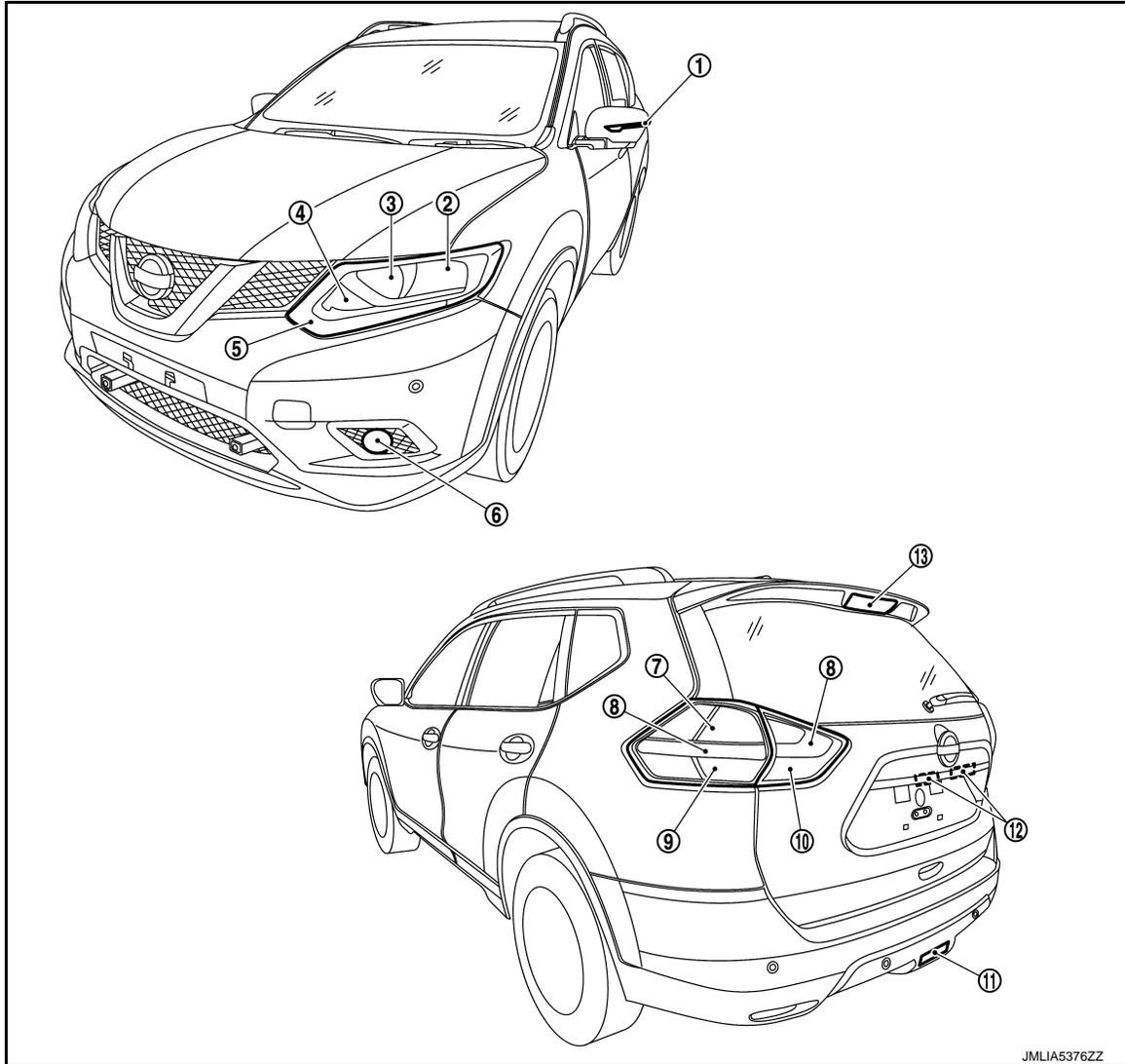
SYSTEM DESCRIPTION

COMPONENT PARTS

Exterior Lamp Appearance

INFOID:000000010789776

Exterior Lamp Appearance



JMLIA5376ZZ

- | | | |
|--------------------------|--------------------------------------|--------------------------------|
| ① Side turn signal lamp | ② Headlamp (Lo) | ③ Headlamp (Hi) |
| ④ Front turn signal lamp | ⑤ Parking lamp/daytime running light | ⑥ Front fog lamp (if equipped) |
| ⑦ Stop lamp | ⑧ Tail lamp | ⑨ Rear turn signal lamp |
| ⑩ Back-up lamp | ⑪ Rear fog lamp (if equipped) | ⑫ License plate lamp |
| ⑬ High-mounted stop lamp | | |

Bulb Specifications

INFOID:000000011008547

Bulb Specifications

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Item	Type	Wattage (W)		
Front combination lamp	Headlamp (Hi)	H9	65	A
	Headlamp (Lo)	H11	55	
	Parking lamp/ daytime running light	LED	—	B
	Front turn signal lamp	WY21W (Amber)	21	
Front fog lamp	H11	55	C	
Side turn signal lamp	LED	—		
Rear combination lamp	Stop lamp	W21W	21	D
	Tail lamp	W5W	5	
	Rear turn signal lamp	WY21W	21	E
	Back-up lamp	W16W	16	
Rear fog lamp	W21W	21		
License plate lamp	W5W	5	F	
High-mounted stop lamp	LED	—		

Component Parts Location

INFOID:0000000010789778

LHD MODELS

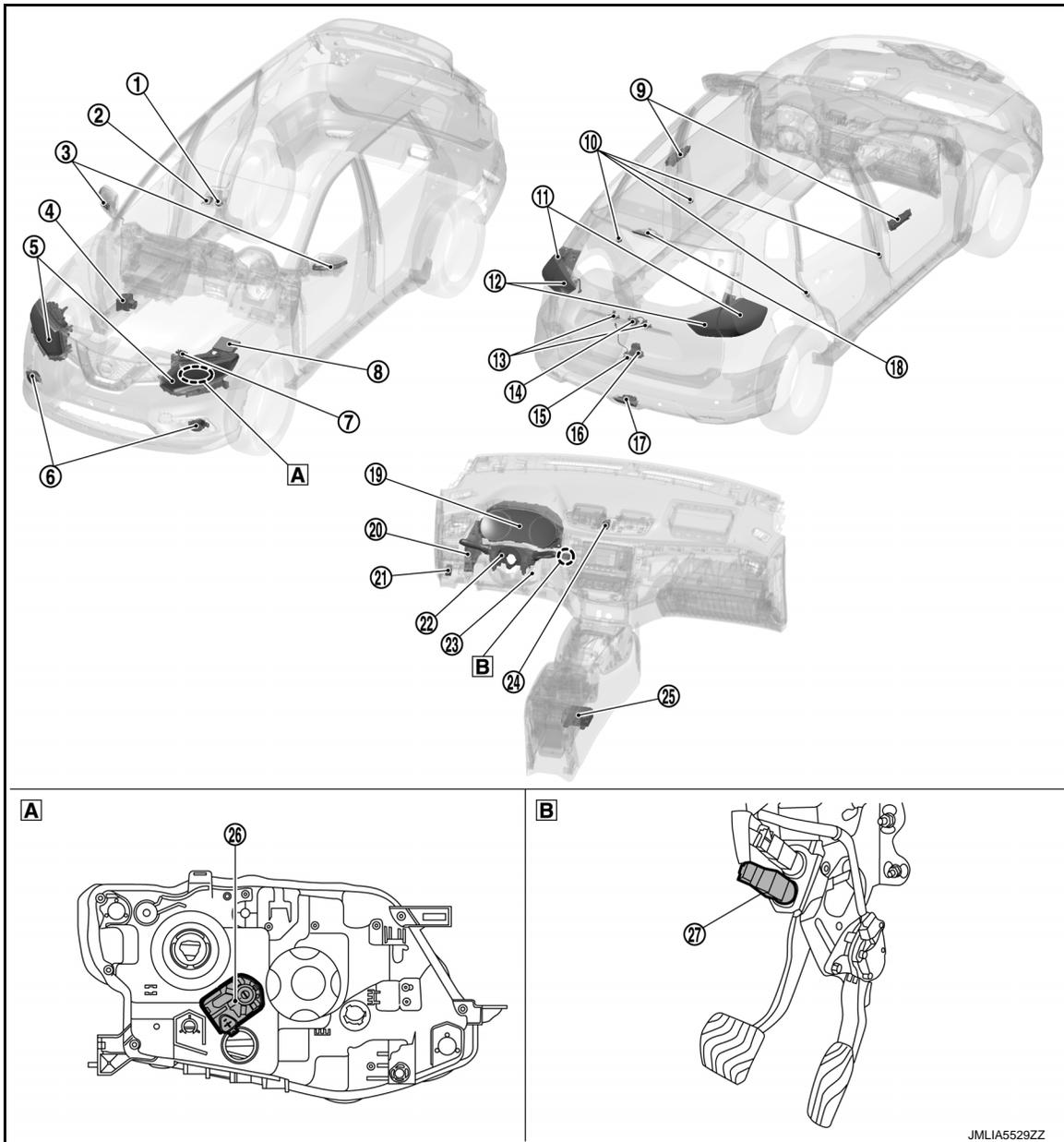
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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]



A Front combination lamp (back)

B Brake pedal

No.	Component	Function
①	Light & rain sensor	Refer to EXL-224, "Light & Rain Sensor" .
②	Front camera unit* ¹	<ul style="list-style-type: none"> Judges the vehicle status from each signal in order to control the high beam assist control. Refer to DAS-10, "Component Parts Location" for detailed installation location.
③	Side turn signal lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
④	ABS actuator and electric unit (control unit)* ²	<ul style="list-style-type: none"> When the forward emergency braking operates, a request is transmitted to BCM (CAN communication) to turn ON the stop lamp. Refer to BRC-228, "Component Parts Location" for detailed installation location.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

No.	Component	Function
⑤	Front combination lamp	Headlamp (HI) (Halogen headlamp)
		Headlamp (LO) (Halogen headlamp)
		Parking lamp / Day-time running light
		Front turn signal lamp
⑥	Front fog lamp* ³	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑦	ECM	<ul style="list-style-type: none"> ECM transmits engine status signal and Stop/Start status signal (with Stop/Start system) to BCM via CAN communication. Refer to EC-28, "ENGINE CONTROL SYSTEM : Component Parts Location" (MR20DD), EC-440, "Component Parts Location" (QR25DE) or EC-812, "Component Parts Location" (R9M) for detailed installation location.
⑧	IPDM E/R	<ul style="list-style-type: none"> Controls the integrated smart FET, and supplies voltage to the load according to the request from BCM via CAN communication. Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑨	Door request switch* ⁴	Refer to DLK-341, "DOOR LOCK SYSTEM : Door Request Switch" .
⑩	Door switch	Refer to DLK-342, "DOOR LOCK SYSTEM : Door Switch" (with Intelligent Key) or DLK-796, "Door Switch" (without Intelligent Key).
⑪	Rear combination lamp (body side)	Tail lamp
		Stop lamp
		Rear turn signal lamp
⑫	Rear combination lamp (back door side)	Tail lamp
⑬	License plate lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑭	Hands free sensor* ⁵	Refer to DLK-342, "DOOR LOCK SYSTEM : Hands Free Sensor" .
⑮	Back door opener switch assembly	Back door opener switch
		Back door request switch* ⁴
⑯	Back door lock assembly	Back door switch
⑰	Rear fog lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑱	High-mounted stop lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑲	Combination meter	<ul style="list-style-type: none"> Turns the indicator lamp and warning (information display/buzzer) ON/OFF according to the request from BCM via CAN communication. Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM via CAN communication. Combination meter transmits vehicle speed signal to BCM via CAN communication.

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COMPONENT PARTS

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

No.	Component		Function
⑳	BCM		<ul style="list-style-type: none"> • Detects each switch condition by the combination switch reading function. • Exterior lamp ON/OFF is judged from each signal, and then a request is transmitted to IPDM E/R (CAN communication) to turn each smart FET ON/OFF. • It also transmits a request to the combination meter (CAN communication) to turn indicator lamp and warning (information display/buzzer) ON/OFF. • Blinks the turn signal lamp and hazard warning lamp according to the each switch condition. • Requests the turn signal indicator lamp blink to the combination meter via CAN communication. • Requests the turn signal operating sound ON to the combination meter via CAN communication. • Judges the vehicle status from each signal, and illuminates the stop lamp and high-mounted stop lamp. • Judges the vehicle status from each signal, and illuminates the rear fog lamp. • Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
㉑	Headlamp aiming switch		Refer to EXL-224, "Headlamp Aiming Switch" .
㉒	Combination switch		Refer to BCS-13, "COMBINATION SWITCH READING SYSTEM : System Description" .
㉓	Ignition key cylinder*6	Key switch	Refer to DLK-796, "Ignition Key Cylinder" .
㉔	Hazard switch		Refer to EXL-224, "Hazard Switch" .
㉕	Air bag diagnosis sensor unit		<ul style="list-style-type: none"> • When the air bag operates, a request is transmitted to BCM (CAN communication) to blinks the hazard warning lamp. • Refer to SRC-6, "Component Parts Location" for detailed installation location.
㉖	Front combination lamp	Headlamp aiming motor	Refer to EXL-223, "FRONT COMBINATION LAMP : Headlamp Aiming Motor" .
㉗	Stop lamp switch		Refer to EXL-224, "Stop Lamp Switch" .

*1: With high beam assist system

*2: With forward emergency braking

*3: With front fog lamp

*4: With Intelligent Key

*5: With hands free sensor

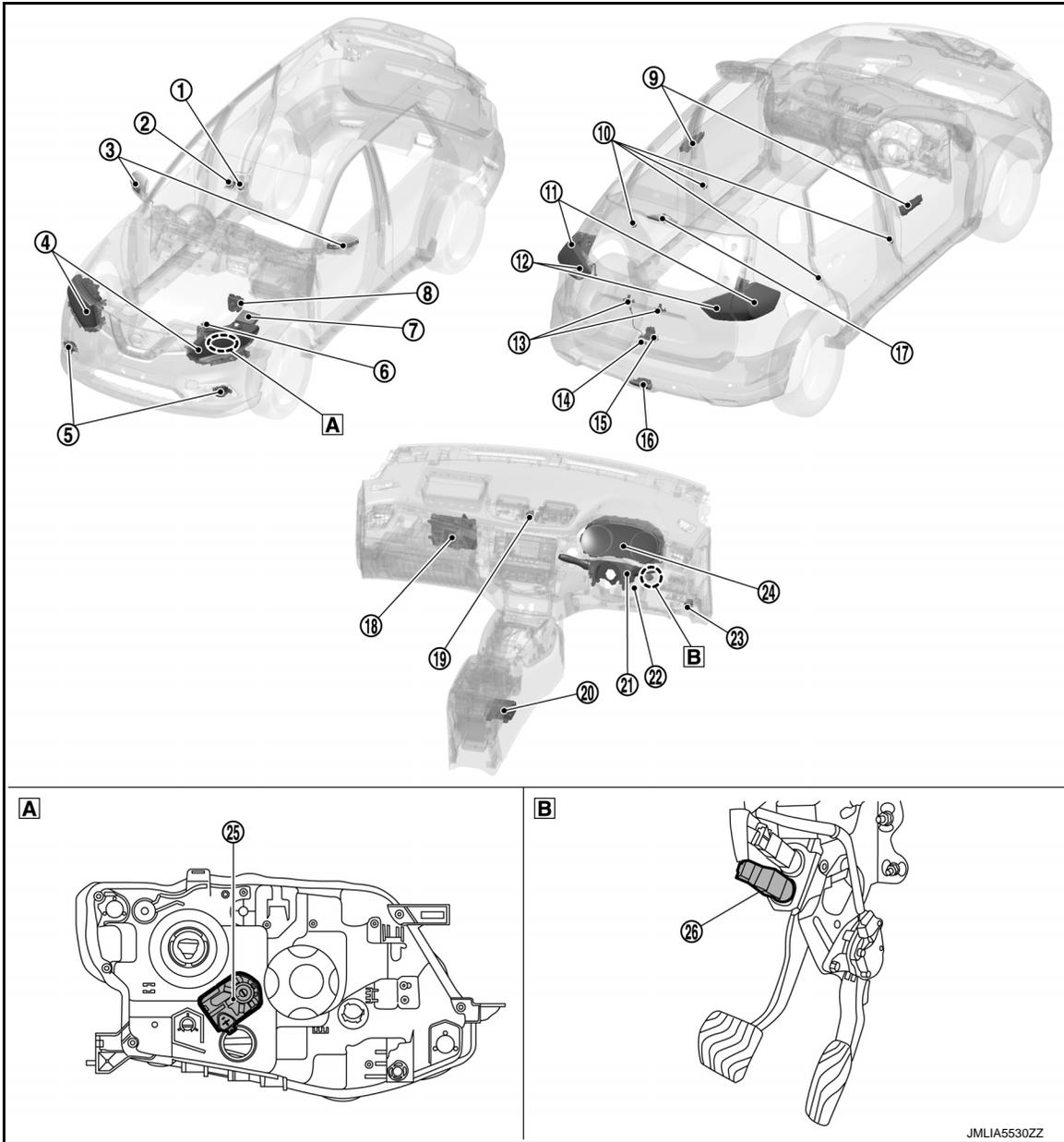
*6: Without Intelligent Key

RHD MODELS

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]



A Front combination lamp (back)

B Brake pedal

No.	Component	Function
①	Light & rain sensor	Refer to EXL-224, "Light & Rain Sensor" .
②	Front camera unit* ¹	<ul style="list-style-type: none"> Judges the vehicle status from each signal in order to control the high beam assist control. Refer to DAS-10, "Component Parts Location" for detailed installation location.
③	Side turn signal lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

No.	Component	Function
④	Front combination lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
	Headlamp (HI) (Halogen headlamp)	
	Headlamp (LO) (Halogen headlamp)	
	Parking lamp / Day-time running light	
	Front turn signal lamp	
⑤	Front fog lamp*2	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑥	ECM	<ul style="list-style-type: none"> ECM transmits engine status signal and Stop/Start status signal to BCM via CAN communication. Refer to EC-812, "Component Parts Location" for detailed installation location.
⑦	IPDM E/R	<ul style="list-style-type: none"> Controls the integrated smart FET, and supplies voltage to the load according to the request from BCM via CAN communication. Refer to PCS-5, "Component Parts Location" for detailed installation location.
⑧	ABS actuator and electric unit (control unit)*3	<ul style="list-style-type: none"> When the forward emergency braking operates, a request is transmitted to BCM (CAN communication) to turn ON the stop lamp. Refer to BRC-228, "Component Parts Location" for detailed installation location.
⑨	Door request switch*4	Refer to DLK-32, "DOOR LOCK SYSTEM : Door Request Switch" .
⑩	Door switch	Refer to DLK-32, "DOOR LOCK SYSTEM : Door Switch" (with Intelligent Key) or DLK-645, "Door Switch" (without Intelligent Key).
⑪	Rear combination lamp (body side)	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
	Tail lamp	
	Stop lamp	
	Rear turn signal lamp	
⑫	Rear combination lamp (back door side)	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑬	License plate lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑭	Back door opener switch assembly	Refer to DLK-30, "DOOR LOCK SYSTEM : Back Door Opener Switch Assembly" (with Intelligent Key) or DLK-644, "Back Door Opener Switch Assembly" (without Intelligent Key).
	Back door request switch*4	
⑮	Back door lock assembly	Refer to DLK-30, "DOOR LOCK SYSTEM : Back Door Lock Assembly" (with Intelligent Key) or DLK-644, "Back Door Lock Assembly" (without Intelligent Key).
⑯	Rear fog lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .
⑰	High-mounted stop lamp	Refer to EXL-216, "Exterior Lamp Appearance" and EXL-216, "Bulb Specifications" .

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

No.	Component		Function
⑱	BCM		<ul style="list-style-type: none"> • Detects each switch condition by the combination switch reading function. • Exterior lamp ON/OFF is judged from each signal, and then a request is transmitted to IPDM E/R (CAN communication) to turn each smart FET ON/OFF. • It also transmits a request to the combination meter (CAN communication) to turn indicator lamp and warning (information display/buzzer) ON/OFF. • Blinks the turn signal lamp and hazard warning lamp according to the each switch condition. • Requests the turn signal indicator lamp blink to the combination meter via CAN communication. • Requests the turn signal operating sound ON to the combination meter via CAN communication. • Judges the vehicle status from each signal, and illuminates the stop lamp and high-mounted stop lamp. • Judges the vehicle status from each signal, and illuminates the rear fog lamp. • Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location" for detailed installation location.
⑲	Hazard switch		Refer to EXL-224, "Hazard Switch" .
⑳	Air bag diagnosis sensor unit		<ul style="list-style-type: none"> • When the air bag operates, a request is transmitted to BCM (CAN communication) to blink the hazard warning lamp. • Refer to SRC-6, "Component Parts Location" for detailed installation location.
㉑	Combination switch		Refer to BCS-13, "COMBINATION SWITCH READING SYSTEM : System Description" .
㉒	Ignition key cylinder*5	Key switch	Refer to DLK-645, "Ignition Key Cylinder" .
㉓	Headlamp aiming switch		Refer to EXL-224, "Headlamp Aiming Switch" .
㉔	Combination meter		<ul style="list-style-type: none"> • Turns the indicator lamp and warning (information display/buzzer) ON/OFF according to the request from BCM via CAN communication. • Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM via CAN communication. • Combination meter transmits vehicle speed signal to BCM via CAN communication.
㉕	Front combination lamp	Headlamp aiming motor	Refer to EXL-223, "FRONT COMBINATION LAMP : Headlamp Aiming Motor" .
㉖	Stop lamp switch		Refer to EXL-224, "Stop Lamp Switch" .

*1: With high beam assist system

*2: With front fog lamp

*3: With forward emergency braking

*4: With Intelligent Key

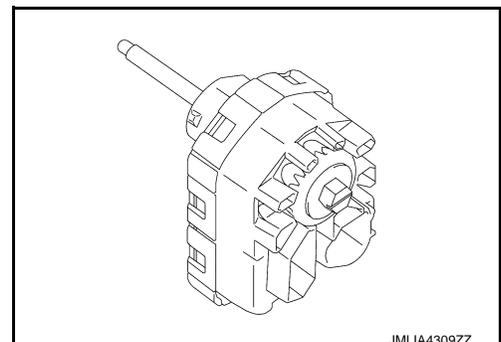
*5: Without Intelligent Key

FRONT COMBINATION LAMP

FRONT COMBINATION LAMP : Headlamp Aiming Motor

INFOID:000000010789779

- Headlamp aiming motor is integrated in the front combination lamp.
- Headlamp aiming motor adjusts the headlamp light axis upward and downward according to input drive signal from headlamp aiming switch.



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COMPONENT PARTS

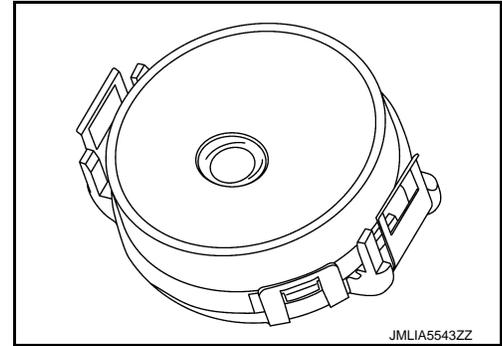
< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Light & Rain Sensor

INFOID:000000011008684

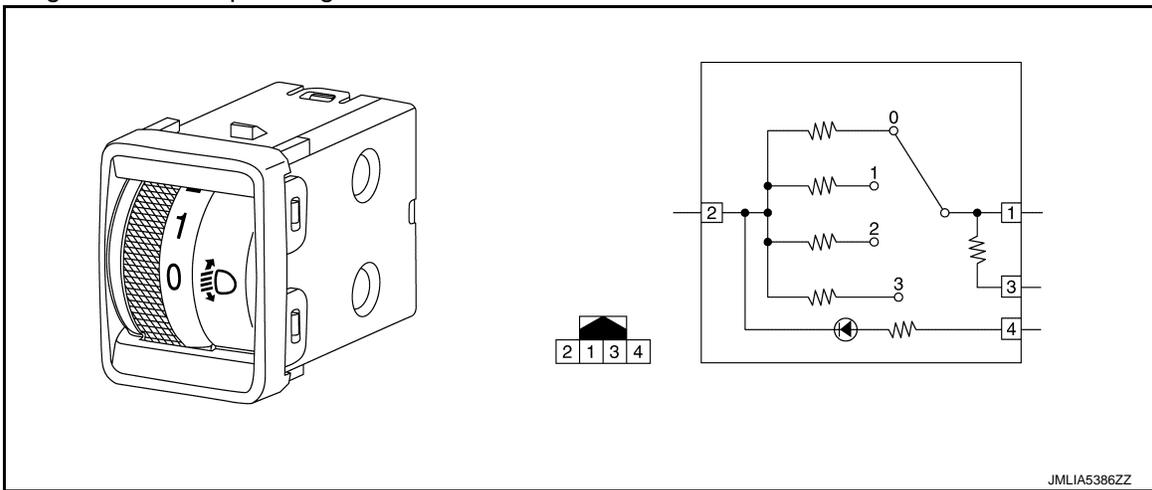
- The light & rain sensor detects the outside ambient light level, forward light level and sensor conditions.
- Based on ambient light level (day/night detection), forward light level (tunnel detection) and sensor conditions it judges ON/OFF condition for exterior lamps.
- And it transmits exterior lamp ON/OFF request to the BCM by the light & rain sensor serial link.
- BCM controls each function depending on the signals. And it detects the light & rain sensor serial link error and the light & rain sensor malfunction.



Headlamp Aiming Switch

INFOID:000000010789781

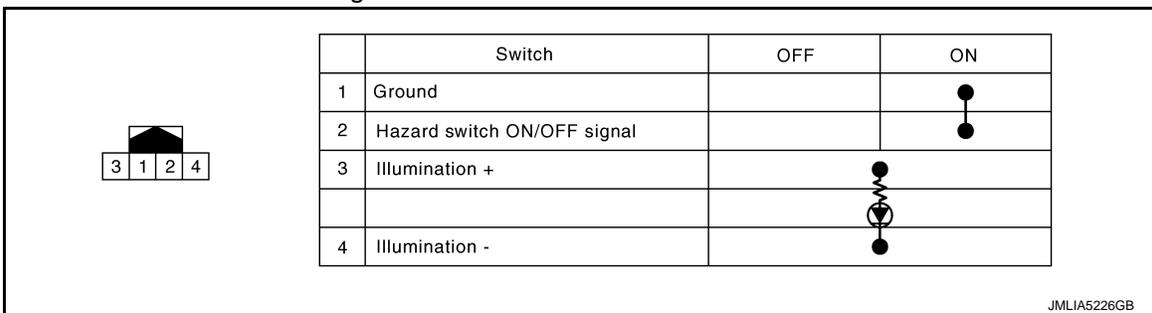
Adjusts height of headlamp aiming.



Hazard Switch

INFOID:000000010789782

Inputs the hazard switch ON/OFF signal to BCM.

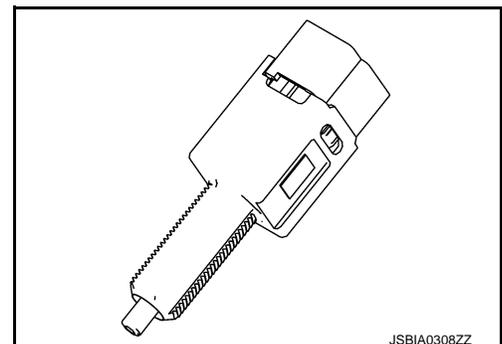


Stop Lamp Switch

INFOID:000000010789783

- Stop lamp switch is installed to brake pedal bracket.
- BCM detects the brake pedal status from the ON/OFF signal that is input from the switch.

Brake pedal	Stop lamp switch
Released	OFF
Depressed	ON



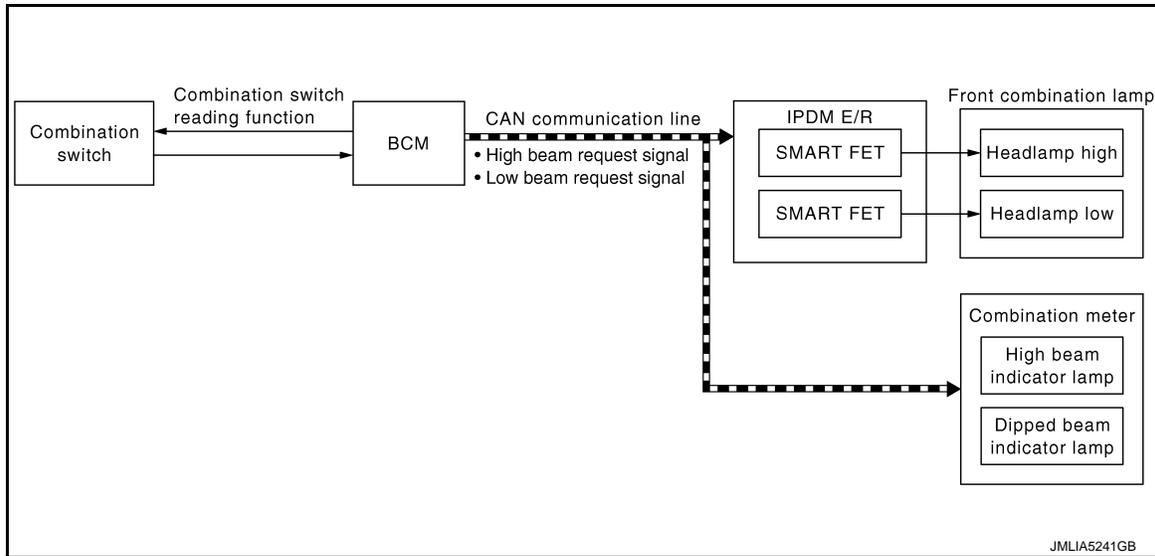
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HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Description

INFOID:000000010789784

SYSTEM DIAGRAM



OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition (When any of the following conditions are satisfied)

- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-228, "AUTO LIGHT SYSTEM : System Description".](#))
- Lighting switch PASS
- IPDM E/R turns the integrated smart FET ON according to low beam request signal and supplies power supply to headlamp (LO).
- Combination meter turns the dipped beam indicator lamp ON according to the low beam request signal.

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition (When any of the following conditions are satisfied)

- Lighting switch HI with the lighting switch 2ND
- Lighting switch HI with the lighting switch AUTO (Only when the illumination judgment by auto light system is ON and the illumination judgment by high beam assist system is ON. For details, refer to [EXL-228, "AUTO LIGHT SYSTEM : System Description".](#))
- Lighting switch PASS
- IPDM E/R turns the integrated headlamp high smart FET ON according to high beam request signal and supplies power supply to headlamp (HI).
- Combination meter turns the high beam indicator lamp ON according to the high beam request signal.

FOLLOW ME HOME FUNCTION

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

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

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

Follow me home ON condition (When all of the following conditions are satisfied)

- Ignition switch OFF
- Lighting switch OFF or AUTO
- IPDM E/R turns the integrated smart FET ON according to low beam request signal and supplies power supply to headlamp (LO).
- Combination meter turns the dipped beam indicator lamp ON according to the low beam request signal.
- When in any of following conditions, follow me home function can be cancelled while follow me home function is operating.

Follow me home OFF condition (When any of the following conditions are satisfied)

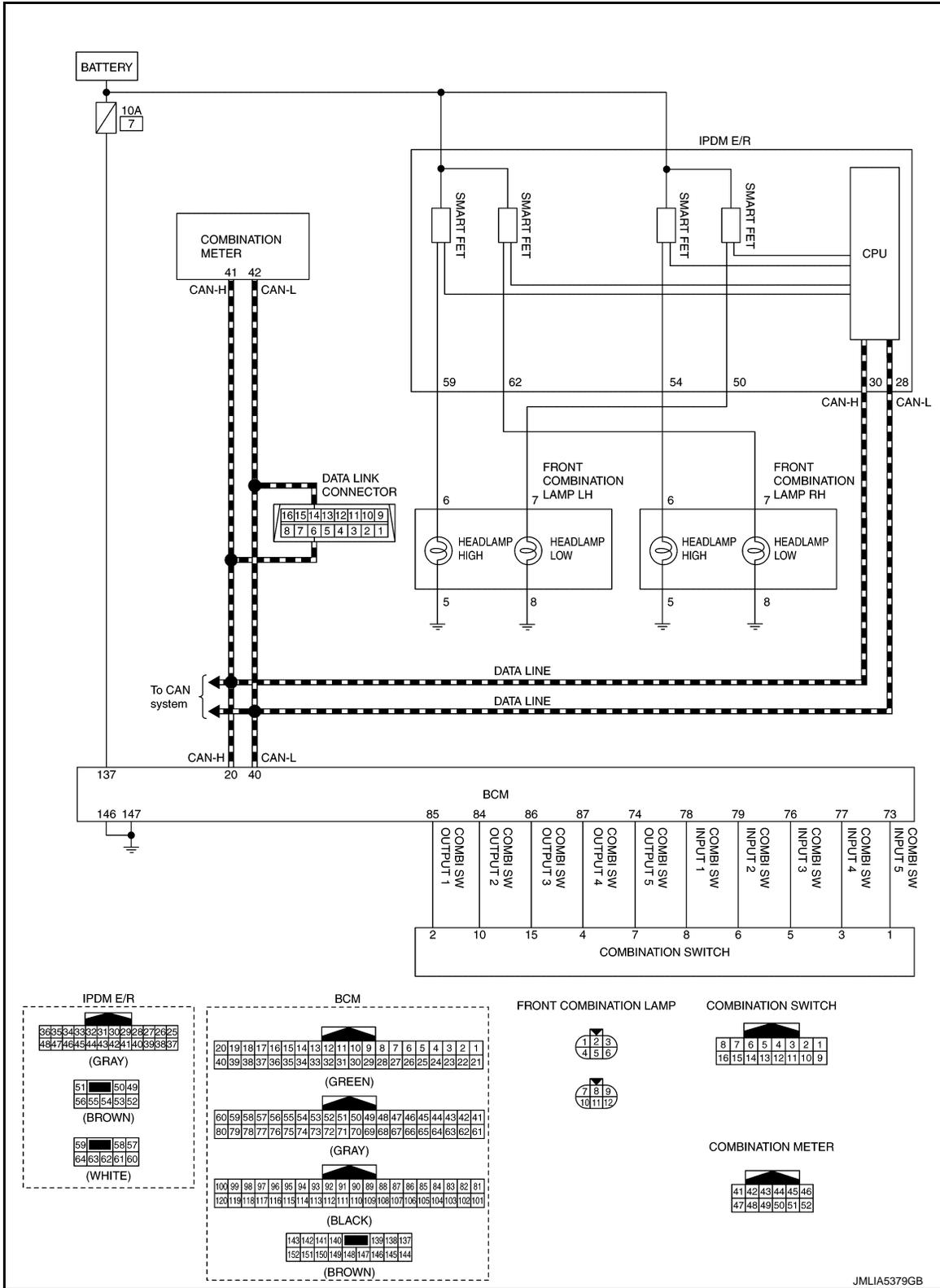
- Ignition switch other than OFF
- Lighting switch other than OFF or AUTO
- Follow me home operating time is expired

NOTE:

- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).

HEADLAMP SYSTEM : Circuit Diagram

INFOID:000000010789785



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HEADLAMP SYSTEM : Fail-safe

INFOID:000000010789786

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

DTC	CONSULT display description		Fail-safe
B20CE	HL (HI) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) LH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20CF	HL (HI) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (HI) RH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.
B20D0	HL (LO) LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) LH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.
B20D1	HL (LO) RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the headlamp (LO) RH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

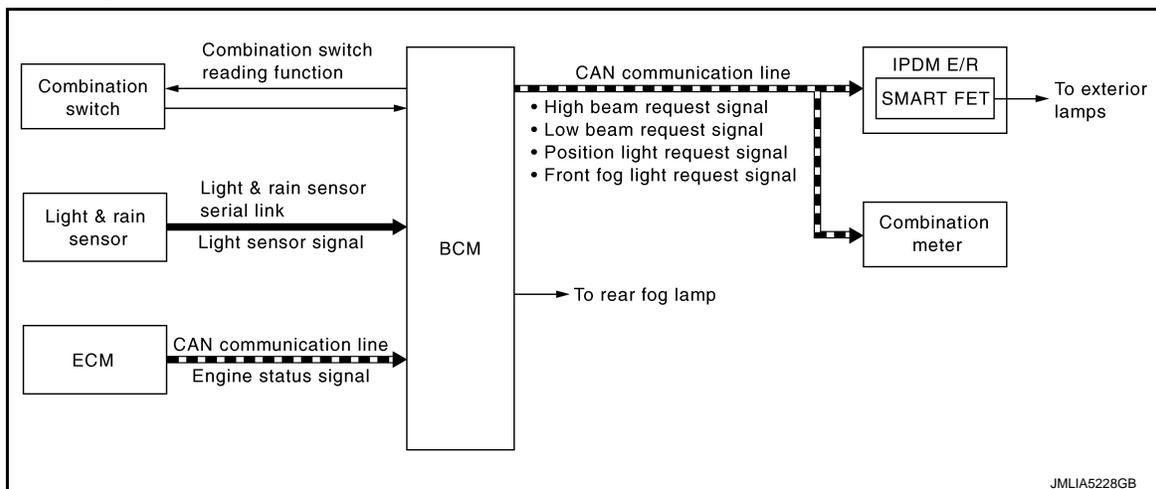
Control part	Fail-safe operation
Headlamp	<ul style="list-style-type: none"> • Turns ON the headlamp (LO) when the ignition switch is turned ON. • Turns OFF the headlamp (LO) when the ignition switch is turned OFF. • Headlamp (HI): OFF

AUTO LIGHT SYSTEM

AUTO LIGHT SYSTEM : System Description

INFOID:0000000010789787

SYSTEM DIAGRAM



OUTLINE

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

Control by BCM

- Combination switch reading function
- Auto light function
- Fog override function

Control by IPDM E/R

- Smart FET control function
- Auto light system has the auto light function and fog override function.
- Auto light function automatically turns ON/OFF the exterior lamps*, depending on the outside brightness.

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

- Fog override function turns ON the exterior lamps regardless of outside brightness, when front fog lamp switch is turned from OFF to ON or rear fog lamp switch is turned from OFF to ON while ignition switch is in ON position and lighting switch is in AUTO position.

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

NOTE:

- Headlamp (HI) depend on the combination switch condition and the illumination judgment of high beam assist system. For details, refer to [EXL-231. "HIGH BEAM ASSIST SYSTEM : System Description"](#).
- Front fog lamp does not turn ON automatically, but automatically turns OFF (only when the fog override function setting is OFF).
- Rear fog lamp does not turn ON automatically, but automatically turns OFF (only when the fog override function setting is OFF).

AUTO LIGHT FUNCTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM detects the engine condition by the engine status signal received from ECM via CAN communication.
- BCM receives exterior lamp ON/OFF requests from the light & rain sensor by light & rain sensor serial link.
- BCM judges the ON/OFF status of the exterior lamp according to ON/OFF requests from light & rain sensor and the vehicle condition.
- BCM transmits each request signal to IPDM E/R via CAN communication according to ON/OFF condition by the auto light function.

NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to [EXL-255. "HEADLAMP : CONSULT Function \(BCM - HEAD LAMP\) \(Halogen Headlamp\)"](#).

FOG OVERRIDE FUNCTION

When front fog lamp switch is turned from OFF to ON or rear fog lamp switch is turned from OFF to ON while ignition switch is in ON position and lighting switch is in AUTO position, BCM turns ON exterior lamps* regardless of outside brightness.

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

NOTE:

- Headlamp (HI) depend on the combination switch condition and the illumination judgment of high beam assist system. For details, refer to [EXL-231. "HIGH BEAM ASSIST SYSTEM : System Description"](#).
- Front fog lamp and rear fog lamp depend on the each fog lamp switch operation.
- ON/OFF of fog override function can be changed using CONSULT. Refer to [INL-21. "INT LAMP : CONSULT Function \(BCM - INT LAMP\)"](#).

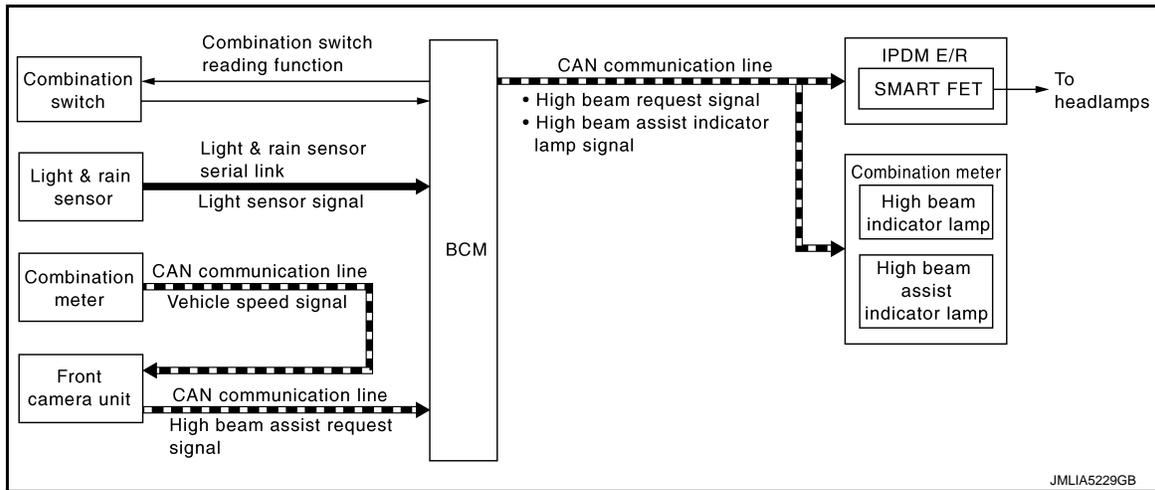
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HIGH BEAM ASSIST SYSTEM : System Description

INFOID:000000011008680

SYSTEM DIAGRAM



OUTLINE

- High beam assist system is a system that can reduce the driver's switch operation load. The system automatically switches the headlamp to the low beam mode when a vehicle ahead or an oncoming vehicle appears, while driving the vehicle with the headlamps in high beam mode at night.
- When the high beam assist system operation permission conditions are satisfied, the high beam assist indicator lamp in the combination meter turns ON and informs that the high beam assist is in operation.
- High beam assist system is controlled by each function of BCM, front camera unit and IPDM E/R.

Control by BCM

- Combination switch reading function
- Auto light function
- High beam assist control function
- Headlamp control function

Control by IPDM E/R

- Smart FET control function

Control by Front camera unit

- High beam assist control function

OPERATION DESCRIPTION

- BCM detects the combination switch condition with the combination switch reading function.
- BCM transmits the high beam assist indicator lamp signal to the combination meter via CAN communication, when the high beam assist system operation permission conditions are satisfied.

High beam assist system operation permission conditions

- Lighting switch HI with the lighting switch AUTO and ignition switch ON (Only when the illuminating judgment by auto light function is ON. For details, refer to [EXL-228, "AUTO LIGHT SYSTEM : System Description"](#).)
- Combination meter turns the high beam assist indicator lamp ON according to the high beam assist indicator lamp signal.
- Front camera unit detects the vehicle status and ambient status that are required for high beam assist control with the following signals.
 - Vehicle speed signal (received from combination meter via CAN communication)
 - Ambient light signal (detect from front camera unit)
 - Image sensor signal (detect from front camera unit)
- Front camera unit judges the current recommended beam according to the vehicle status and ambient condition, and transmits the high beam assist request signal (headlamp HI operation / headlamp LO operation) to BCM via CAN communication.
- BCM switches the headlamp LO operation / headlamp HI operation according to high beam assist request signal, while the high beam assist system operation permission conditions are satisfied. For headlamp operation, refer to [EXL-225, "HEADLAMP SYSTEM : System Description"](#).

RECOMMENDED BEAM JUDGMENT BY FRONT CAMERA UNIT

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SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Headlamp HI Operation Request

Front camera unit requests the headlamp HI operation to BCM when all of following conditions are satisfied.

- Detects the vehicle speed is approx. 40 km/h or more.
- Recognizes the ambient condition is dark.
- Recognizes there is no oncoming vehicle or no vehicle ahead in front of the vehicle.

Headlamp LO Operation Request

Front camera unit requests the headlamp LO operation to BCM when either of following conditions is satisfied.

- Detects the vehicle speed is approx. 30 km/h or less.
- Recognizes the ambient condition is bright.
- Recognizes there is oncoming vehicle or vehicle ahead in front of the vehicle.

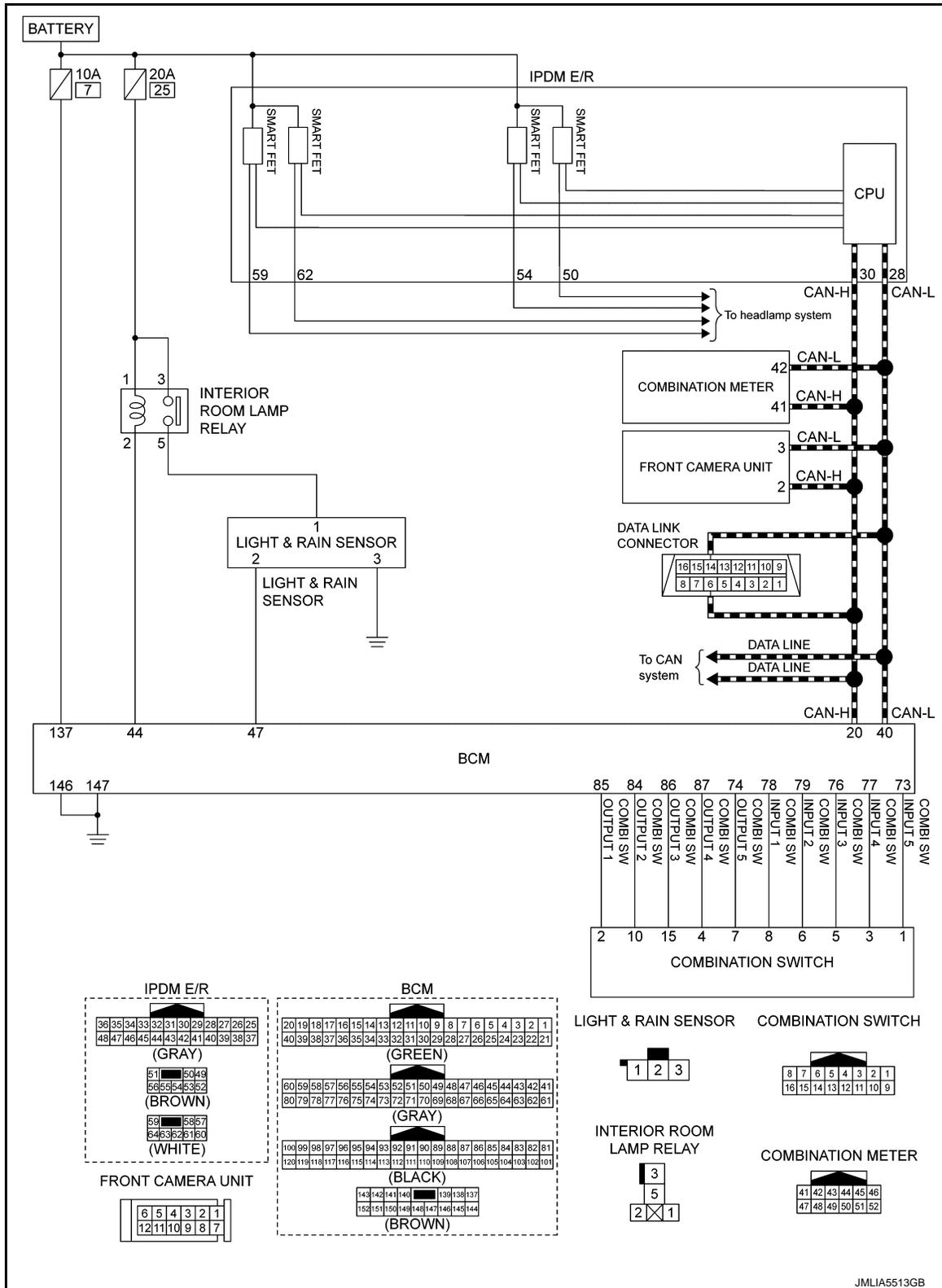
SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

HIGH BEAM ASSIST SYSTEM : Circuit Diagram

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EXL

HIGH BEAM ASSIST SYSTEM : Fail-safe

INFOID:000000011008681

FRONT CAMERA UNIT TEMPORARY OPERATION CANCELLATION

- Temporary disabled status at high temperature
- If the vehicle is parked in direct sunlight under high temperature conditions, the system may be deactivated automatically. And the system malfunction in information display.

< SYSTEM DESCRIPTION >

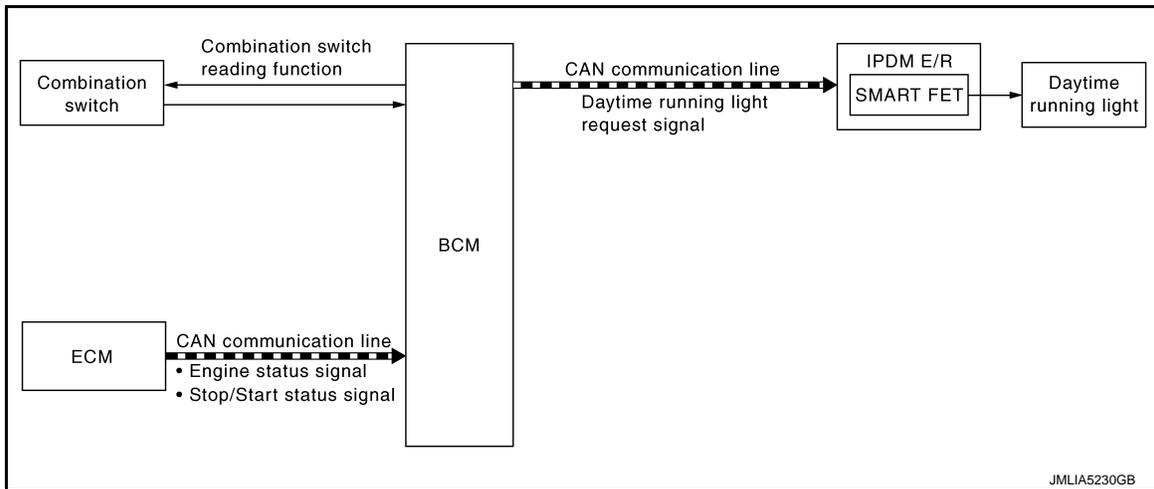
- When interior temperature is reduced, the system will resume operation automatically.
- When vehicle front identification is difficult
- When vehicle front identification is difficult due to soiling of windshield glass and strong light shining from the front, operation may be canceled temporarily. At this time, a warning is displayed on the vehicle information display in the combination meter.
- Normal operation recovers when conditions improve.

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000010789789

SYSTEM DIAGRAM



OUTLINE

Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and smart FET 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 engine status signal and Stop/Start status signal* (received from ECM via CAN communication).
- BCM transmits the daytime running light request signal to IPDM E/R via CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- Engine running and any following conditions are satisfied.
- Lighting switch OFF
- Lighting switch AUTO (Only when the illumination judgment by auto light system is OFF. For details, refer to [EXL-228, "AUTO LIGHT SYSTEM : System Description"](#).)
- IPDM E/R turns the integrated smart FET ON, and turns the daytime running light ON according to the daytime running light request signal.

NOTE:

When the engine is stopped by the Stop/Start system, the operation of daytime running light system is not canceled.*

*: With Stop/Start system

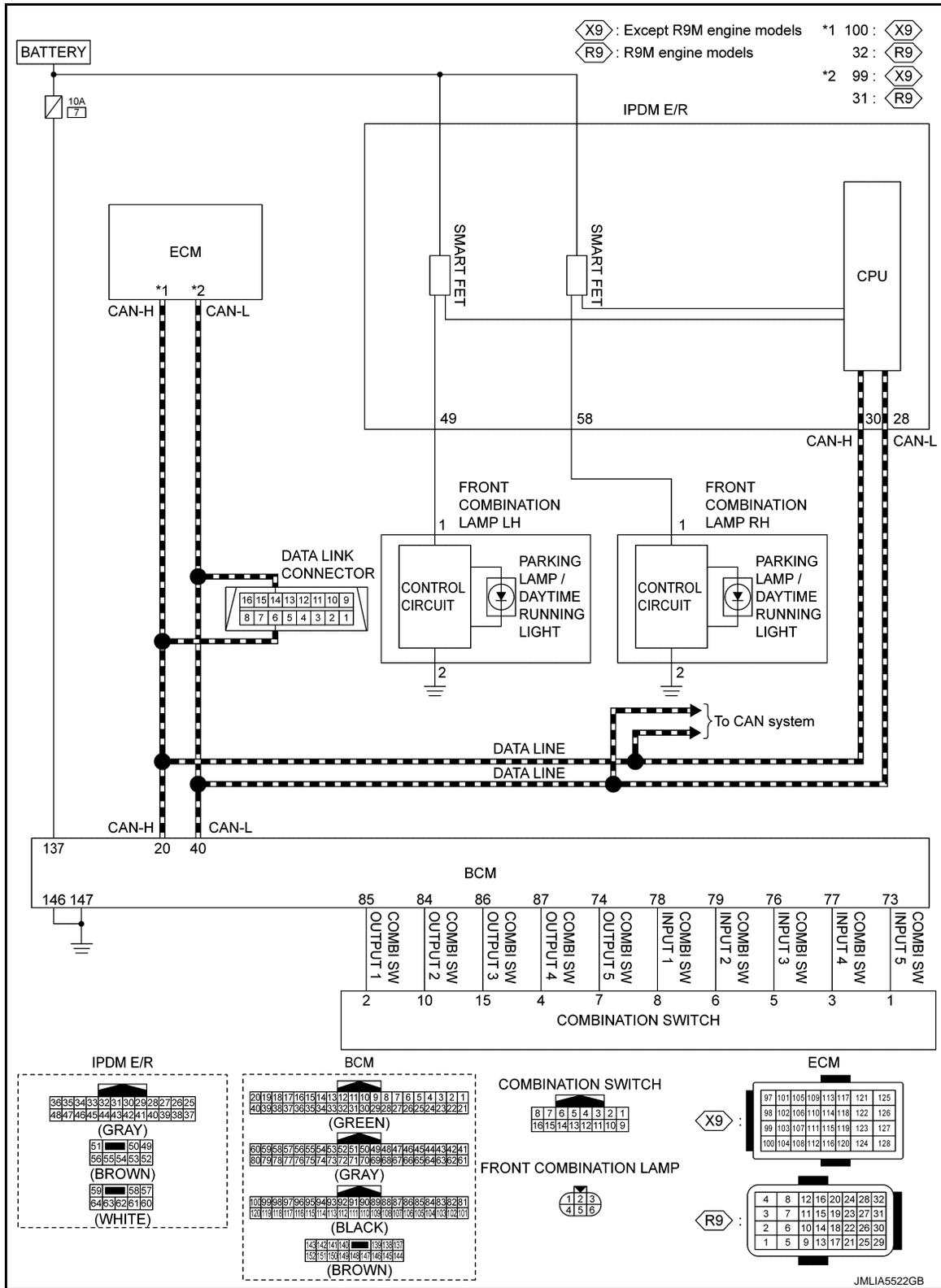
SYSTEM

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT SYSTEM : Circuit Diagram

INFOID:000000010789790



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EXL

DAYTIME RUNNING LIGHT SYSTEM : Fail-safe

INFOID:000000010789791

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

DTC	CONSULT display description		Fail-safe
B1231	DTRL RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light RH power supply circuit until the daytime running light ON conditions are no longer satisfied.
B20CB	DTRL LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the daytime running light LH power supply circuit until the daytime running light ON conditions are no longer satisfied.

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Daytime running light	Daytime running light: OFF

HEADLAMP AIMING CONTROL (MANUAL)

HEADLAMP AIMING CONTROL (MANUAL) : System Description

INFOID:000000010789792

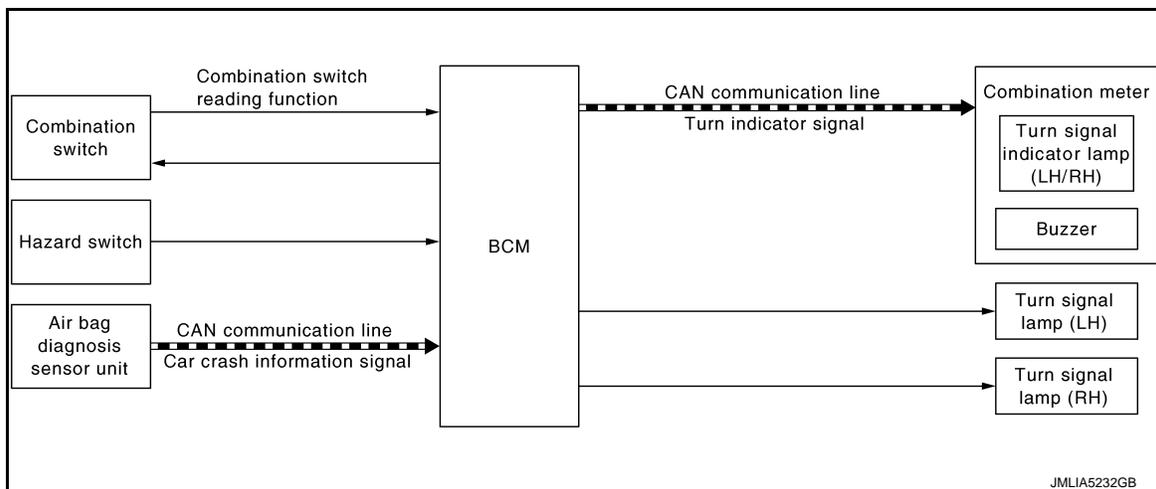
The headlamp levelizer adjusts the headlamp light axis upward and downward with the aiming motor integrated in the front combination lamp.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000010789793

SYSTEM DIAGRAM



OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

SYSTEM

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

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

3-TIME FLASHER FUNCTION

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

NOTE:

ON/OFF of 3-time flasher function can be changed using CONSULT. Refer to [EXL-257, "FLASHER : CONSULT Function \(BCM - FLASHER\) \(Halogen Headlamp\)"](#).

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.

AUTO HAZARD FUNCTION

- Air bag diagnosis sensor unit transmits car crash information signal to BCM via CAN communication, when air bag diagnosis sensor unit detects strong impact to the vehicle body while ignition switch is ON.
- When car crash information signal received from air bag diagnosis sensor unit is detected, BCM supplies voltage to each turn signal lamp system and hazard lamp blinks.

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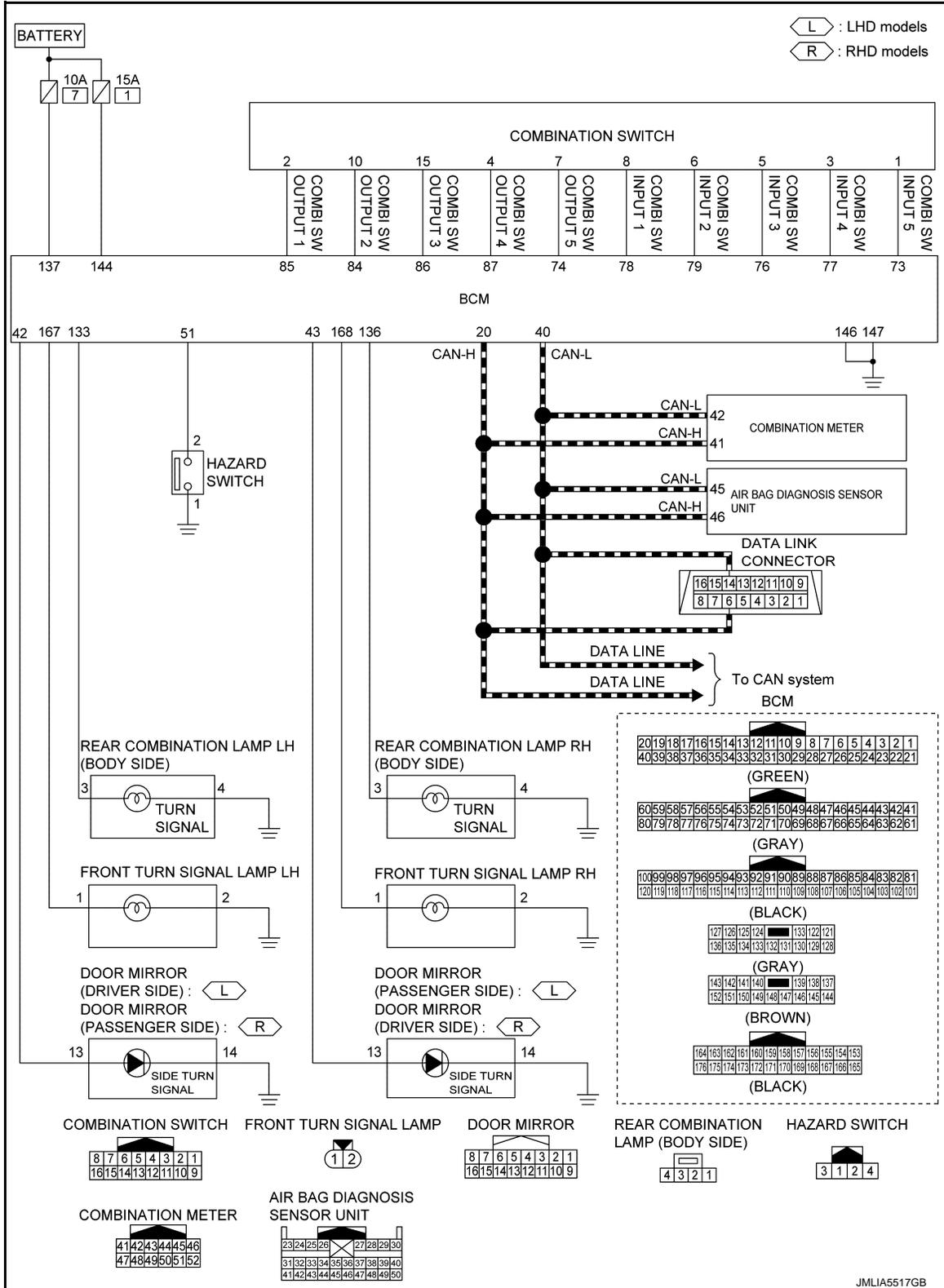
SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : Circuit Diagram

INFOID:000000010789794

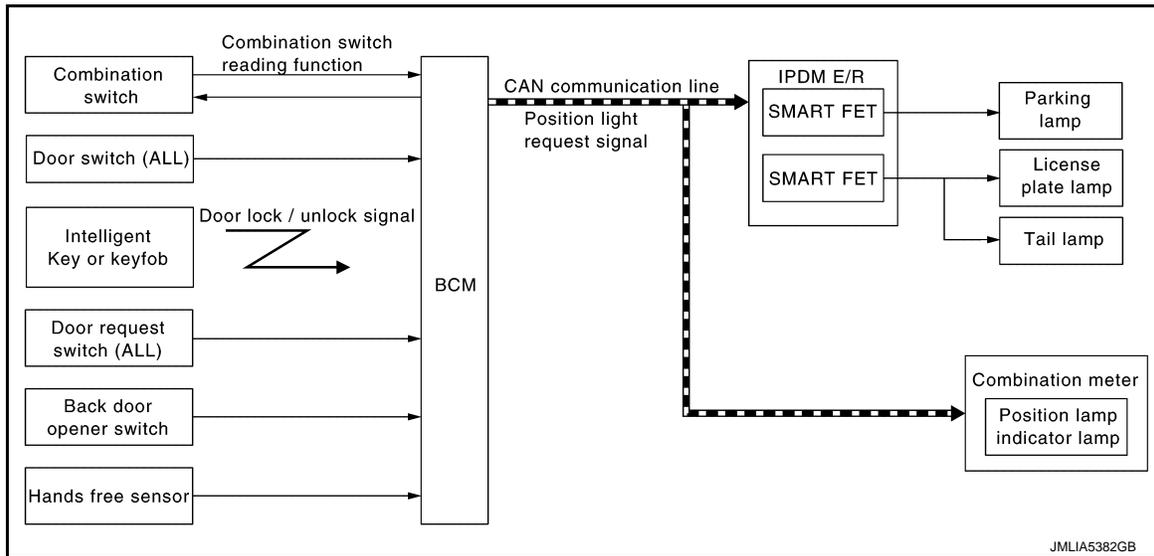


PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : System Description

INFOID:000000010789795

SYSTEM DIAGRAM



OUTLINE

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

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

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

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-228. "AUTO LIGHT SYSTEM : System Description".](#))
- IPDM E/R turns the integrated smart FET ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
- Combination meter turns the position lamp indicator lamp ON according to the position light request signal.

NOTE:

Parking lamp and daytime running light use a common light source. When the parking, license plate and tail lamps are turned ON while daytime running light is ON, the parking lamp/daytime running light is dimmed.

FOLLOW ME HOME FUNCTION

When the driver is moving to the house entrance from the own vehicle, parking, license plate and tail lamps are kept still ON by the follow me home function of BCM.

- When BCM detects the input of lighting switch PASS while all of the following conditions are satisfied, it transmits the position light request signal for a period of time to IPDM E/R and the combination meter through CAN communication.

Follow me home ON condition (When all of the following conditions are satisfied)

- Ignition switch OFF
- Lighting switch OFF or AUTO
- IPDM E/R turns the integrated smart FET ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
- Combination meter turns the position lamp indicator lamp ON according to the position light request signal.
- When in any of following conditions, follow me home function can be cancelled while follow me home function is operating.

Follow me home OFF condition (When any of the following conditions are satisfied)

- Ignition switch other than OFF
- Lighting switch other than OFF or AUTO

< SYSTEM DESCRIPTION >

- Follow me home operating time is expired

NOTE:

- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).

SIGNATURE LIGHT FUNCTION

Description

The signature light function is a function that turns ON the parking lamp, license plate lamp, and tail lamp for a set period of time when the doors are locked or unlocked from outside the vehicle.

Operation Description

BCM transmits the position light request signal to IPDM E/R and the combination meter via CAN communication according to the signature light function ON condition.

Signature light function ON condition (Operation when doors are unlocked)

- When all of the following conditions are satisfied, the signature light function operates when door unlock operation is performed from outside the vehicle (Intelligent Key, keyfob, door request switch, back door opener switch, hands free function).
 - Ignition switch: OFF
 - Door open/close status: All door close
 - Door lock status: All door lock
- When any of the following conditions is satisfied while the signature light function is operating, the signature light function stops.
 - Ignition switch: ON
 - Door lock status: All door lock (This only occurs when door lock operation is performed using the door lock and unlock switch, etc. When door lock operation is performed with the Intelligent Key, keyfob or door request switch, the system changes to operation when doors are locked.)
- Since signature light function ON, 30 seconds are passed.

Signature light function ON condition (Operation when doors are locked)

- When all of the following conditions are satisfied, the signature light function operates when door lock operation is performed from outside the vehicle (Intelligent Key, keyfob or door request switch).
 - Ignition switch: OFF
 - Door open/close status: All door close
- When any of the following conditions is satisfied while the signature light function is operating, the signature light function stops.
 - Ignition switch: ON
 - Door open/close status: Any door open
 - Door lock status: Any door unlock or all door unlock (This only occurs when door unlock operation is performed using the door lock and unlock switch etc. When door unlock operation is performed with the Intelligent Key, keyfob, door request switch, back door opener switch or hands free function, the system changes to operation when doors are unlocked.)
- Door open/close status: All door close
- Since signature light function ON, 10 seconds are passed.

NOTE:

ON/OFF of signature light function can be changed using CONSULT. Refer to [DLK-74, "DOOR LOCK : CONSULT Function \(BCM - DOOR LOCK\) \(With Intelligent Key System and Super Lock\)"](#), [DLK-384, "DOOR LOCK : CONSULT Function \(BCM - DOOR LOCK\) \(With Intelligent Key System, Without Super Lock\)"](#), [DLK-658, "DOOR LOCK : CONSULT Function \(BCM - DOOR LOCK\) \(Without Intelligent Key System, With Super Lock\)"](#) or [DLK-808, "DOOR LOCK : CONSULT Function \(BCM - DOOR LOCK\) \(Without Intelligent Key System and Super Lock\)"](#).

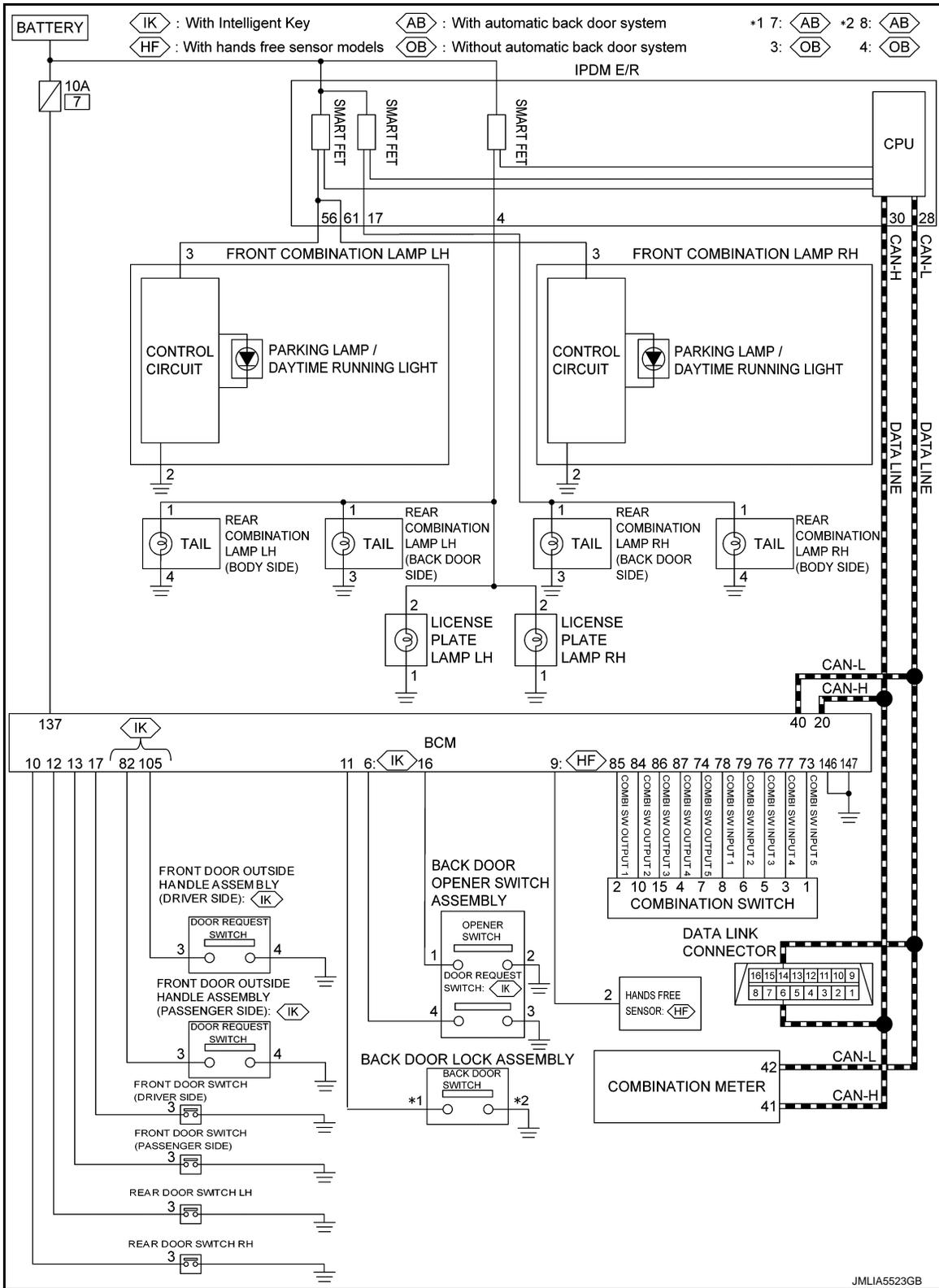
SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

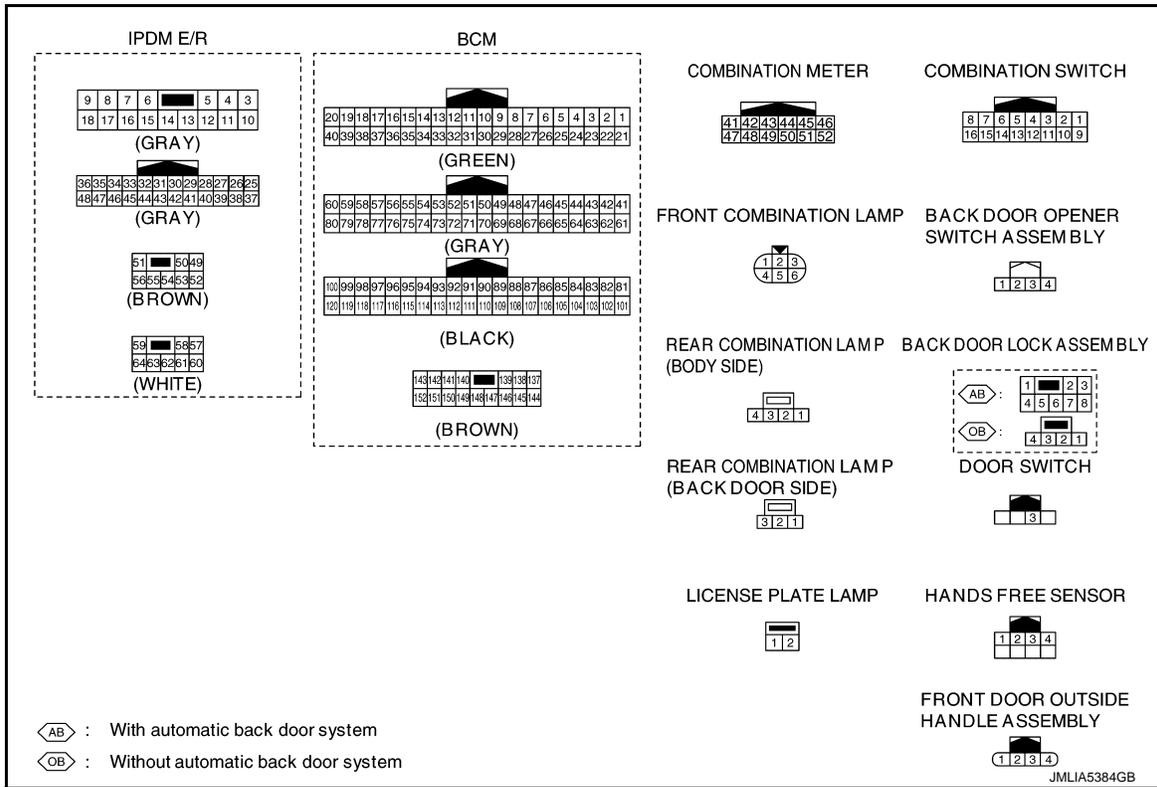
PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : Circuit Diagram

INFOID:000000010789796



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EXL



PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM : Fail-safe

INFOID:000000010789797

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

DTC	CONSULT display description	Fail-safe
B20D2	PARKING LAMP PWR SPLY CIRC [CIRC SHORT TO GRND]	Shuts off the power supply to the parking lamp (LH/RH) power supply circuit until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.
B20D4	TAIL LAMP LH PWR SPLY CIRC [CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. <ul style="list-style-type: none"> • Tail lamp LH (body side) • Tail lamp LH (back door side) • License plate lamp LH • License plate lamp RH
B20D5	TAIL LAMP RH PWR SPLY CIRC [CIRC SHORT TO GRND]	Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied. <ul style="list-style-type: none"> • Tail lamp RH (body side) • Tail lamp RH (back door side)

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

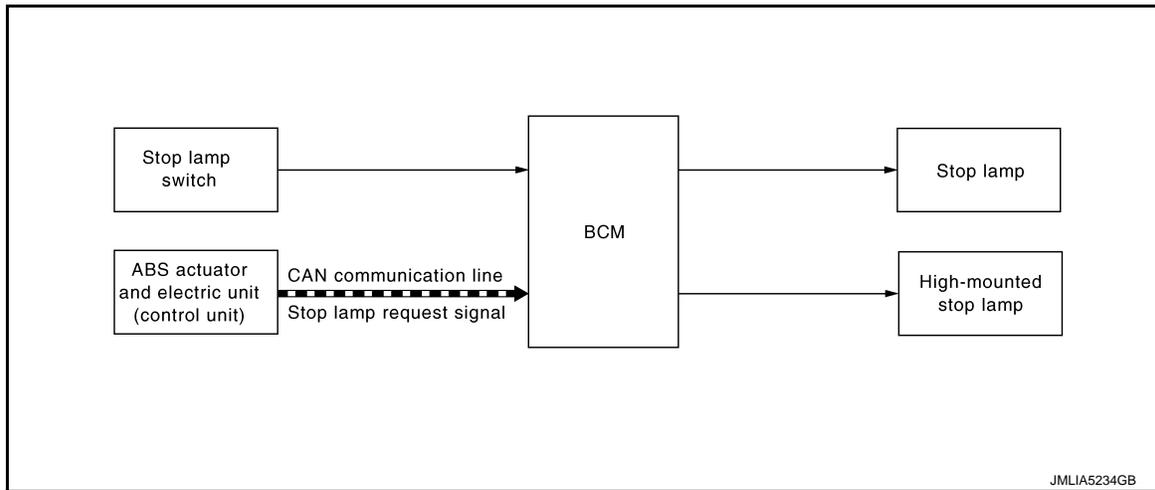
Control part	Fail-safe operation
<ul style="list-style-type: none"> • Parking lamp • License plate lamp • Tail lamp 	<ul style="list-style-type: none"> • Turns ON the tail lamp, parking lamp and license plate lamp when the ignition switch is turned ON. • Turns OFF the tail lamp, parking lamp and license plate lamp when the ignition switch is turned OFF.

STOP LAMP SYSTEM

STOP LAMP SYSTEM : System Description

INFOID:000000010789798

SYSTEM DIAGRAM



OUTLINE

Stop lamp and high-mounted stop lamp is controlled by combination switch reading function and the stop lamp and high-mounted stop lamp control function of BCM, and forward emergency braking function of ABS actuator and electric unit (control unit).

STOP LAMP AND HIGH-MOUNTED STOP LAMP OPERATION

- BCM detects the brake pedal position status from stop lamp switch.
- BCM supplies voltage to stop lamp and high-mounted stop lamp according to the stop lamp and high-mounted stop lamp ON condition.

Stop lamp and high-mounted stop lamp ON condition

- Brake pedal is depressed

FORWARD EMERGENCY BRAKING FUNCTION

- When the forward emergency braking operates, the ABS actuator and electric unit (control unit) transmits the stop lamp request signal to BCM via CAN communication. (For details about the forward emergency braking, refer to [BRC-232. "System Description"](#).)
- When BCM receives the stop lamp request signal from the ABS actuator and electric unit (control unit), it supplies power to the stop lamp and high-mounted stop lamp systems, turning ON the stop lamp and high-mounted stop lamp.

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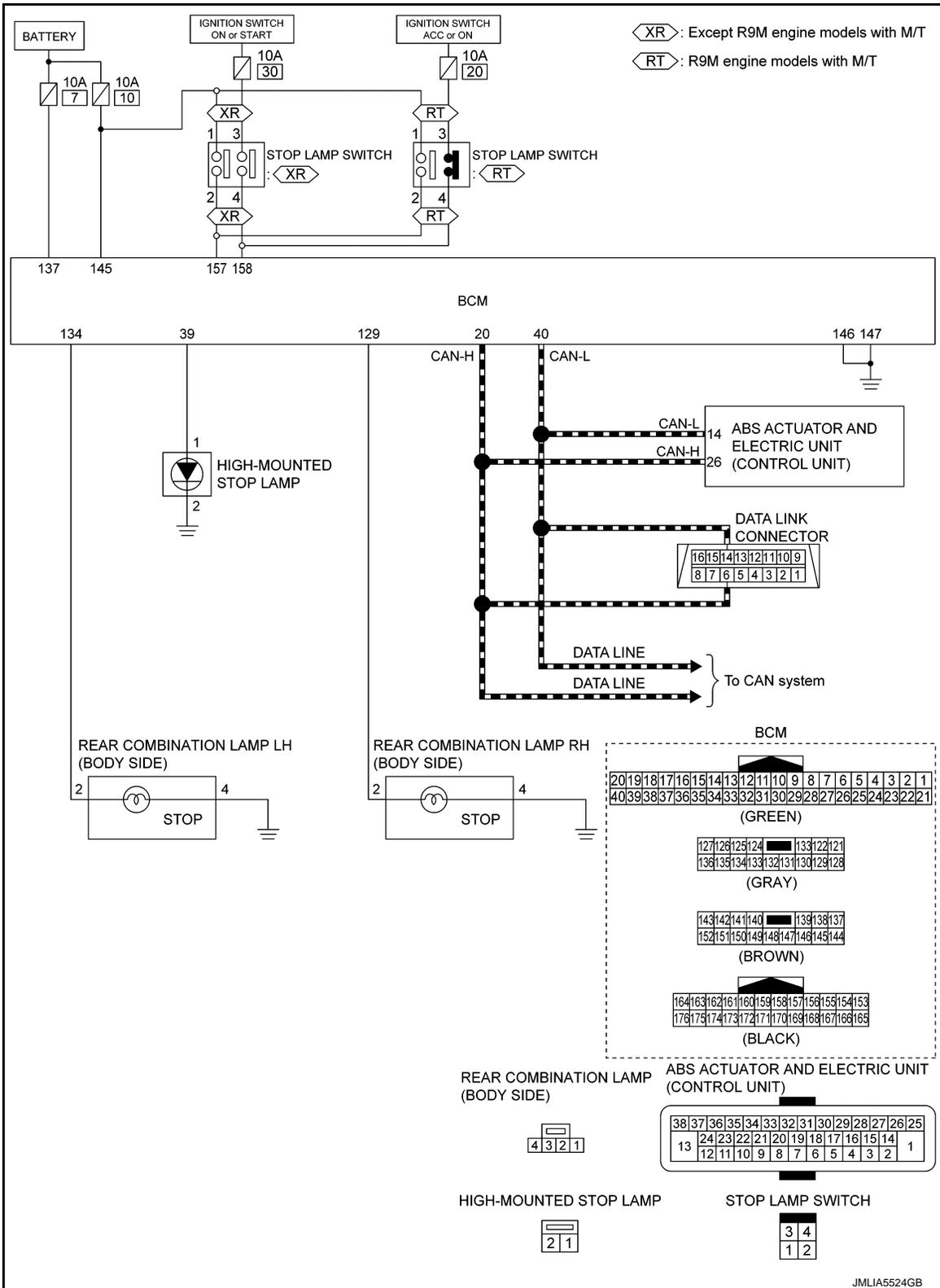
SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

STOP LAMP SYSTEM : Circuit Diagram

INFOID:0000000110789799

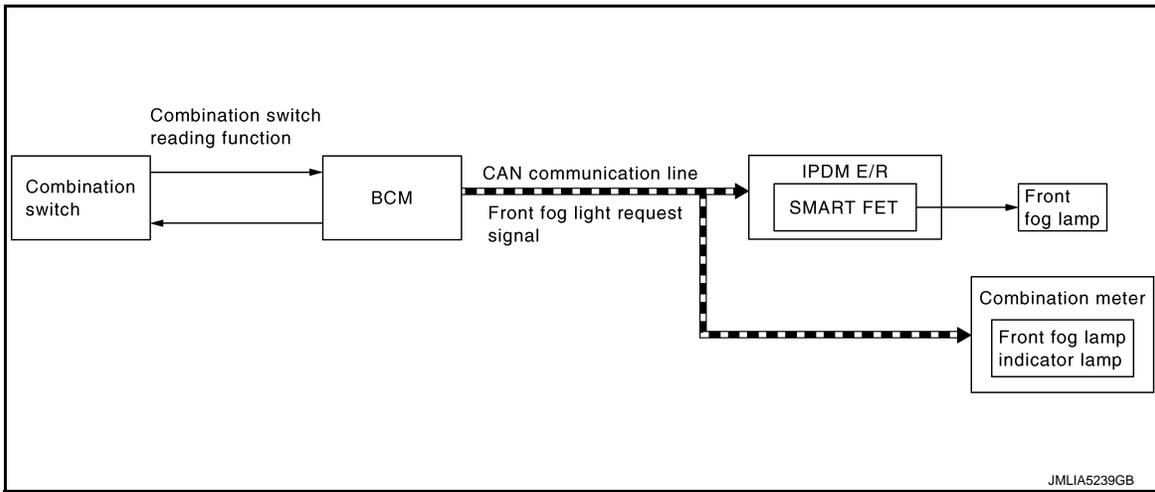


NOTE:
 ABS actuator and electric unit (control unit) is not used.
FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Description

INFOID:000000010789800

SYSTEM DIAGRAM



OUTLINE

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

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

- Front fog lamp switch is turned from OFF to ON, and any of the following conditions are satisfied.
 - Lighting switch 1ST
 - Lighting switch 2ND
 - Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-228. "AUTO LIGHT SYSTEM : System Description".](#))
- IPDM E/R turns the integrated smart FET ON, and turns the front fog lamp ON according to the front fog light request signal.
- Combination meter turns the front fog lamp indicator lamp ON according to the front fog light request signal.

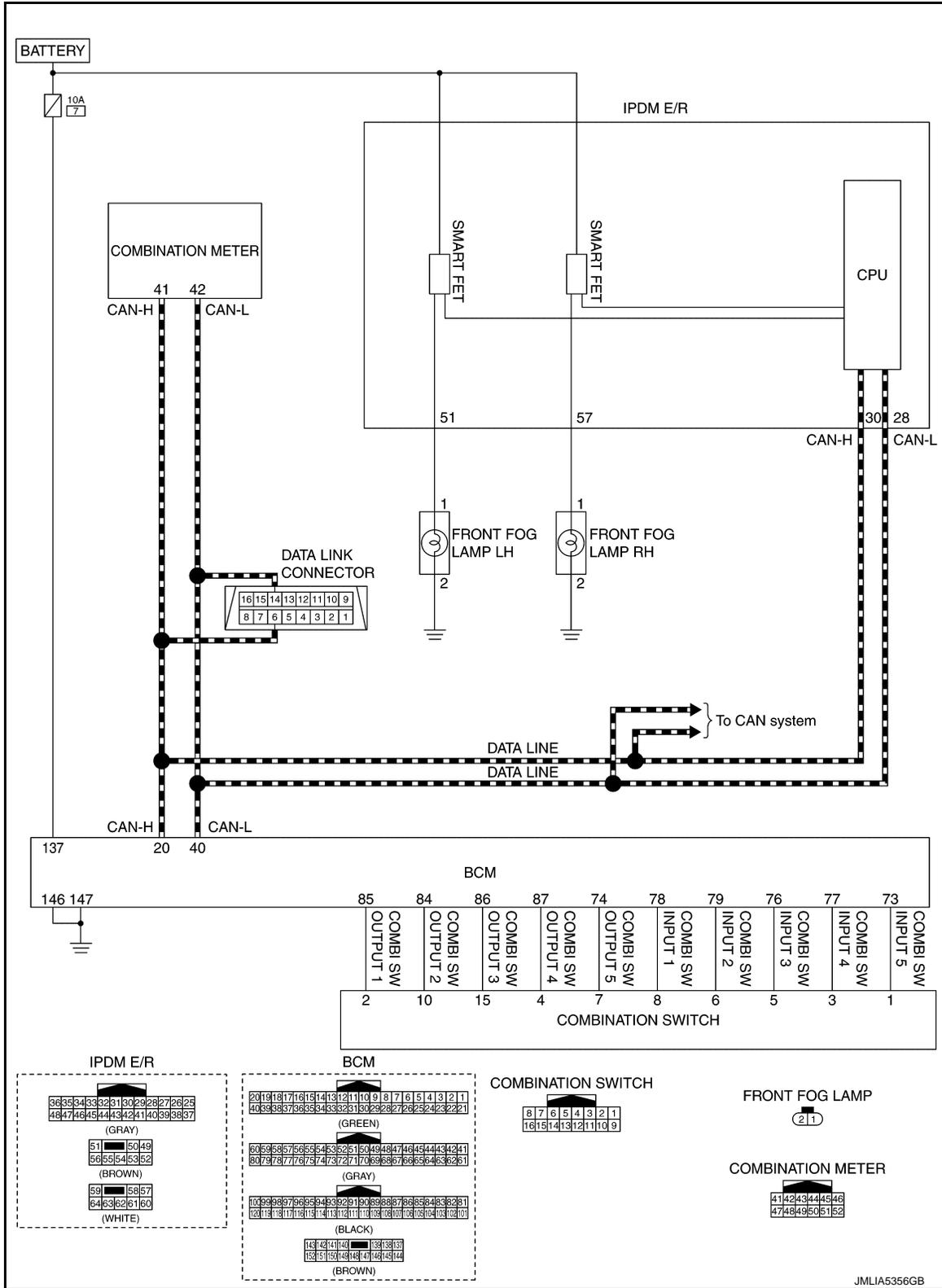
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FRONT FOG LAMP SYSTEM : Circuit Diagram

INFOID:000000010789801



JMLIA5356GB

FRONT FOG LAMP SYSTEM : Fail-safe

INFOID:000000010789802

FAIL-SAFE CONTROL BY DTC

IPDM E/R performs fail-safe control when any DTC are detected.

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

DTC	CONSULT display description		Fail-safe
B121A	FR FOG LAMP LH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp LH power supply circuit until the front fog lamp ON conditions are no longer satisfied.
B1256	FR FOG LAMP RH PWR SPLY CIRC	[CIRC SHORT TO GRND]	Shuts off the power supply to the front fog lamp RH power supply circuit until the front fog lamp ON conditions are no longer satisfied.

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

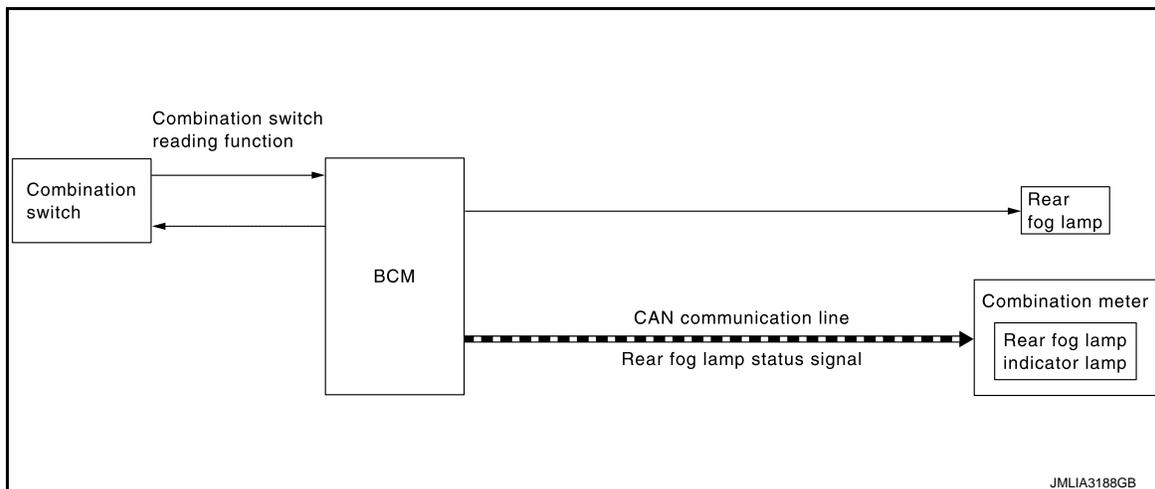
Control part	Fail-safe operation
Front fog lamp	Front fog lamp: OFF

REAR FOG LAMP SYSTEM

REAR FOG LAMP SYSTEM : System Description

INFOID:0000000010789803

SYSTEM DIAGRAM



OUTLINE

Rear fog lamp is controlled with the combination switch reading function and the rear fog lamp control function of BCM.

REAR FOG LAMP OPERATION

- BCM detects the condition of the combination switch by the combination switch reading function.
- BCM supplies voltage to rear fog lamp according to the rear fog lamp ON condition.

Rear fog lamp ON condition

- Rear fog lamp switch is turned from OFF to ON, and any of the following conditions are satisfied.
 - Headlamp ON
 - Front fog lamp ON
 - Lighting switch AUTO (Only when the illumination judgment by auto light system is ON. For details, refer to [EXL-228. "AUTO LIGHT SYSTEM : System Description".](#))
- BCM transmits the rear fog lamp status signal to the combination meter using CAN communication.
- Combination meter turns the rear fog lamp indicator lamp ON according to the rear fog lamp status signal.

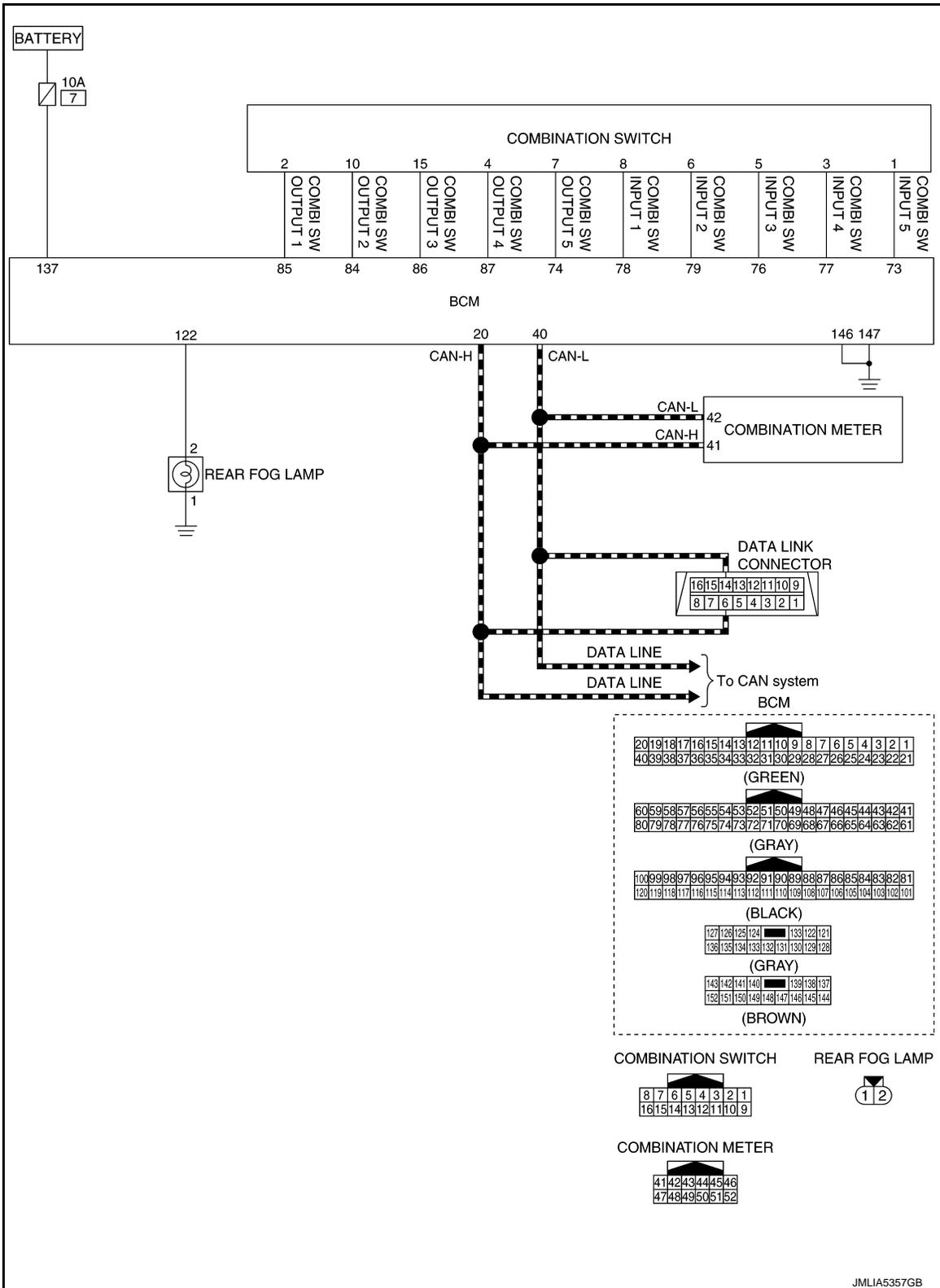
SYSTEM

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

REAR FOG LAMP SYSTEM : Circuit Diagram

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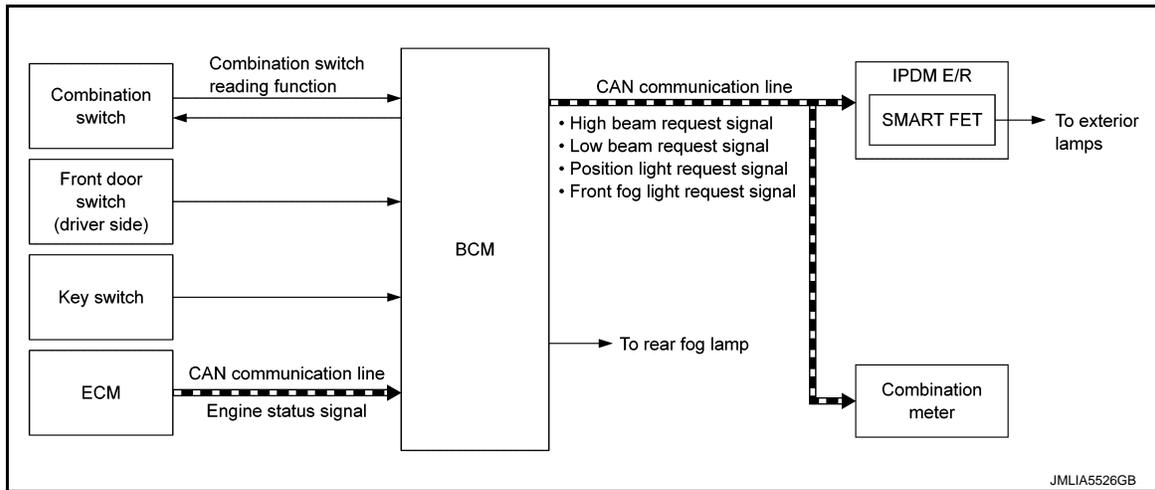


EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000011008683

SYSTEM DIAGRAM



OUTLINE

- Exterior lamp battery saver system is controlled by combination switch reading function and exterior lamp battery saver function of BCM, and smart FET control function of IPDM E/R.
- BCM turns the exterior lamp* OFF, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.

*: Headlamp (LO/HI), front fog lamp, rear fog lamp, parking lamp, license plate lamp and tail lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM turns the exterior lamps OFF (battery saver is activated) when all of the following conditions are satisfied.
 - Exterior lamp: ON
 - Engine status: Running→Stop (ignition switch is turned OFF)
 - Front door switch (driver side) is turned from OFF to ON or key switch is turned from ON to OFF

NOTE:

When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps (except front fog lamp and rear fog lamp) can be turned ON.

- Lighting switch: 1ST or 2ND→OFF or AUTO→1ST or 2ND
- Engine status: Stop→Running

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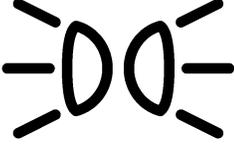
EXL

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

When the driver is exiting the vehicle while ignition is in any position other than ON and lamps are ON, the light reminder warning (information display) displays a warning in the information display to alert the driver.

Symbol	Message
 <p style="text-align: right; font-size: small;">JPNIA1880ZZ</p>	<p>Turn off headlights</p>

SYNCHRONIZATION WITH MASTER WARNING LAMP

Not applicable

SYNCHRONIZATION WITH WARNING CHIME

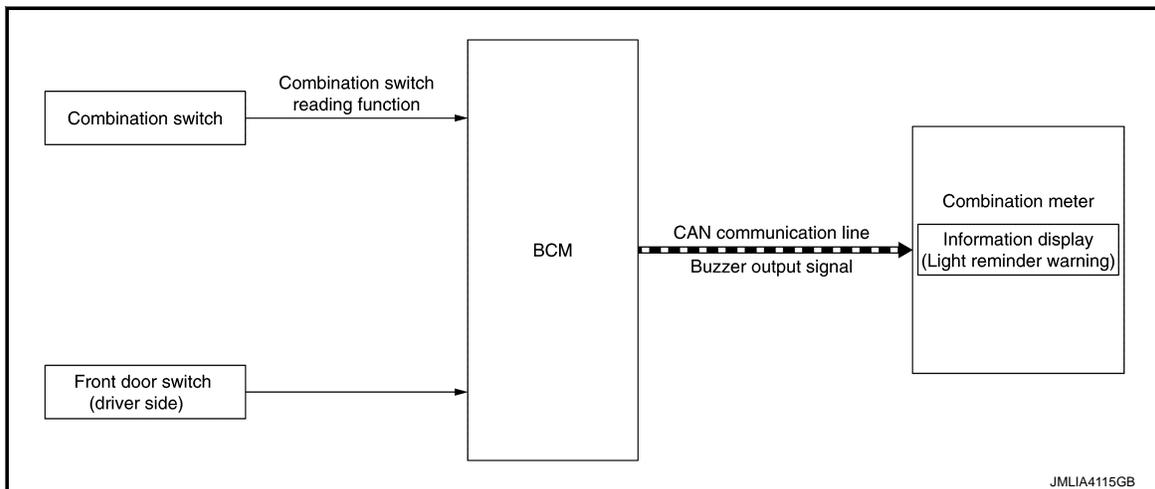
Synchronization is applied.

For warning chime, refer to [WCS-12. "WARNING CHIME : Light Reminder Warning \(Buzzer\)".](#)

OPERATION AT COMBINATION METER CAN COMMUNICATION CUT-OFF OR UNUSUAL SIGNAL

For actions on CAN communications blackout in the combination meter, refer to [MWI-19. "METER SYSTEM : Fail-Safe".](#)

SYSTEM DIAGRAM



SIGNAL PATH

- BCM reads status of combination switch.
- BCM judges light reminder warning (information display) by lighting switch signal and driver door switch (driver side) signal. BCM transmits buzzer output signal to combination meter via CAN communication.
- When combination meter receives the buzzer output signal, "Light reminder warning" pop-up screen appears in the information display.

WARNING/INDICATOR OPERATING CONDITION

When all of the following conditions are satisfied.

- Ignition other than ON
- Lighting switch 1ST or 2ND
- Front door (driver side) OPEN [front door switch (driver side) ON]

WARNING/INDICATOR CANCEL CONDITION

When any of the following conditions are satisfied.

- Ignition ON

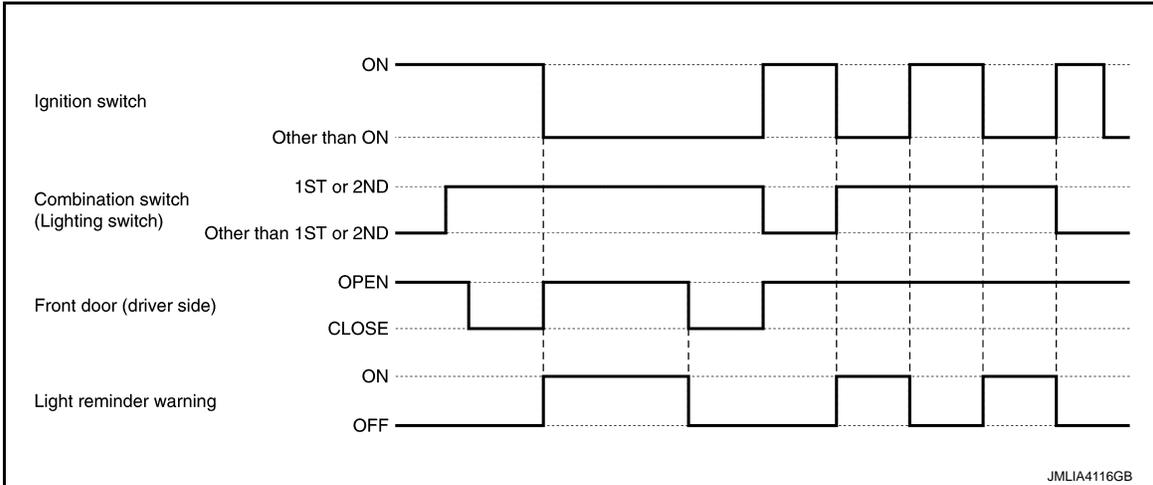
SYSTEM

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

- Lighting switch other than 1ST or 2ND
- Front door (driver side) CLOSE [front door switch (driver side) OFF]

TIMING CHART



WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp

INFOID:000000010789808

Item	Design	Reference
Dipped beam indicator lamp		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-32. "WARNING LAMPS/INDICATOR LAMPS : Dipped Beam Indicator Lamp" .
Front fog lamp indicator lamp*1		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-38. "WARNING LAMPS/INDICATOR LAMPS : Front Fog Lamp Indicator Lamp" .
High beam assist indicator lamp*2		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-40. "WARNING LAMPS/INDICATOR LAMPS : High Beam Assist Indicator Lamp" .
High beam indicator lamp		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-41. "WARNING LAMPS/INDICATOR LAMPS : High Beam Indicator Lamp" .
Position lamp indicator lamp		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-52. "WARNING LAMPS/INDICATOR LAMPS : Position Lamp Indicator Lamp" .
Rear fog lamp indicator lamp		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-53. "WARNING LAMPS/INDICATOR LAMPS : Rear Fog Lamp Indicator Lamp" .
Turn signal indicator lamp		For layout, refer to MWI-10. "METER SYSTEM : Design" . For function, refer to MWI-59. "WARNING LAMPS/INDICATOR LAMPS : Turn Signal Indicator Lamp" .

*1: With front fog lamp

*2: With high beam assist system

SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

WARNING/INDICATOR/CHIME LIST : Warning Chime

INFOID:000000010789809

Item	Reference
Light reminder warning (buzzer)	Refer to WCS-12. "WARNING CHIME : Light Reminder Warning (Buzzer)".
Turn signal operation sound warning	Refer to EXL-236. "TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description".

WARNING/INDICATOR/CHIME LIST : Warning/Indicator (Information Display)

INFOID:000000010789810

Item	Reference
Light reminder warning (information display)	Refer to EXL-250. "INFORMATION DISPLAY (COMBINATION METER) : Light Reminder Warning (Information Display)".

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DIAGNOSIS SYSTEM (BCM)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000011008887

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul style="list-style-type: none"> Read and save the vehicle specification. Write the vehicle specification when replacing BCM.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

×: Applicable item

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

NOTE:

*: This item is displayed, but 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)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

CONSULT screen item	Indication/Unit	Description
BATTERY VOLTAGE	V	Battery voltage of the moment a particular DTC is detected.
VEHICLE SPEED	km/h	Vehicle speed of the moment a particular DTC is detected.
EXTERNAL TEMP	°C	External temperature of the moment a particular DTC is detected
VEHICLE COND	—	NOTE: This item is displayed, but cannot be use this item.
DOOR LOCK STATUS	—	NOTE: This item is displayed, but cannot be use this item.
POWER SUPPLY COUNTER	min	Displays the cumulative time from the time that the battery terminal is connected.

HEADLAMP

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

INFOID:0000000010789812

WORK SUPPORT

Service item	Setting item	Setting
CUSTOM A/LIGHT SETTING	MODE1*	Normal
	MODE2	More sensitive setting than normal setting (Turns ON earlier than normal operation)
	MODE3	More sensitive setting than MODE2 (Turns ON earlier than MODE2)
	MODE4	Less sensitive setting than normal setting (Turns ON later than normal operation)
TWILIGHT On	MODE1	NOTE: This item is displayed, but cannot be used
	MODE2	
WIPER LINK	MODE1	NOTE: This item is displayed, but cannot be used
	MODE2	
	MODE3	
	MODE4	

*: 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]	Indicates [km/h] condition of vehicle speed signal from combination meter

DIAGNOSIS SYSTEM (BCM)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
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]	
HEADLAMP SW [On/Off]	
LIGHT OFF SW [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW* ¹ [On/Off]	
FR FOG SW* ² [On/Off]	
RR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch
OPTI SEN (DTCT) [V]	NOTE: This item is displayed, but cannot be monitored
OPTI SEN (FILT) [V]	NOTE: This item is displayed, but cannot be monitored
OPTICAL SENSOR* ¹ [On/Off/NG]	The sensor condition received from light & rain sensor

*¹: For models without auto light system, this item is displayed, but cannot be monitored.

*²: For models without front fog lamp, this item is displayed, but cannot be monitored.

ACTIVE TEST

Test item	Operation	Description
FR FOG LAMP* ¹	On	<ul style="list-style-type: none"> Transmits the front fog light request signal to IPDM E/R via CAN communication to turn the front fog lamp ON Transmits the front fog light request signal to combination meter via CAN communication to turn the front fog lamp indicator lamp ON
	Off	Stops the front fog light request signal transmission
RR FOG LAMP	On	<ul style="list-style-type: none"> Outputs voltage to turn the rear fog lamp ON Transmits the rear fog lamp status signal to combination meter via CAN communication to turn the rear fog lamp indicator lamp ON
	Off	<ul style="list-style-type: none"> Stops the voltage to turn the rear fog lamp OFF Stops the rear fog lamp status signal transmission

DIAGNOSIS SYSTEM (BCM)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

Test item	Operation	Description
STOP LAMP 1	On	Outputs voltage to turn the stop lamp RH ON
	Off	Stops the voltage to turn the stop lamp RH OFF
STOP LAMP 2	On	Outputs voltage to turn the stop lamp LH ON
	Off	Stops the voltage to turn the stop lamp LH OFF
STOP LAMP 3	On	Outputs voltage to turn the high-mounted stop lamp ON
	Off	Stops the voltage to turn the high-mounted stop lamp OFF
DAYTIME RUNNING LIGHT	On	Transmits the daytime running light request signal to IPDM E/R using CAN communication to turn the daytime running light ON
	Off	Stops the daytime running light request signal transmission
ILL DIM SIGNAL *2	On	Transmits the dimmer signal to NAVI control unit and dims display
	Off	Stops the dimmer signal transmission

*1: For models without front fog lamp, this item is displayed, but cannot be tested.

*2: For models without navigation, this item is displayed, but cannot be tested.

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER) (Halogen Headlamp) INFOID:0000000010789813

WORK SUPPORT

Service item	Setting item	Setting
3-TIME FLASHER SETTING	On*	With 3-time flasher function
	Off	Without 3-time flasher 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 status that BCM detects 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 or keyfob
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key or keyfob
RKE-PANIC [On/Off]	NOTE: This item is displayed, but cannot be monitored

INT LAMP

DIAGNOSIS SYSTEM (BCM)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

INT LAMP : CONSULT Function (BCM - INT LAMP)

INFOID:000000011008890

WORK SUPPORT

Service item	Setting item	Setting
SET I/L D-UNLCK INTCON	On*	With interior room lamp timer function
	Off	Without interior room lamp timer function
FOG LAMP OVERRIDE	On*	With fog override function
	Off	Without fog override 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
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch
CDL LOCK SW [On/Off]	Indicated [On/Off] condition of lock signal from door lock and unlock switch
CDL UNLOCK SW [On/Off]	Indicated [On/Off] condition of unlock signal from door lock and unlock switch
KEY CYL LK-SW [On/Off]	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW [On/Off]	NOTE: This item is displayed, but cannot be monitored
RKE-LOCK [On/Off]	Indicates [On/Off] condition of LOCK signal from Intelligent Key or keyfob
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key or keyfob
KEY SW [On/Off]	Indicates [On/Off] condition of key switch

ACTIVE TEST

Test item	Operation	Description
INT LAMP	On	Outputs interior room lamp control signal.
	Off	Stops interior room lamp control signal.

DIAGNOSIS SYSTEM (BCM)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

DOOR LOCK

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK) (With Intelligent Key System and Super Lock)

INFOID:000000011008893

BCM CONSULT FUNCTION

CONSULT performs the following functions via CAN communication with BCM.

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Anti-hijack function mode can be changed to operation with this mode <ul style="list-style-type: none">• On: Operate• Off: Non-operation
AUTO UNLOCK TYPE	NOTE: This item is displayed, but cannot be used
SIGNATURE LIGHT SETTING	Signature light function can be changed to operation with this mode <ul style="list-style-type: none">• On: Operate• Off: Non-operation

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	Contents
REQ SW-DR	Indicated [On/Off] condition of door request switch (driver side)
REQ SW-AS	Indicated [On/Off] condition of door request switch (passenger side)
REQ SW-BD/TR	Indicated [On/Off] condition of back door request switch
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW	NOTE: This item is displayed, but cannot be monitored
SHOCK SENSOR	NOTE: This item is displayed, but cannot be monitored
KEY SW	NOTE: This item is displayed, but cannot be monitored

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none">• The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched• The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Test item	Description
SUPER LOCK	This test is able to check super lock actuator operation <ul style="list-style-type: none"> • The all door lock actuators are set when "LOCK" on CONSULT screen is touched • The all door lock actuators are released when "UNLOCK" on CONSULT screen is touched
DOOR LOCK IND	This test is able to check door lock status indicator operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK) (With Intelligent Key System, Without Super Lock)

INFOID:000000011008895

BCM CONSULT FUNCTION

CONSULT performs the following functions via CAN communication with BCM.

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Anti-hijack function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
AUTO UNLOCK TYPE	NOTE: This item is displayed, but cannot be used
SIGNATURE LIGHT SETTING	Signature light function can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

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	Contents
REQ SW-DR	Indicated [On/Off] condition of door request switch (driver side)
REQ SW-AS	Indicated [On/Off] condition of door request switch (passenger side)
REQ SW-BD/TR	Indicated [On/Off] condition of back door request switch
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW	NOTE: This item is displayed, but cannot be monitored
SHOCK SENSOR	NOTE: This item is displayed, but cannot be monitored
KEY SW	NOTE: This item is displayed, but cannot be monitored

ACTIVE TEST

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none"> • The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched • The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched
SUPER LOCK	NOTE: This item is displayed, but cannot be used
DOOR LOCK IND	NOTE: This item is displayed, but cannot be used

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK) (Without Intelligent Key System, With Super Lock)

INFOID:000000011008896

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Selective unlock function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
AUTO UNLOCK TYPE	NOTE: This item is displayed, but cannot be used
SIGNATURE LIGHT SETTING	Signature light function can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

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	Contents
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW	NOTE: This item is displayed, but cannot be monitored
SHOCK SENSOR	NOTE: This item is displayed, but cannot be monitored
KEY SW	Indicated [On/Off] condition of key switch

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none"> • The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched • The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Test item	Description
SUPER LOCK	This test is able to check super lock actuator operation <ul style="list-style-type: none"> • The all door lock actuators are set when "LOCK" on CONSULT screen is touched • The all door lock actuators are released when "UNLOCK" on CONSULT screen is touched
DOOR LOCK IND	This test is able to check door lock status indicator operation <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

DOOR LOCK : CONSULT Function (BCM - DOOR LOCK) (Without Intelligent Key System and Super Lock)

INFOID:000000011008897

WORK SUPPORT

Monitor item	Description
DOOR LOCK-UNLOCK SET	Selective unlock function mode can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation
AUTO UNLOCK TYPE	NOTE: This item is displayed, but cannot be used
SIGNATURE LIGHT SETTING	Signature light function can be changed to operation with this mode <ul style="list-style-type: none"> • On: Operate • Off: Non-operation

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	Contents
DOOR SW-DR	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR	Indicated [On/Off] condition of rear door switch RH
DOOR SW-RL	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK	Indicated [On/Off] condition of back door switch
CDL LOCK SW	Indicated [On/Off] condition of lock signal from door lock unlock switch
CDL UNLOCK SW	Indicated [On/Off] condition of unlock signal from door lock unlock switch
KEY CYL LK-SW	NOTE: This item is displayed, but cannot be monitored
KEY CYL UN-SW	NOTE: This item is displayed, but cannot be monitored
SHOCK SENSOR	NOTE: This item is displayed, but cannot be monitored
KEY SW	Indicated [On/Off] condition of key switch

ACTIVE TEST

Test item	Description
DOOR LOCK	This test is able to check door lock/unlock operation <ul style="list-style-type: none"> • The all door lock actuators are locked when "ALL LOCK" on CONSULT screen is touched • The all door lock actuators are unlocked when "ALL UNLK" on CONSULT screen is touched
SUPER LOCK	NOTE: This item is displayed, but cannot be monitored
DOOR LOCK IND	NOTE: This item is displayed, but cannot be monitored

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000011008889

APPLICATION ITEM

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

Diagnosis mode	Description
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.
Work Support	Changes the setting for each system function.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
Ecu Identification	Allows confirmation of IPDM E/R part number.
Configuration	<ul style="list-style-type: none"> • Read and save the vehicle specification. • White the vehicle specification when replacing IPDM E/R.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to [PCS-38, "DTC Index"](#).

Freeze Frame Data (FFD)

The IPDM E/R records the vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

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
REVERSE SIGNAL [Open/Close]	Displays the status of reverse position signal judged by IPDM E/R.
IGN RELAY [Open/Close]	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Open/Close]	Displays the status of the push-button ignition switch judged by IPDM E/R.
NEUTRAL SW [Open/Close]	Displays the status of the neutral position signal (M/T) judged by IPDM E/R.
INTERLOCK/PNP SW [Open/Close]	Displays the status of the transmission range switch (CVT) judged by IPDM E/R.
OIL PRESSURE SW [Open/Close]	Displays the status of the oil pressure switch judged by IPDM E/R.
LED H/L RH STATUS [Open/Close]	Displays the LED headlamp (right) ON/OFF status judged by IPDM E/R. NOTE: This item is monitored only on the vehicle with LED headlamp.
LED H/L LH STATUS [Open/Close]	Displays the LED headlamp (left) ON/OFF status judged by IPDM E/R. NOTE: This item is monitored only on the vehicle with LED headlamp.
HOOD SW [Open/Close]	Displays the status of the hood switch judged by IPDM E/R.
COMPRESSOR [Off/On]	Displays the compressor drive status judged by IPDM E/R.
H/L WASHER PUMP [Off/On]	Displays the status of the headlamp washer relay judged by IPDM E/R.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Monitor Item [Unit]	Description
HORN RELAY [Off/On]	Displays the status of the horn relay judged by IPDM E/R.
COOLING FAN [Off/On]	Displays the cooling fan relay-4 drive status judged by IPDM E/R.
FRONT WIPER HI/LO RELAY [Off/On]	Displays the front wiper HI/LO relay drive status judged by IPDM E/R.
FRONT WIPER RELAY [Off/On]	Displays the front wiper relay drive status judged by IPDM E/R.
IGN RELAY OFF STATUS [Off/On]	Displays the status of the ignition relay OFF circuit judged by IPDM E/R.
IGN RELAY ON STATUS [Off/On]	Displays the status of the ignition relay ON circuit judged by IPDM E/R.
STEERING LOCK PWR SPLY [Off/On]	Displays the power supply status from IPDM E/R to the steering lock unit. NOTE: This item is monitored only on the vehicle with Intelligent Key system
HEIGHT SENSOR PWR SPLY [Off/On]	Displays the power supply status from IPDM E/R to the height sensor.
COOLING FAN RELAY 1 [Off/On]	Displays the status of the cooling fan relay-1 judged by IPDM E/R.
STARTER RELAY [Off/On]	Displays the status of the starter relay judged by IPDM E/R.
COMP ECV DUTY [%]	Displays the compressor control signal (PWM) status of IPDM E/R.
COOLING FAN RELAY 2 [%]	Displays the status of the cooling fan relay-5 judged by IPDM E/R.
FR FOG LAMP LH [%]	Displays the front fog lamp (left) output (PWM) status of IPDM E/R.
FR FOG LAMP RH [%]	Displays the front fog lamp (right) output (PWM) status of IPDM E/R.
LEVELIZER OUTPUT [%]	Displays the aiming motor drive signal (PWM) status of IPDM E/R.
PARKING LAMP [%]	Displays the parking lamp output (PWM) status of IPDM E/R.
TAIL LAMP LH [%]	Displays the tail lamp (left) output (PWM) status of IPDM E/R.
TAIL LAMP RH [%]	Displays the tail lamp (right) output (PWM) status of IPDM E/R.
DAYTIME RUNNING LIGHT LH [%]	Displays the daytime running light (left) output status of IPDM E/R.
DAYTIME RUNNING LIGHT RH [%]	Displays the daytime running light (right) output status of IPDM E/R.
HEADLAMP (HI) LH [%]	Displays the headlamp (HI) (left) output (PWM) status of IPDM E/R.
HEADLAMP (HI) RH [%]	Displays the headlamp (HI) (right) output (PWM) status of IPDM E/R.
HEADLAMP (LO) LH [%]	Displays the headlamp (LO) (left) output (PWM) status of IPDM E/R.
HEADLAMP (LO) RH [%]	Displays the headlamp (LO) (right) output (PWM) status of IPDM E/R.
A/C RELAY STUCK [OK/NG]	Displays the ON stuck status of the A/C relay judged by IPDM E/R.

DIAGNOSIS SYSTEM (IPDM E/R)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
A/C RELAY [Off/On]	Displays the status of the A/C relay judged by IPDM E/R.
COMP ECV STATUS [OK/NG]	Displays the compressor malfunction diagnosis status judged by IPDM E/R.
VEHICLE SECURITY HORN [Off/On]	NOTE: The item is indicated, but not monitored.
BATTERY CURRENT SENSOR [OK/NG]	Displays the battery current sensor malfunction diagnosis status judged by IPDM E/R.
FRONT FOG LAMP [Off/On]	Displays the fog lamp illumination control status of IPDM E/R.
COMP ECV CURRENT [A]	Displays the electric current output to compressor judged by IPDM E/R.
BATTERY VOLTAGE [V]	Displays the status of the battery voltage judged by IPDM E/R.
COOLING FAN DUTY [%]	Displays the cooling fan output signal status of IPDM E/R.
HOOD SW (CAN) [Open/Close/NG]	Displays the status of the hood switch judged by IPDM E/R.
FRONT WIPER [STOP/HIGH/LOW/NG]	Displays the front wiper motor drive control status of IPDM E/R.
FR WIPER STOP POSITION [ACTIVE P/STOP P]	Displays the status of the front wiper position status judged by IPDM E/R.
HEADLAMP (HI) [Off/On]	Displays the headlamp (HI) illumination control status of IPDM E/R.
HEADLAMP (LO) [Off/On]	Displays the headlamp (LO) illumination control status of IPDM E/R.
IGNITION RELAY STATUS [Off/On]	Displays the ignition relay output status of IPDM E/R.
IGN RELAY MONITOR [Off/On]	Displays the status of the ignition relay judged by IPDM E/R.
IGNITION POWER SUPPLY [Off/On]	Displays the status of the ignition power supply judged by IPDM E/R.
INTERLOCK/PNP SW (CAN) [Off/On]	Displays the status of the transmission range switch signal that IPDM transmits via CAN communication.
NEUTRAL SWITCH (CAN) [Off/On/NG]	Displays the status of the neutral position switch (M/T) signal that IPDM transmits via CAN communication.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Displays the status of the ignition switch signal that IPDM transmits via CAN communication.
TAIL LAMP [Off/On]	Displays the tail lamp illumination control status of IPDM E/R.
REVERSE SIGNAL (CAN) [Off/On/NG]	Displays the status of the reverse switch (M/T) signal that IPDM transmits via CAN communication.
ST&ST CONT RELAY STATUS [Off/Off, ON/ST R On]	Displays the status of the start control relay and start motor relay status judged by IPDM E/R.
STARTER MOTOR STATUS [Off/On/L-TIME]	Displays the status of the starter motor judged by IPDM E/R.
STARTER RELAY (CAN) [LOW/HIGH/NG]	Displays the status of the IPDM E/R transmits the starter control relay status signal via CAN communication.
IPDM NOT SLEEP [NO RDY/READY]	Displays the status of the IPDM E/R transmits the not sleep signal via CAN communication.

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DIAGNOSIS SYSTEM (IPDM E/R)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
AFTER COOLING TIME [No request/0.5min/1.0min/1.5min/ 2.0min/2.5min/3.0min/3.5min/4min/5min/ 6min/8min/10min/12min/14min/16min]	NOTE: The item is indicated, but not monitored.
AFTER COOLING SPEED [0%/25%/40%/55%/70%/78%/85%/ 100%]	NOTE: The item is indicated, but not monitored.
COOLING FAN TYPE [RENAULT/NISSAN]	NOTE: The item is indicated, but not monitored.
COMPRESSOR REQ 1 [Off/On]	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
VHCL SECURITY HORN REQ [Off/On]	NOTE: The item is indicated, but not monitored.
DTRL REQ [Off/On]	Displays the status of the daytime running light request signal received from BCM via CAN communication.
SLEEP/WAKE UP [SLEEP/WAKEUP]	NOTE: The item is indicated, but not monitored.
CLUTCH INTERLOCK SW [Off/On/NG]	NOTE: The item is indicated, but not monitored.
CRANKING ENABLE-TCM [OK/NG]	Displays the status of the cranking enable signal received from TCM via CAN communication.
CRANKING ENABLE-ECM [OK/NG/STOP/No request]	Displays the status of the cranking enable signal received from ECM via CAN communication.
CAN DIAGNOSIS [OK/NG]	Displays the status of the CAN diagnosis signal received from BCM via CAN communication.
FRONT FOG LAMP REQ [Off/On]	Displays the status of the front fog light request signal received from BCM via CAN communication.
H/L WASHER REQ [Off/On]	Displays the status of the headlamp washer request signal received from BCM via CAN communication.
PASSING REQ [Off/On]	NOTE: The item is indicated, but not monitored.
HIGH BEAM REQ [Off/On]	Displays the status of the high beam request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]	Displays the status of the horn reminder signal received from BCM via CAN communication.
COOLING FAN REQ [%]	Displays the status of the cooling fan speed request signal received from ECM via CAN communication.
ENGINE STATUS [STOP/IDLING/RUN]	Displays the status of the engine status signal received from ECM via CAN communication.
TURN SIGNAL REQ [Off/LH/RH]	Displays the status of the turn indicator signal received from BCM via CAN communication.
FR WIPER REQ [RETURN/STOP/NG/LOW/HIGH]	Displays the status of the front wiper request signal received from BCM via CAN communication.
SHIFT POSITION [OFF/P/R/N/D/S/L/B/1/2/3/4/5/6/7]	Displays the status of the shift position signal received from TCM via CAN communication.
LOW BEAM REQ [Off/On]	Displays the status of the low beam request signal received from BCM via CAN communication.
POSITION LIGHT REQ [Off/On]	Displays the status of the position light request signal received from BCM via CAN communication.
COMPRESSOR REQ 2 [Off/On]	Displays the status of the A/C ON signal received from A/C auto amp. via CAN communication.
IGNITION SW [Off/On/START/No request]	Displays the status of the ignition switch ON signal and starter control relay request signal received from BCM via CAN communication.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Monitor Item [Unit]	Description
VEHICLE SPEED (METER) [km/h]	Displays the status of the A/C ON signal received from A/C auto amp. via CAN communication.
BAT DISCHARGE COUNT [—]	Monitor the cumulative discharge value of the battery. NOTE: When 65,000 or more is counted, replace the battery.
P LAMP CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the parking lamp circuit. NOTE: When the number of parking lamp circuit retries count is 20, this item counts 1.
NMB P LAMP CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the parking lamp circuit. NOTE: When the number of short circuits in the parking lamp circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB P LAMP CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the parking lamp circuit.
DTRL LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (left) circuit. NOTE: When the number of daytime running light (left) circuit retries count is 20, this item counts 1.
NMB DTRL LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (left) circuit. NOTE: When the number of short circuits in the daytime running light (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (left) circuit.
DTRL RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the daytime running light (right) circuit. NOTE: When the number of daytime running light (right) circuit retries count is 20, this item counts 1.
NMB DTRL RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the daytime running light (right) circuit. NOTE: When the number of short circuits in the daytime running light (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB DTRL RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the daytime running light (right) circuit.
F FOG LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (left) circuit. NOTE: When the number of front fog lamp (left) circuit retries count is 20, this item counts 1.
NMB F FOG LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (left) circuit. NOTE: When the number of short circuits in the front fog lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (left) circuit.
F FOG RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the front fog lamp (right) circuit. NOTE: When the number of front fog lamp (right) circuit retries count is 20, this item counts 1.

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Monitor Item [Unit]	Description
NMB F FOG RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the front fog lamp (right) circuit. NOTE: When the number of short circuits in the front fog lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB F FOG RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the front fog lamp (right) circuit.
HL (HI) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (left) circuit. NOTE: When the number of headlamp (HI) (left) circuit retries count is 20, this item counts 1.
NMB HL (HI) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (left) circuit. NOTE: When the number of short circuits in the headlamp (HI) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (left) circuit.
HL (HI) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (HI) (right) circuit. NOTE: When the number of headlamp (HI) (right) circuit retries count is 20, this item counts 1.
NMB HL (HI) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (HI) (right) circuit. NOTE: When the number of short circuits in the headlamp (HI) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (HI) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (HI) (right) circuit.
S/L CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the steering lock circuit. NOTE: When the number of steering lock circuit retries count is 20, this item counts 1.
NMB S/L CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the steering lock circuit. NOTE: When the number of short circuits in the steering lock circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB S/L CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the steering lock circuit.
HL (LO) LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (left) circuit. NOTE: When the number of headlamp (LO) (left) circuit retries count is 20, this item counts 1.
NMB HL (LO) LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (left) circuit. NOTE: When the number of short circuits in the headlamp (LO) (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (left) circuit.
HL (LO) RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the headlamp (LO) (right) circuit. NOTE: When the number of headlamp (LO) (right) circuit retries count is 20, this item counts 1.

DIAGNOSIS SYSTEM (IPDM E/R)

[HALOGEN HEADLAMP]

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
NMB HL (LO) RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the headlamp (LO) (right) circuit. NOTE: When the number of short circuits in the headlamp (LO) (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB HL (LO) RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the headlamp (LO) (right) circuit.
T LAMP LH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (left) circuit. NOTE: When the number of tail lamp (left) circuit retries count is 20, this item counts 1.
NMB T LAMP LH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (left) circuit. NOTE: When the number of short circuits in the tail lamp (left) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP LH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (left) circuit.
T LAMP RH CIRC MALFUNCTN [0 – 1]	Monitor the number of times that the smart FET in IPDM E/R reaches the retry upper limit of the tail lamp (right) circuit. NOTE: When the number of tail lamp (right) circuit retries count is 20, this item counts 1.
NMB T LAMP RH CIRC RETRY [0 – 20]	Monitor the number of times that the smart FET in IPDM E/R permits the retry of the tail lamp (right) circuit. NOTE: When the number of short circuits in the tail lamp (right) circuit count is 5 and the ignition switch OFF to ON operation is detected, this item counts 1.
NMB T LAMP RH CIRC SHORT [0 – 5]	Monitor the number of times that the smart FET in IPDM E/R detects the over current of the tail lamp (right) circuit.
BATTERY STATUS [OK/NG]	Monitor the battery status from the battery output.

ACTIVE TEST

Test item	Operation	Description
HORN	Off	OFF
	On	Operates horn relay for 20 ms.
HEADLAMP WASHER	Off	OFF
	On	Operates headlamp washer relay for 10 ms.
FRONT WIPER	Off	OFF
	Low	Operates the front wiper relay.
	High	Operates the front wiper relay and front wiper HI/LO relay.
COMPRESSOR	Off	OFF
	On	Operates the A/C relay.
COOLING FAN (MONO)	Off	OFF
	Lo	Run the cooling fan at low speed.
	Hi	Run the cooling fan at high speed.
HEADLAMP (HI)	Off	OFF
	On	Operates the headlamp (HI)
HEADLAMP (LO)	Off	OFF
	On	Operates the headlamp (LO).

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Test item	Operation	Description
FRONT FOG LAMP	Off	OFF
	On	Operates the front fog lamp.
DAYTIME RUNNING LIGHT	Off	OFF
	On	Operates the parking lamp (daytime running light operation).
PARKING LAMP	Off	OFF
	On	Operates the parking lamp.
TAIL LAMP	Off	OFF
	On	Operates the tail lamp.
OPTIC AXIS ACTIVE TEST	Default	Return the optical axis to the default position. NOTE: While the headlamp is OFF, it does not return to the default position.
	Lower	Adjust the optical axis to the lowermost point.

WORK SUPPORT

Work item	Description
SENSOR INITIALIZE	Adjusts the height sensor signal output value in the unloaded vehicle condition.
CML B/DCHRG CRNT CLEAR	In this mode, cumulative battery discharge current is cleared.

BCM, IPDM E/R, FRONT CAMERA UNIT

< ECU DIAGNOSIS INFORMATION >

[HALOGEN HEADLAMP]

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R, FRONT CAMERA UNIT

List of ECU Reference

INFOID:0000000010789818

ECU	Reference
BCM	BCS-53, "Reference Value"
	BCS-76, "Fail-safe"
	BCS-77, "DTC Inspection Priority Chart"
	BCS-78, "DTC Index"
IPDM E/R	PCS-22, "Reference Value"
	PCS-34, "Fail-safe"
	PCS-37, "DTC Inspection Priority Chart"
	PCS-38, "DTC Index"
Front camera unit*	DAS-51, "Reference Value"
	DAS-55, "Fail-safe (Front Camera Unit)"
	DAS-56, "DTC Inspection Priority Chart"
	DAS-56, "DTC Index"

*: With high beam assist system

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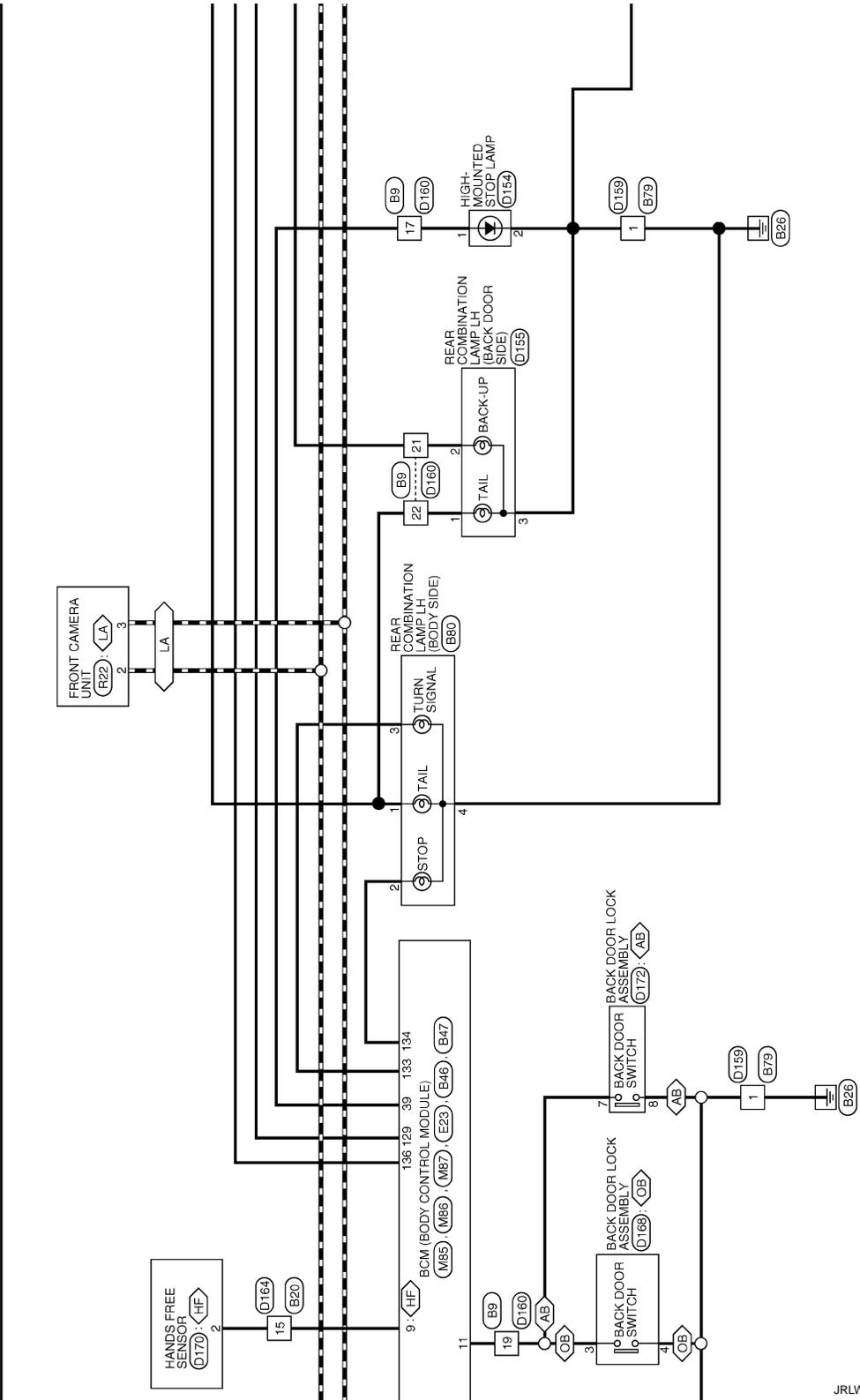
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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

IS : With Stop / Start System
OS : Without Stop / Start System
HF : With hands free sensor models
CS : With Sonar System OFF switch
WC : Without Sonar System OFF switch

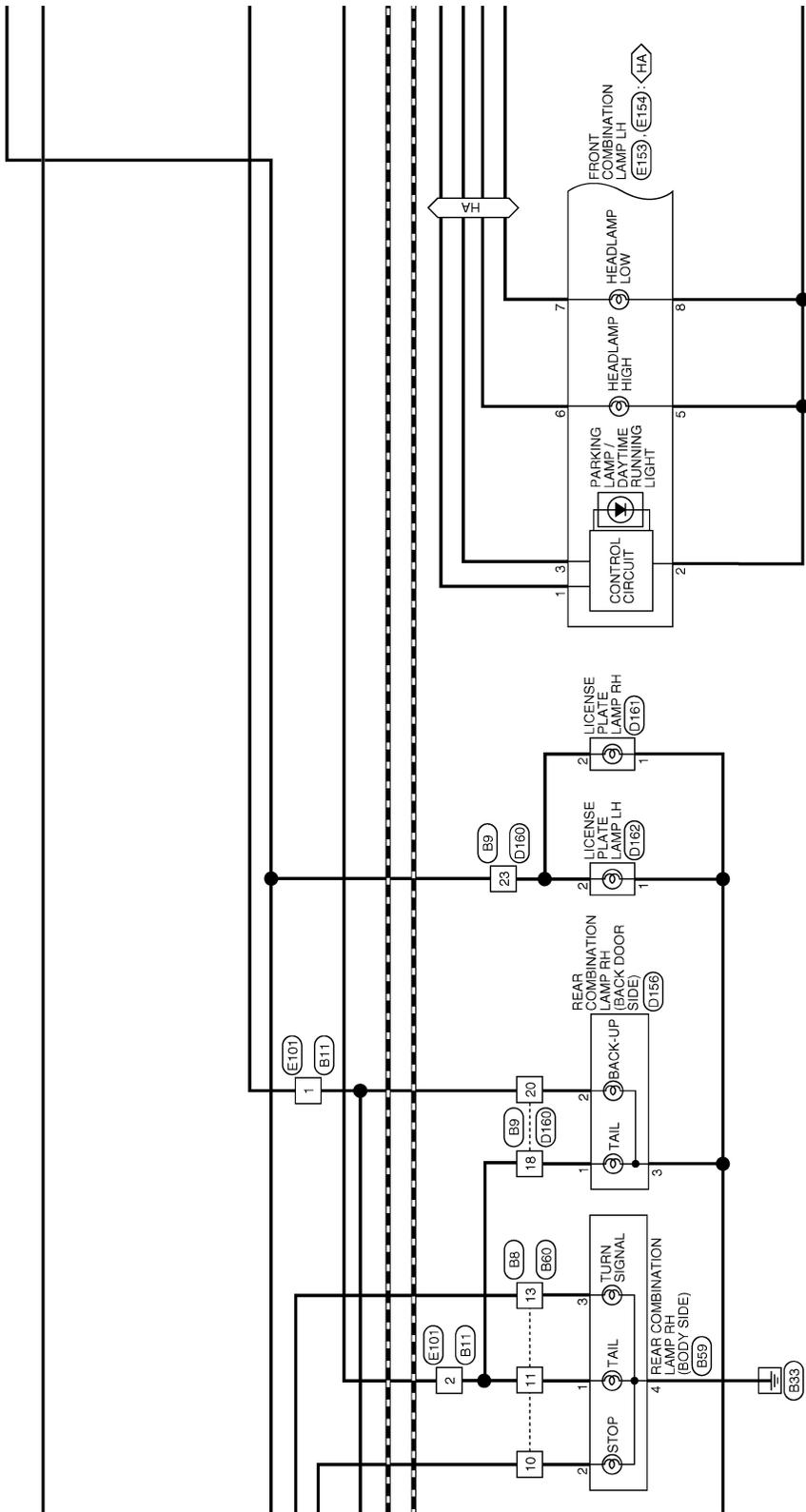


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EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]



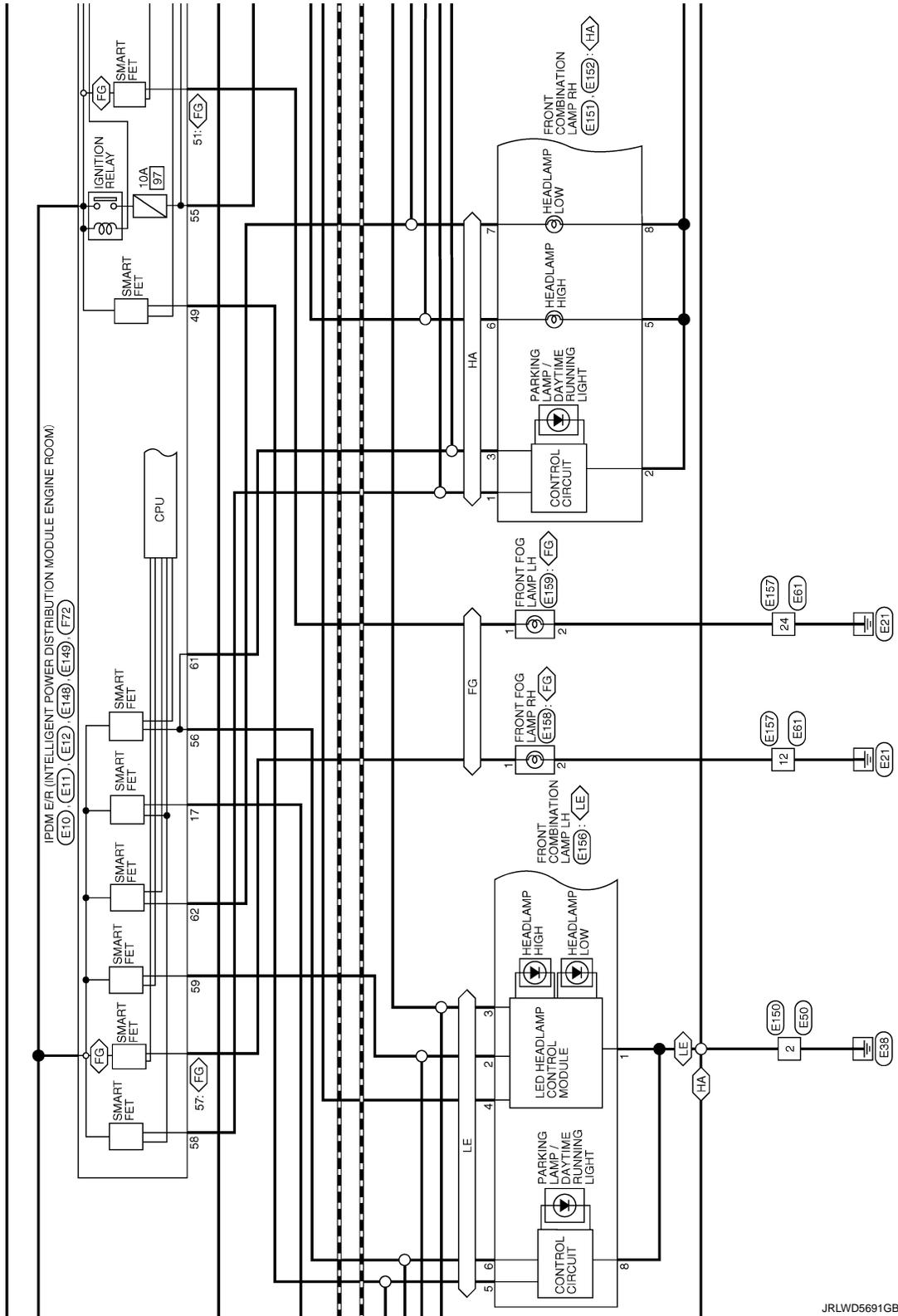
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EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]

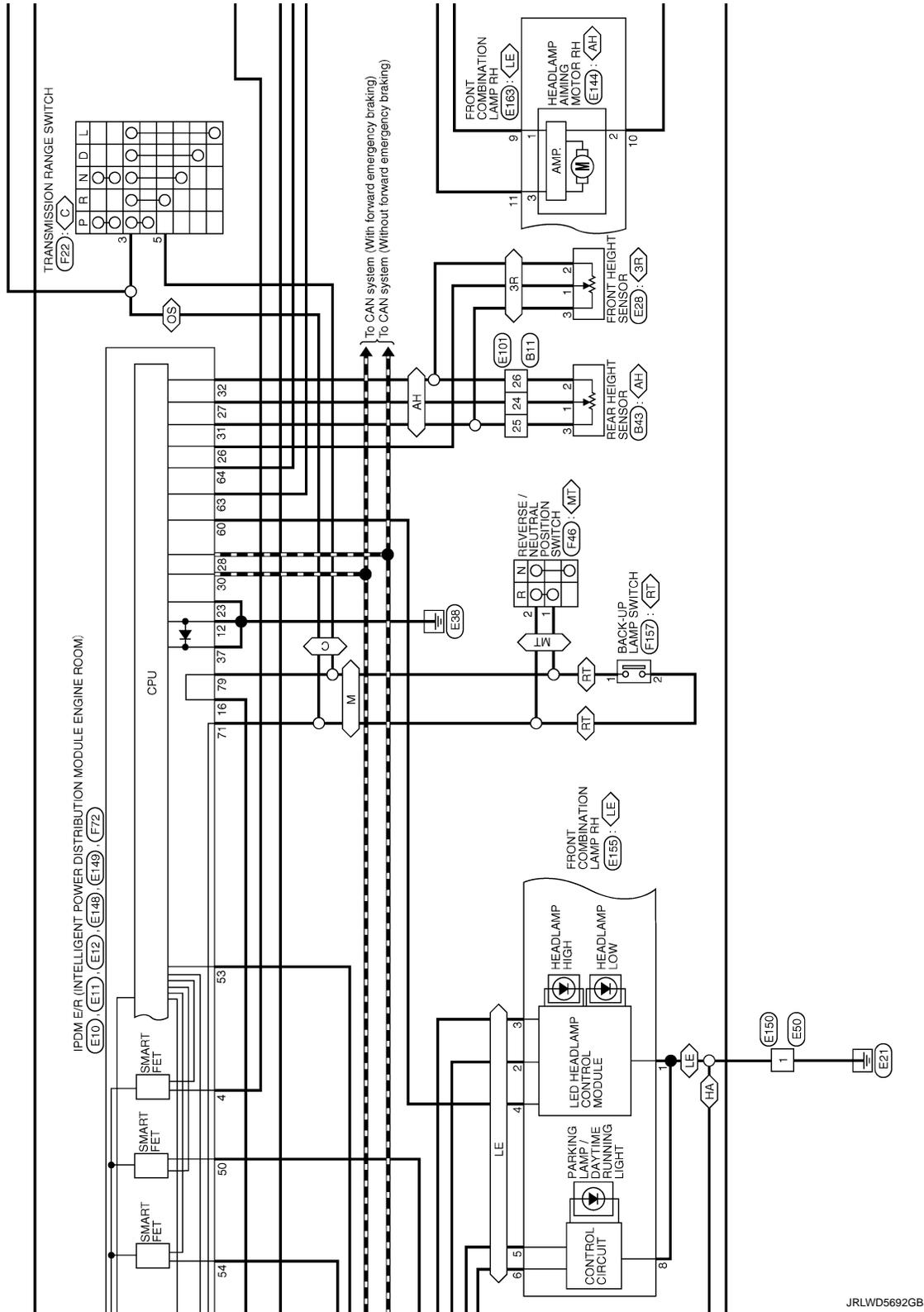


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EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]

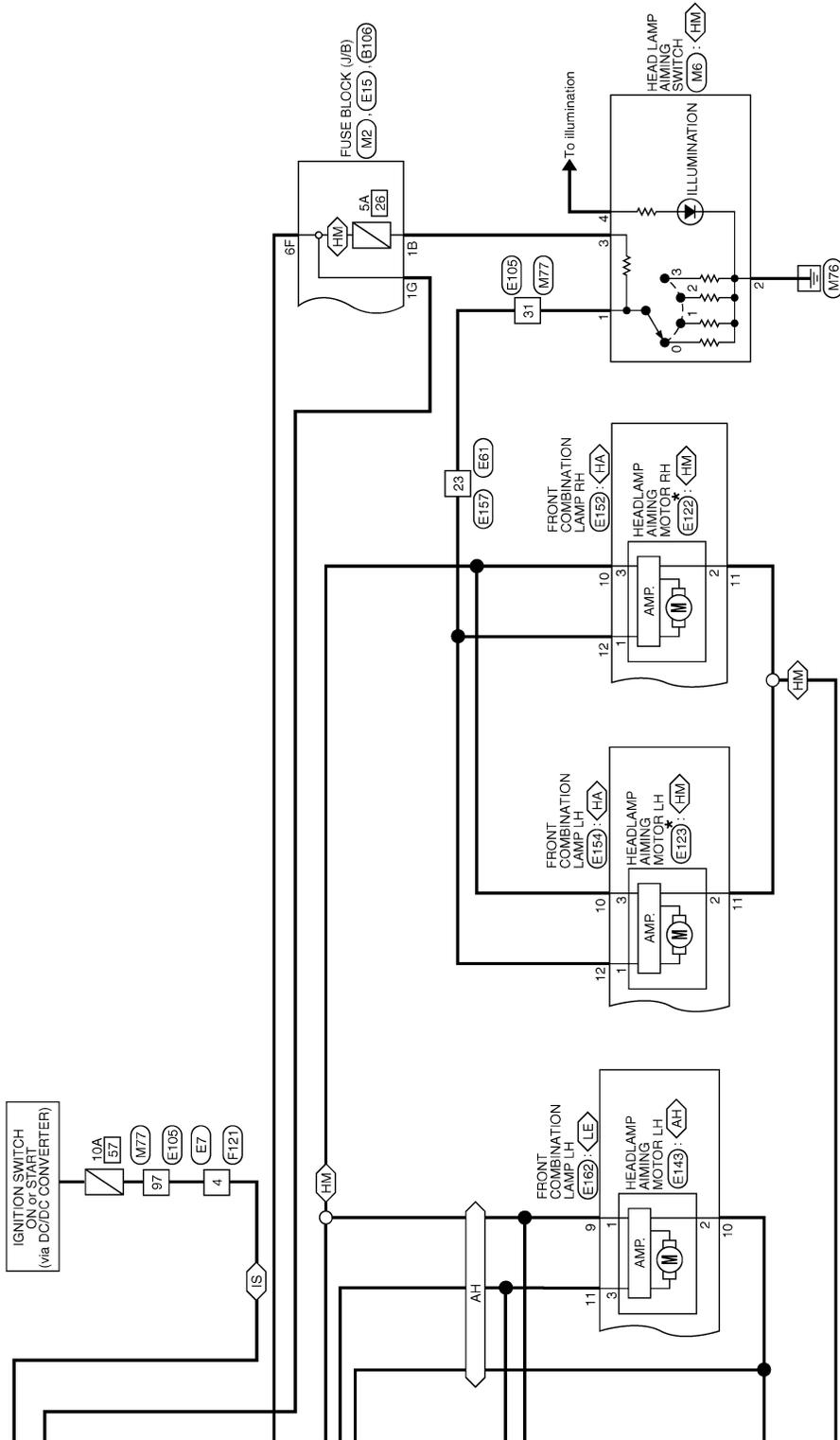


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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



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

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	B8
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

Terminal Color Of No.	Wire	Signal Name [Specification]
1	V	-
2	G	-
3	P	-
6	L	-
7	L	-
8	SB	-
9	R	-
10	LAV	-
11	LAVR	-
12	W	-
13	P	-
14	R	-
15	P	-
16	P	-

Connector No.	B9
Connector Name	WIRE TO WIRE
Connector Type	TH22MW-NH



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal Color Of No.	Wire	Signal Name [Specification]
4	W	-
5	R	-
6	B	-
7	W	-
8	SHIELD	-

13	W	-
14	V	-
15	BR	-
16	SB	-
17	LAV	-
18	LAVR	-
19	LG	-
20	LAVG	-
21	LAVG	-
22	LAVR	-
23	LAVR	-
24	R	-
29	Y	-
30	G	-
31	GR	-
32	LG	-

Connector No. B11

Connector Name WIRE TO WIRE

Connector Type TH8MDCY-ZS16-TM4



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Terminal Color Of No.	Wire	Signal Name [Specification]
1	G	-
2	LAVR	-
5	BG	-
11	BR	-
12	W	-
13	P	-
14	SB	-
15	V	-
16	P	-
17	P	-
18	G	-
19	P	-
20	R	-
21	BR	-
22	Y	-
23	BG	-
24	SB	-

25	G	-
26	B	-
27	P	-
28	R	-
29	LG	-
30	P	-
92	BR	-
93	GR	-
94	Y	-
95	LG	-
97	LG	-

Connector No.	B20
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7		
8	9	10	11	12	13	14	15	16

Terminal Color Of No.	Wire	Signal Name [Specification]
8	LAVG	-
9	LAVR	-
10	LAV	-
12	L	-
13	SB	-
14	R	-
15	G	-
16	W	-

Connector No.	B27
Connector Name	FRONT DOOR SWITCH (PASSENGER SIDE)
Connector Type	TH04FW-NH



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Terminal Color Of No.	Wire	Signal Name [Specification]
3	GR	- [For LHD models]
3	SB	- [For RHD models]

Connector No.	B34
Connector Name	FRONT DOOR SWITCH (DRIVER SIDE)
Connector Type	TH04FW-NH



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Terminal Color Of No.	Wire	Signal Name [Specification]
3	SB	-

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EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]

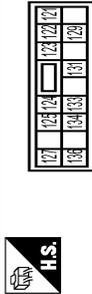
EXTERIOR LIGHTING SYSTEM

Connector No.	B43
Connector Name	REAR HEIGHT SENSOR
Connector Type	RH03FB



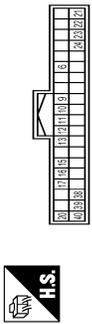
Terminal No.	Color Of Wire	Signal Name [Specification]
1	SB	-
2	B	-
3	G	-

Connector No.	B46
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FY-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
121	LAV	BACK DOOR OPENER CONT
122	Y	REAR FOG LAMP OUTPUT
123	LA/R	REAR WIPER OUTPUT
124	W	REAR DOOR UNLOCK OUTPUT
125	L	REAR DOOR LOCK OUTPUT
127	R	LUGGAGE ROOM LAMP CONT
129	LA/W	STOP LAMP LH OUT
131	R	REAR DOOR SUPERLOCK OUTPUT
133	GR	TURN SIG LH (REAR)
134	LAV	STOP LAMP RH OUT
136	P	TURN SIG RH (REAR)

Connector No.	B47
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH04FG-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
6	R	BACK DOOR OPENER REQUEST SW
9	G	HANDS FREE SENSOR
10	W	REAR RH DOOR SW
11	LG	BACK DOOR SW
12	R	REAR LH DOOR SW
13	SB	PASSENGER DOOR SW
15	LAG	REAR WIPER AUTO STOP
16	Y	BACK DOOR OPENER SW
17	SB	DRIVER DOOR SW
20	L	CANH
21	BR	BUMPER ANTENNA(-)
22	Y	REAR ANTENNA(-)
23	L	REAR ANTENNA(+)
24	G	BUMPER ANTENNA(+)
38	V	SIREN
39	LA/W	HIGH-MOUNTED STOP LAMP
40	P	CANH

Connector No.	B53
Connector Name	REAR DOOR SWITCH/RH
Connector Type	TH04FM-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	W	-

Connector No.	B54
Connector Name	OPTION CONNECTOR (13)
Connector Type	NS02MBRC-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	R	-

Connector No.	B55
Connector Name	OPTION CONNECTOR (14)
Connector Type	NS02FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	-
2	SB	-

Connector No.	B59
Connector Name	REAR COMBINATION LAMP (RH BODY SIDE)
Connector Type	NS04MV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LA/R	-
2	LAV	-
3	LAV	-
4	B	-

Connector No.	B60
Connector Name	WIRE TO WIRE
Connector Type	NS16FY-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LALG	-
2	LA/GR	-
3	P	-
6	L	-
7	L	-
8	GR	- [For LHD models]
8	SB	- [For RHD models]
9	LA/R	-
10	LAV	-
11	LA/R	-
12	W	-
13	LAV	-
14	R	-
15	P	-
16	P	-

JRLWD5695GB

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	B71
Connector Name	REAR DOOR SWITCH LH
Connector Type	TH04FW-NH



Terminal Color Of No.	Wire	Signal Name [Specification]
3	R	-

Connector No.	B79
Connector Name	WIRE TO WIRE
Connector Type	M02MW-LC



Terminal Color Of No.	Wire	Signal Name [Specification]
1	B	-

Connector No.	B80
Connector Name	REAR COMBINATION LAMP (LH BODY SIDE)
Connector Type	NS04MW-GS



Terminal Color Of No.	Wire	Signal Name [Specification]
1	LA/R	-
2	LA/Y	-
3	GR	-
4	B	-

Connector No.	B106
Connector Name	FUSE BLOCK (JIB)
Connector Type	NS06FW-GS



Terminal Color Of No.	Wire	Signal Name [Specification]
1G	LA/R	-
2G	P	-
3G	G	-
4G	P	-
5G	G	-

Connector No.	B134
Connector Name	WIRE TO WIRE
Connector Type	RH08MB



Terminal Color Of No.	Wire	Signal Name [Specification]
4	SB	-
8	B	-

Connector No.	B135
Connector Name	WIRE TO WIRE
Connector Type	RH08MB



Terminal Color Of No.	Wire	Signal Name [Specification]
4	SB	-
8	B	-

Connector No.	B153
Connector Name	WIRE TO WIRE
Connector Type	RH08FB



Terminal Color Of No.	Wire	Signal Name [Specification]
4	Y	-
8	B	-

Connector No.	B154
Connector Name	WIRE TO WIRE
Connector Type	RH08FB



Terminal Color Of No.	Wire	Signal Name [Specification]
4	Y	-
8	B	-

Connector No.	B155
Connector Name	REAR FOG LAMP
Connector Type	RS02FGY



Terminal Color Of No.	Wire	Signal Name [Specification]
1	B	-
2	Y	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

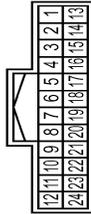
EXTERIOR LIGHTING SYSTEM

Connector No.	B156
Connector Name	REAR FOG LAMP
Connector Type	RS02FGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	Y	-

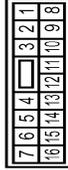
Connector No.	D1
Connector Name	WIRE TO WIRE
Connector Type	TR24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAVB	-
2	LAVB	-
3	W	-
4	V	-
5	SB	-
6	LG	-
7	GR	-
8	G	-
9	Y	-
10	B	-
11	R	-
13	LAW	-
14	LAW	-
15	LAVG	-
16	LAV	-
17	LAVL	-
18	LAVS	-
19	LAVR	-

22	LAG
23	L
24	BG

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAV	-
2	R	-
3	LAG	-
4	B	-
5	B	-
6	LAVL	-
7	LAVR	-
8	SB	-
9	LAVR	-
10	LAVS	-
11	P	-
12	LG	-
13	LAV	-
14	LAW	-
15	LAVR	-
16	B	-

Connector No.	D3
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH16MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	-
3	LAP	-
4	LAVR	-
5	LAW	-
7	GR	-
8	G	-
10	B	-
11	LAVS	-
12	LAVR	-
14	LAVB	-
15	B	-
16	Y	-

Connector No.	D11
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY PASSENGER SIDE
Connector Type	RH4FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	SB	-
3	P	-
4	B	-

Connector No.	D15
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY DRIVER SIDE
Connector Type	RH4FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	SB	-
3	W	-
4	B	-

Connector No.	D21
Connector Name	WIRE TO WIRE
Connector Type	TR24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	B	-
4	W	-
5	V	-
6	SB	-
7	L	-
8	G	-
9	Y	-
10	B	-
11	G	-
13	LAW	-
14	LAG	-
15	LAVR	-
16	LAVP	-
17	LAVS	-
18	LAVR	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

19	LA5E	-
20	GR	-
21	LAG	-
22	R	-
23	BG	-
24	L	-

Connector No.	D22
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-GS



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAB	-
2	Y	-
3	G	-
4	V	-
5	LG	-
6	G	-
7	SB	-
8	LAB	-
9	LAGR	-
10	LAV	-
11	LAL	-
12	LAG	-
13	LAR	-
14	LAG	-
15	LAR	-
16	B	-

Connector No.	D23
Connector Name	DOOR MIRROR (DRIVER SIDE)
Connector Type	TH16MW-NH



8	7	5	4	3	2
16	15	14	12	11	10

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	LAL	-
4	LAR	-
5	LAY	-
7	L	-
8	G	-
11	LABG	-
12	LAV	-
14	LAV	-
15	B	-
16	Y	-

Connector No.	D33
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY (DRIVER SIDE)
Connector Type	RHMFB



1	2	3	4
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	SB	-
3	W	-
4	B	-

Connector No.	D34
Connector Name	FRONT DOOR OUTSIDE HANDLE ASSEMBLY (PASSENGER SIDE)
Connector Type	RHMFB



1	2	3	4
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Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	SB	-
3	B	-
4	B	-

Connector No.	D41
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	B	-
4	P	-
5	R	-
6	SB	-
7	L	-
8	V	-
9	Y	-
10	B	-
11	G	-
13	LAY	-
12	LAR	-
13	LAV	-
16	LAL	-
17	LABG	-
18	GR	-

Connector No.	D42
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-GS



7	6	5	4	3	2	1		
16	15	14	13	12	11	10	9	8

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LAB	-
2	B	-
6	LAGR	-
9	LAY	-
10	LARB	-
11	LAL	-
12	LAV	-
13	LAR	-
14	LAG	-

Connector No.	D43
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MW-NH



8	7	5	4	3	2
16	15	14	12	11	10

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	LAL	-
4	LAR	-
5	LAY	-
7	L	-
8	V	-
10	B	-
11	LABG	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

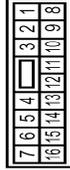
12	LAV	-
14	LAVB	-
15	B	-
16	Y	-

Connector No.	D61
Connector Name	WIRE TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LAVB	-
3	P	-
4	R	-
5	SB	-
6	LG	-
7	L	-
8	V	-
9	Y	-
10	B	-
11	R	-
13	B	-
14	LAV	-
15	LAG	-
16	LAGR	-
17	LAP	-
18	LASE	-
19	B	-
20	LG	-
21	BR	-
22	LAG	-

Connector No.	D62
Connector Name	WIRE TO WIRE
Connector Type	NS18FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	V	-
3	B	-
4	B	-
5	B	-
6	LAL	-
7	LAVB	-
9	LAV	-
10	LAVB	-
11	LAL	-

Connector No.	D98
Connector Name	DOOR MIRROR (PASSENGER SIDE)
Connector Type	TH16MM-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
2	LG	-
3	LAP	-
4	LAG	-
5	LAV	-
7	L	-
8	V	-
11	LASE	-
12	LAGR	-
14	LAVB	-
15	B	-

16	Y	-
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Connector No.	D154
Connector Name	HIGH MOUNTED STOP LAMP
Connector Type	TK02AW



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-

Connector No.	D155
Connector Name	REAR COMBINATION LAMP (L/BACK DOOR SIDE)
Connector Type	NS03MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	GR	-

Connector No.	D156
Connector Name	REAR COMBINATION LAMP (R/BACK DOOR SIDE)
Connector Type	NS03MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-
3	W	-

Connector No.	D159
Connector Name	WIRE TO WIRE
Connector Type	MOZPW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	D160
Connector Name	WIRE TO WIRE
Connector Type	TH32FW-NH



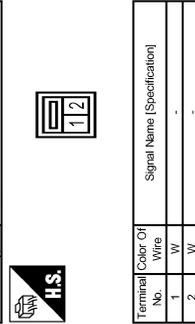
Terminal No.	Color Of Wire	Signal Name [Specification]
4	W	-
5	W	-
6	W	-
7	W	-
8	W	-
13	W	-
14	W	-
15	W	-
16	W	-
17	W	-
18	W	-
19	W	-
20	W	-
21	W	-
22	W	-
23	W	-
24	W	-
29	W	-
30	W	-
31	W	-
32	W	-

Connector No.	D161
Connector Name	LICENSE PLATE LAMP RH
Connector Type	TK02FBR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	R	-

Connector No.	D162
Connector Name	LICENSE PLATE LAMP LH
Connector Type	TK02FBR



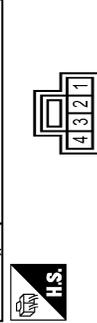
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	W	-

Connector No.	D164
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
8	W	-
9	W	-
10	W	-
12	W	-
13	W	-
14	W	-
15	W	-
16	W	-

Connector No.	D168
Connector Name	BACK DOOR LOCK ASSEMBLY
Connector Type	NS04FW-CS



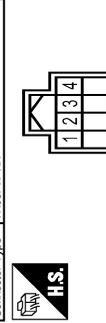
Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	GR	-
3	W	-
4	GR	-

Connector No.	D169
Connector Name	BACK DOOR OPENER SWITCH ASSEMBLY
Connector Type	TH04MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	-
2	GR	-
3	GR	-
4	BR	- [Without PBD]
4	W	- [With PBD]

Connector No.	D170
Connector Name	HANDS FREE SENSOR
Connector Type	TH08FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	Signal Name [Specification]
2	W	Power Management Port
3	W	Output Sensor
4	W	GND
4	W	Cancel Signal

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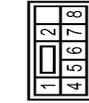
EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]

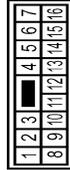
EXTERIOR LIGHTING SYSTEM

Connector No.	D172
Connector Name	BACK DOOR LOCK ASSEMBLY
Connector Type	NS08FW-CS



Terminal No.	Wire	Signal Name [Specification]
1	W	-
2	W	-
4	W	-
5	W	-
6	W	-
7	W	-
8	B	-

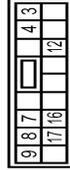
Connector No.	E7
Connector Name	WIRE TO WIRE
Connector Type	NS16MR-CS



Terminal No.	Wire	Signal Name [Specification]
1	BR	- [With MR20 or QR25 engine]
1	SB	- [With R3M engine]
2	BR	- [With MR20 or QR25 engine]
2	GR	- [With R3M engine]
3	G	-
4	R	-
5	B	- [With MR20 engine]
5	I	- [With R3M engine]
6	LG	- [With QR25 engine]
6	BG	-
7	G	-
8	V	- [With MR20 engine or R3M engine]
8	W	- [With QR25 engine]

9	BG	- [With R3M engine]
9	BR	- [With MR20 engine]
10	BR	-
11	Y	-
12	L	- [With R3M Engine]
12	LG	- [With QR25 engine]
13	BR	- [With MR20 or QR25 engine]
14	R	-
15	L	- [With R3M engine]
16	SB	-

Connector No.	E10
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	NS16EY-CS



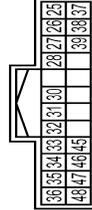
Terminal No.	Wire	Signal Name [Specification]
3	P	-
4	Y	-
7	L	-
8	BG	-
9	L	-
12	B	-
16	G	-
17	W	-

Connector No.	E11
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	renault_243405408R



Terminal No.	Wire	Signal Name [Specification]
19	V	-
20	R	-
21	LG	-
22	Y	-
23	B	-
24	W	-

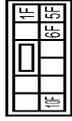
Connector No.	E12
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Type	TH24EY-NH



Terminal No.	Wire	Signal Name [Specification]
25	LG	-
26	W	-
27	SB	-
28	P	-
30	L	-
31	G	-
32	B	-
33	BG	-
34	LG	-
35	V	-
36	Y	-
37	B	-
38	GR	-
39	BR	-

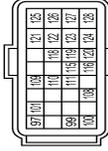
45	L	-
46	P	-
47	W	-
48	R	-

Connector No.	E15
Connector Name	FUSE BLOCK (JB)
Connector Type	NS10FW-CS



Terminal No.	Wire	Signal Name [Specification]
10P	L	-
1F	W	-
5F	V	-
6F	Y	-

Connector No.	E16
Connector Name	ECM
Connector Type	RH24FB-R2B-L1H



Terminal No.	Wire	Signal Name [Specification]
97	W	BAROMETRIC PRESSURE SENSOR
99	P	CANL
100	L	CANH
101	Y	SENSOR POWER SUPPLY
108	R	CLUTCH PEDAL POSITION SWITCH
109	LG	IGNITION SWITCH
110	G	ASCO STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	BRAKE PEDAL POSITION SWITCH

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EXTERIOR LIGHTING SYSTEM

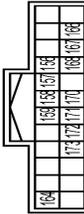
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[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

118	SB	SENSOR POWER SUPPLY
119	Y	ACCELERATOR PEDAL POSITION SENSOR 2
120	LG	SENSOR GROUND
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY
123	B	ECM GROUND
124	R	SENSOR GROUND
125	B	ECM GROUND
126	GR	ACCELERATOR PEDAL POSITION SENSOR 1
127	R	SENSOR GROUND
128	B	ECM GROUND

Connector No.	E23
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	IT24FB-NH



Terminal No.	Wire	Signal Name [Specification]
156	V	CLUTCH INTERLOCK SW
157	LG	STOP LAMP SW 2
158	W	STOP LAMP SW 1
159	R	ASCD CLUTCH SWITCH
164	Y	INTELLIGENT KEY WARNING BUZZER
166	P	STEERING LOCK UNIT POWER SUPPLY
167	BR	TURN SIG LH (FRONT)
168	GR	TURN SIG RH (FRONT)
170	L	PTC RELAY-3 CONTROL
171	G	STARTER RELAY CONT
172	V	PTC RELAY-1 CONTROL
173	BG	PTC RELAY-2 CONTROL

Connector No.	E27
Connector Name	FRONT TURN SIGNAL LAMP LH
Connector Type	RS02FGY



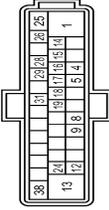
Terminal No.	Wire	Signal Name [Specification]
1	BR	-
2	B	-

Connector No.	E28
Connector Name	FRONT HEIGHT SENSOR
Connector Type	RH03FB



Terminal No.	Wire	Signal Name [Specification]
1	W	SIGNAL
2	B	-
3	BR	VDC

Connector No.	E36
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
Connector Type	BE24FB-BHY-2-BJZ-RH



Terminal No.	Wire	Signal Name [Specification]
1	Y	MOTOR POWER SUPPLY
4	SB	FR RH WHEEL SENSOR SIGNAL
5	V	BRAKE VACUUM SENSOR POWER SUPPLY
6	P	FR LH WHEEL SENSOR SIGNAL
9	Y	IM (gear) control SWITCH SIGNAL
12	LG	BRAKE VACUUM SENSOR SIGNAL
13	B	GROUND (MOTOR)
14	P	CAN-L
15	BR	VDC OFF SWITCH SIGNAL
16	R	FR RH WHEEL SENSOR POWER SUPPLY
17	Y	FR RH WHEEL SENSOR POWER SUPPLY
18	G	RR LH WHEEL SENSOR SIGNAL
19	W	FR LH WHEEL SENSOR POWER SUPPLY
24	SHIELD	BRAKE VACUUM SENSOR GROUND
25	BR	VALVE POWER SUPPLY
26	L	CAN-H
28	GR	IGNITION POWER SUPPLY
29	LG	RR RH WHEEL SENSOR SIGNAL
31	BR	RR LH WHEEL SENSOR POWER SUPPLY
38	B	GROUND (VALVE)

Connector No.	E46
Connector Name	FRONT TURN SIGNAL LAMP RH
Connector Type	RS02FGY



Terminal No.	Wire	Signal Name [Specification]
1	GR	-
2	B	-

Connector No.	E50
Connector Name	WIRE TO WIRE
Connector Type	MD2MM-GY-LC



Terminal No.	Wire	Signal Name [Specification]
1	GR	-
2	B	-

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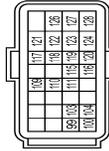
EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	E60
Connector Name	ECM
Connector Type	RH24FB-RZ8-L-LH



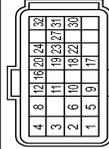
Terminal No.	Color Of Wire	Signal Name [Specification]
99	P	CAN COMMUNICATION LINE (CANL)
100	L	CAN COMMUNICATION LINE (CANH)
103	Y	REFRIGERANT PRESSURE SENSOR
104	R	SENSOR POWER SUPPLY
109	LG	IGNITION SWITCH
110	G	ASC/D STEERING SWITCH
111	BR	SENSOR GROUND
115	V	STOP LAMP SWITCH
116	GR	BRAKE PEDAL POSITION SWITCH
117	W	PNP SIGNAL
118	SB	SENSOR POWER SUPPLY
119	Y	ACCELERATOR PEDAL POSITION SENSOR 2
120	LG	SENSOR GROUND
121	BR	POWER SUPPLY FOR ECM
122	V	SENSOR POWER SUPPLY
123	BR	ECM GROUND
124	W	SENSOR GROUND
126	GR	ACCELERATOR PEDAL POSITION SENSOR 1
127	R	SENSOR GROUND
128	BR	ECM GROUND

Connector No.	E61
Connector Name	WIRE TO WIRE
Connector Type	TH24MV-AH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	
2	L	
3	P	
4	W	
6	P	
7	G	
9	P	
10	BR	
12	GR	
13	SHIELD	
14	LG	
15	P	
16	V	
17	SB	
18	P	
19	LG	
22	R	
23	Y	
24	GR	

Connector No.	E79
Connector Name	ECM
Connector Type	RH24FB-RZ8-R-RH



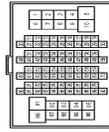
EXTERIOR LIGHTING SYSTEM

Connector No.	E101
Connector Name	WIRE TO WIRE
Connector Type	TH80FDGY-GS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	ECM GROUND
2	W	ACCELERATOR PEDAL POSITION SENSOR 1
3	Y	SENSOR GROUND
4	B	ACCELERATOR PEDAL POSITION SENSOR 2
5	L	ECM GROUND
6	G	POWER SUPPLY FOR ECM
8	B	SENSOR POWER SUPPLY / ACCELERATOR PEDAL POSITION SENSOR 1
9	L	ECM GROUND
10	L	FUEL HEATER AND WATER IN FUEL LEVEL SENSOR
11	L	SENSOR POWER SUPPLY / ACCELERATOR PEDAL POSITION SENSOR 2
12	V	ACCELERATOR PEDAL POSITION SENSOR 2
16	BG	SENSOR GROUND
17	R	STOP LAMP SWITCH (With MIT)
18	LG	BRAKE PEDAL POSITION SWITCH (With CVT)
19	G	IGNITION SWITCH
20	BR	ASC/D STEERING SWITCH
21	BR	SENSOR GROUND (ASC/D STEERING SWITCH)
22	GR	FUEL IN MAP CONTROL INJECTOR (COMMON)
23	G	FUEL MAP CONTROL INJECTOR (COMMON)
24	V	SPEED LIMITER MAIN SWITCH
27	R	CLUTCH PEDAL POSITION SWITCH
30	BR	CLUTCH INTERLOCK SWITCH
31	P	ASC/D MAIN SWITCH
32	L	CANL

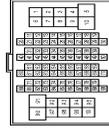
Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-GS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	
2	W	
5	G	
11	BR	
12	W	
14	P	
15	SB	
16	V	

Terminal No.	Color Of Wire	Signal Name [Specification]
16	P	
17	P	
18	G	
19	P	
20	G	
21	BR	
22	LG	
23	Y	
24	SB	
25	G	
26	B	
27	P	
28	R	
29	LG	
30	P	
32	BR	
33	GR	
34	R	
35	L	
37	LG	

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-GS16-TM4



Terminal No.	Color Of Wire	Signal Name [Specification]
2	W	
5	V	
5	W	
8	L	
9	LG	
10	W	
20	W	
21	B	
22	SHIELD	
31	Y	
32	W	
33	SB	
34	LG	
35	BG	

EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

36	LG	-	-	-	-
37	V	-	-	-	-
38	G	-	-	-	-
39	BR	-	-	-	-
40	L	-	-	-	-
41	P	-	-	-	-
47	GR	-	-	-	-
48	SB	-	-	-	-
51	P	-	-	-	-
52	L	-	-	-	-
53	W	-	-	-	-
54	Y	-	-	-	-
55	BR	-	-	-	-
56	P	-	-	-	-
57	B	-	-	-	-
58	B	-	-	-	-
59	W	-	-	-	-
60	G	-	-	-	-
61	BR	-	-	-	-
62	V	-	-	-	-
63	BR	-	-	-	-
64	GR	-	-	-	-
65	LG	-	-	-	-
66	BG	-	-	-	-
67	L	-	-	-	-
68	R	-	-	-	-
71	V	-	-	-	-
72	L	-	-	-	-
73	R	-	-	-	-
76	L	-	-	-	-
77	V	-	-	-	-
78	LG	-	-	-	-
79	SHIELD	-	-	-	-
80	GR	-	-	-	-
82	Y	-	-	-	-
83	SB	-	-	-	-
84	L	-	-	-	-
85	G	-	-	-	-
86	Y	-	-	-	-
87	B	-	-	-	-
88	B	-	-	-	-
91	R	-	-	-	-
92	BR	-	-	-	-
93	W	-	-	-	-
96	GR	-	-	-	-
97	R	-	-	-	-
98	V	-	-	-	-
99	Y	-	-	-	-

Connector No.	E123
Connector Name	HEADLAMP AIMING MOTOR LH
Connector Type	HS03FGY



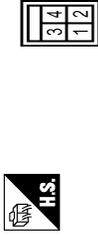
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E143
Connector Name	HEADLAMP AIMING MOTOR LH
Connector Type	HS03FGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E121
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC



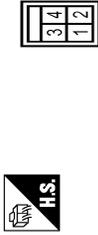
Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	LG	-
3	Y	-
4	W	-

Connector No.	E122
Connector Name	HEADLAMP AIMING MOTOR RH
Connector Type	HS03FGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E115
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	LG	-
3	Y	-
4	W	-

Connector No.	E120
Connector Name	STOP LAMP SWITCH
Connector Type	M04FW-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	LG	-
3	Y	-
4	W	-

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EXTERIOR LIGHTING SYSTEM

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[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	E144
Connector Name	HEADLAMP AIMING MOTOR RH
Connector Type	HS08FGY



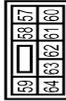
Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	E146
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	NS08FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
49	R	-
50	L	-
51	V	-
52	W	-
53	GR	-
54	LG	-
55	SB	-
56	BG	-

Connector No.	E149
Connector Name	POWER INTELLIGENT POWER DISTRIBUTION MODULE (ENGINE ROOM)
Connector Type	NS08FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
57	W	-
58	R	-
59	G	-
60	Y	-
61	GR	-
62	SB	-
63	B	-
64	V	-

Connector No.	E150
Connector Name	WIRE TO WIRE
Connector Type	MO2FW-GY-LC



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-

Connector No.	E151
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FGY-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	GR	-
5	L	-
6	LG	-

Connector No.	E152
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FE-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
7	SB	-
8	B	-
10	SB	-
11	B	-
12	W	-

Connector No.	E153
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FGY-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	-
2	GR	-
3	BG	-
5	B	-
6	G	-

Connector No.	E154
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FE-PR



Terminal No.	Color Of Wire	Signal Name [Specification]
7	L	-
8	B	-
10	L	-
11	B	-
12	P	-

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Connector No.	E155
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FB-FR



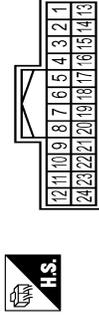
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	H. Lo-BEAM_GND
2	LG	Ls-BEAM +B
3	SB	ECU OUTPUT
4	Y	DRL+
5	R	CLL+
6	GR	DRL CLL FSM_L GND
8	B	

Connector No.	E156
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FB-FR



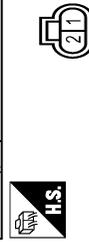
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	H. Lo-BEAM_GND
2	G	H-BEAM +B
3	L	Ls-BEAM +B
4	GR	ECU OUTPUT
5	R	DRL+
6	BG	CLL+
8	B	DRL CLL FSM_L GND

Connector No.	E157
Connector Name	WIRES TO WIRE
Connector Type	TH24FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	
2	L	
3	P	
4	W	
6	P	
7	G	
9	P	
10	BR	
12	GR	
13	SHIELD	
14	LG	
15	P	
16	V	
17	SB	
18	P	
19	LG	
22	R	
23	V	
24	GR	

Connector No.	E158
Connector Name	FRONT FOG LAMP RH
Connector Type	FHZ02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	W	
2	GR	

Connector No.	E159
Connector Name	FRONT FOG LAMP LH
Connector Type	FHZ02FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	
2	GR	

Connector No.	E162
Connector Name	FRONT COMBINATION LAMP LH
Connector Type	RS08FB



Terminal No.	Color Of Wire	Signal Name [Specification]
9	L	
10	B	
11	V	

Connector No.	E163
Connector Name	FRONT COMBINATION LAMP RH
Connector Type	RS08FB



Terminal No.	Color Of Wire	Signal Name [Specification]
9	SB	
10	B	
11	V	

Connector No.	F22
Connector Name	TRANSMISSION RANGE SWITCH
Connector Type	YD08FB-HS4



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BG	
2	GR	
3	W	
4	V	
5	G	
6	BR	
7	Y	
8	GR	

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EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

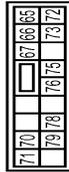
EXTERIOR LIGHTING SYSTEM

Connector No.	F46
Connector Name	REVERSE/NEUTRAL POSITION SWITCH
Connector Type	FEA03FG-LC



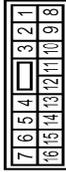
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-
3	SB	-

Connector No.	F72
Connector Name	IGNITION/INTELLIGENT POWER/IS PRELIMINARY MODULE ENGINE ROOM
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
65	P	-
66	L	- [With R3M Engine]
67	R	- [With MR20 or QR25 Engine]
70	BG	- [With CVT]
71	GR	- [With MT]
72	SB	-
73	R	- [With R3M Engine]
75	BR	- [With MR20 or QR25 Engine]
76	P	- [With R3M Engine]
78	L	- [With QR25 engine]
78	R	- [With R3M Engine]
79	G	-

Connector No.	F121
Connector Name	WIRE TO WIRE
Connector Type	NS16FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	- [With MR20 or QR25 engine]
1	P	- [With R3M engine]
2	BR	- [With QR25 engine]
2	GR	- [With MR20 engine]
2	Y	- [With R3M engine]
3	G	-
4	BG	- [With MR20 engine]
5	B	- [With R3M engine]
5	L	- [With QR25 engine]
6	V	-
7	G	-
8	V	- [With MR20 engine or R3M engine]
8	W	- [With MR20 engine]
9	W	- [With R3M engine]
10	BR	-
11	P	- [Without ISS]
11	R	- [With ISS]
12	G	- [With QR25 engine]
12	L	- [With R3M engine]
13	R	- [With R3M engine]
13	Y	- [With MR20 or QR25 engine]
15	L	-
16	LG	-

Connector No.	F157
Connector Name	BACK-UP LAMP SWITCH
Connector Type	IRK02FB



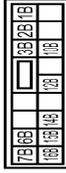
Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	-
2	W	-

Connector No.	M1
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS06FM-M2



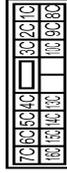
Terminal No.	Color Of Wire	Signal Name [Specification]
1A	L	-
2A	LG	-
3A	Y	-
4A	LG	-
5A	R	-
6A	BG	-
7A	BR	-
8A	SB	-

Connector No.	M2
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10B	GR	- [With MR20 engine or R3M engine]
10B	LA/G	- [With QR25 Engine]
12B	BR	-
14B	W	-
16B	W	-
16B	GR	-
1B	G	-
2B	R	-
3B	V	-
6B	LAV	-
7B	LAV	-

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FM-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
10C	LG	-
13C	LA/G	-
14C	R	-
15C	L	-
16C	LA/W	-
1C	R	-
2C	G	-
3C	Y	-
4C	LG	-

EXTERIOR LIGHTING SYSTEM

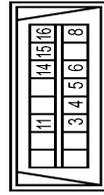
< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

5C	GR	-
6C	LA/R	-
7C	Y	-
8C	BR	- [With ISS]
8C	LA/BR	- [Without ISS]
9C	L	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



Terminal No.	Color Of Wire	Signal Name [Specification]
3	LG	-
4	B	-
5	B	-
6	L	-
8	Y	-
11	SB	-
14	P	-
15	BR	-
16	W	-

Connector No.	M6
Connector Name	HEADLAMP AIMING SWITCH
Connector Type	TH04FW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	GR	GND
3	G	-

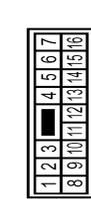
4	LG	-
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Connector No.	M18
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



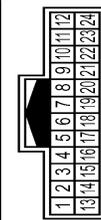
Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	B	-
3	Y	-
4	V	-
5	BR	-
6	LG	-
7	L	-
8	Y	-
9	G	-
10	SHIELD	-
11	R	-
13	GR	-
14	LA/SE	-
15	LA/GR	-
16	LA/V	-
17	LA/L	-
18	LA/BG	-
19	LA/R	-
22	LA/G	-
23	BG	-
24	SB	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	-
2	R	-
3	G	-
4	G	-
6	B	-
6	Y	-
7	R	-
8	L	-
9	BR	-
10	GR	-
11	Y	-
12	BG	-
13	G	-
14	R	-
15	P	-
16	B	-

Connector No.	M20
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	GR	-
5	V	-

6	BR	-
7	L	-
8	Y	-
9	G	-
10	SHIELD	-
11	G	-
13	LA/W	-
14	LA/G	-
15	LA/GR	-
16	LA/P	-
17	LA/SB	-
18	LA/R	-
19	GR	-
20	GR	-
21	LA/Y	-
22	R	-
23	SB	-
24	BG	-

Connector No.	M21
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	G	-
3	R	-
4	V	-
5	W	-
6	G	-
7	L	-
8	B	-
9	BR	-
10	GR	-
11	Y	-
12	BG	-
13	GR	-
14	W	-
15	P	-
16	B	-

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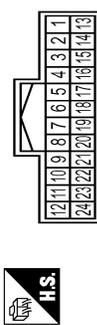
EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

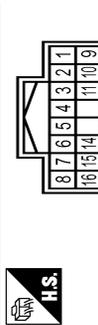
EXTERIOR LIGHTING SYSTEM

Connector No.	M23
Connector Name	WIRE TO WIRE
Connector Type	TH24FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
7	Y	-
8	L	-
9	R	-
10	SB	-
11	SB	-
12	GR	-
13	V	-
14	G	-
15	SB	-
16	R	-
17	B	-
18	G	-
19	SB	-
20	R	-
21	B	-

Connector No.	M31
Connector Name	COMBINATION SWITCH
Connector Type	TH8FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	INPUT 5
2	SB	OUTPUT 1
3	GR	INPUT 4
4	BG	OUTPUT 4
5	G	INPUT 3
6	W	INPUT 2
7	V	-
8	G	RR WASH MOTOR

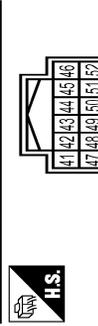
10	BR	OUTPUT 2
11	Y	FR WASH MOTOR
14	LG	IGN
15	P	OUTPUT 3
16	GR	GND

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Type	NS08FV-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	R	-
4	GR	-

Connector No.	M42
Connector Name	COMBINATION METER
Connector Type	TH2FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
41	L	CANH
42	P	CANL
43	W	ILLUMINATION CONTROL SIGNAL
44	LAV	FUEL LEVEL SENSOR GROUND
45	LAIG	BATTERY POWER SUPPLY
46	LABR	IGNITION SIGNAL (Without ISS)
47	V	IGNITION SIGNAL (With ISS)
48	SB	AV COMMUNICATION SIGNAL (I)
49	LG	AV COMMUNICATION SIGNAL (L)
50	BG	OIL LEVEL SENSOR SIGNAL

51	LAL	FUEL LEVEL SENSOR SIGNAL
52	B	GROUND

Connector No.	M45
Connector Name	HAZARD SWITCH
Connector Type	TH04FV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
1	GR	-
2	Y	-
3	R	-
4	GR	-

Connector No.	M59
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	HF28FV-EX



Terminal No.	Color Of Wire	Signal Name [Specification]
25	LG	INFLATOR AS-
26	SB	AST(+)
27	B	AST(-)
29	Y	DR1(+)
30	G	DR1(-)
31	B	ECZS(+)
36	BR	DEACTIVE
37	R	ACTIVE
39	SHIELD	GND
41	W	ECZS(+)
45	P	CANL
46	L	CANH

47	GR	AB ON IND
48	W	AB OFF IND
49	BG	K LINE
50	R	IGN

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80MMV-CS16-TM4



EXTERIOR LIGHTING SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

Terminal No.	Wire	Signal Name [Specification]
59	W	-
60	LA/R	-
61	P	-
62	V	-
63	LA/BR	- [With SOW] - [Without SOW]
64	Y	-
65	GR	-
66	BG	-
67	L	-
68	R	-
71	V	-
72	L	-
73	Y	-
76	L	-
77	V	-
78	LG	-
79	SHIELD	-
80	L	- [With ISS] - [Without ISS]
82	GR	-
83	LG	-
84	SB	-
85	G	-
86	G	-
87	B	-
88	B	-
91	L	-
92	W	-
93	W	-
96	LG	-
97	BR	-
98	V	-
99	R	-

Connector No.	M81
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
3	GR	-
4	V	-
5	BR	-
6	SB	-
7	B	-
8	L	-
9	Y	-
10	SHIELD	-
11	G	-
13	LA/SE	-
14	LA/GR	-
15	LA/V	-
16	LA/L	-
17	LA/BG	-
18	GR	-
21	LAV	-

Connector No.	M82
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Connector No.	M83
Connector Name	WIRE TO WIRE
Connector Type	TH24MW-NH



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
2	B	-
3	W	-
4	B	-
5	SB	-
6	LG	-
7	B	-
8	L	-
9	Y	-
10	SHIELD	-
11	R	-
13	B	-
14	LAV	-
15	LA/G	-
16	LA/GR	-
17	LAP	-
18	LA/SE	-
19	B	-
20	LG	-
21	BR	-
22	LA/G	-

Connector No.	M84
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	-
2	Y	-
3	W	-
4	B	-
5	B	-
6	Y	-
7	R	-
9	BR	-
10	GR	-
11	SB	-

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FBR-CS



13	14	15	16	17	18	19	20	21	22	23	24
----	----	----	----	----	----	----	----	----	----	----	----

Terminal No.	Color Of Wire	Signal Name [Specification]
137	W	BAT POWER SUPPLY (FUSE)
138	SB	INT ROOM LAMP CONT
139	L	PASSENGER DOOR UNLOCK OUTPUT
141	V	FRONT DOOR LOCK OUTPUT
143	LAV	POWER SUPPLY (FR DOOR LK ACT)
144	BG	POWER SUPPLY (TURN SIGNAL)
145	GR	POWER SUPPLY (STOP LAMP)
146	B	GROUND
147	B	GROUND
148	G	DRIVER DOOR UNLOCK OUTPUT

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EXL

EXTERIOR LIGHTING SYSTEM

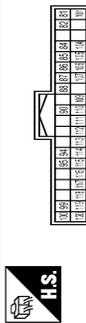
< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

EXTERIOR LIGHTING SYSTEM

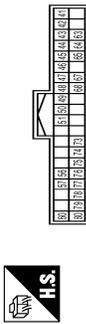
149	W	FRONT DOOR SUPERLOCK OUTPUT
151	R	POWER SUPPLY (REAR DOOR LK ACT)
152	LG	POWER SUPPLY (REAR WIPER)

Connector No.	M86
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
81	L	KEY SWITCH
82	LAR	KEY SW (S1) (Without Intelligent Key)
82	W	PASS DOOR REQ SW (With Intelligent Key)
84	BR	COMBI SW OUTPUT 2
85	SB	COMBI SW OUTPUT 1
86	P	COMBI SW OUTPUT 3
87	BG	COMBI SW OUTPUT 4
88	W	PUSH BTN IGN SW ILL CONT
90	Y	SIL CONDITION
94	G	DETECTION SW
95	V	EXTENDED STORAGE FUSE SW
99	R	STOP/START OFF SW
100	V	DRIVER DOOR ANT +
101	Y	PUSH SW
104	R	DR DOOR UNLK SENS
105	Y	DR DOOR REQ SW
106	W	ACC OUTPUT
107	V	SENSOR CANCEL SW
109	P	NATS ANTENNA AMP
110	BG	DIMMER SIGNAL
111	R	DOOR LK STAT IND OUTPUT
112	SB	STOP/START OFF SW INDICATOR
113	LG	NATS ANTENNA AMP
114	Y	NATS ANTENNA AMP
115	W	NATS ANTENNA AMP
116	BG	ROOM ANT 1 +
117	GR	ROOM ANT 1 +
118	SB	PASSENGER DOOR ANT -
119	P	PASSENGER DOOR ANT +
120	BR	RRIVER DOOR ANT +

Connector No.	M87
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40GY-NH



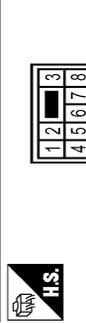
Terminal No.	Color Of Wire	Signal Name [Specification]
41	V	STEERING LOCK UNIT POWER SUPPLY
42	LAG	TURN SIG LH (SIDE)
43	LAY	TURN SIG RH (SIDE)
44	P	INTERIOR ROOM LAMP RELAY CONT
45	R	CAN-L
46	L	CAN-H
47	G	LIGHT & RAIN SENSOR
48	L	CAN-H
49	R	CAN-L
50	BG	DOOR LOCK SW
51	Y	HAZARD SW
56	P	DONGLE
57	L	CVT SHIFT SELECT (DETENT SW) FWR
60	R	HEADLAMP WASHER SW
63	G	POWER WINDOW RELAY CON
64	LAR	REAR WINDOW DEFROGGER RELAY CONT
65	BR	ACC RELAY CONT
67	Y	IGN RELAY (FIB) CONT OUTPUT
68	LAW	BLOWER RELAY CONT
73	LG	COMBI SW INPUT 5
74	Y	COMBI SW OUTPUT 5
75	BG	SECURITY IND LAMP CONT
76	G	COMBI SW INPUT 3
77	GR	COMBI SW INPUT 4
78	V	COMBI SW INPUT 1
79	W	COMBI SW INPUT 2
80	SB	DOOR UNLOCK SW

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Type	TH24MV-NH



Terminal No.	Color Of Wire	Signal Name [Specification]
3	-	-
7	-	-
8	-	-
9	-	-
12	-	-
13	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-

Connector No.	R2
Connector Name	WIRE TO WIRE
Connector Type	NS08MV-CS



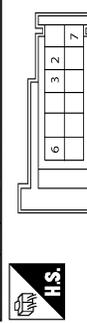
Terminal No.	Color Of Wire	Signal Name [Specification]
2	-	-
3	-	-
4	B	-

Connector No.	R20
Connector Name	LIGHT & RAIN SENSOR
Connector Type	AAE03FB



Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	R22
Connector Name	FRONT CAMERA UNIT
Connector Type	(default: 8200280781)



Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	CAN-H
3	R	CAN-L
6	R	IGNITION POWER SUPPLY
7	B	GROUND

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[HALOGEN HEADLAMP]

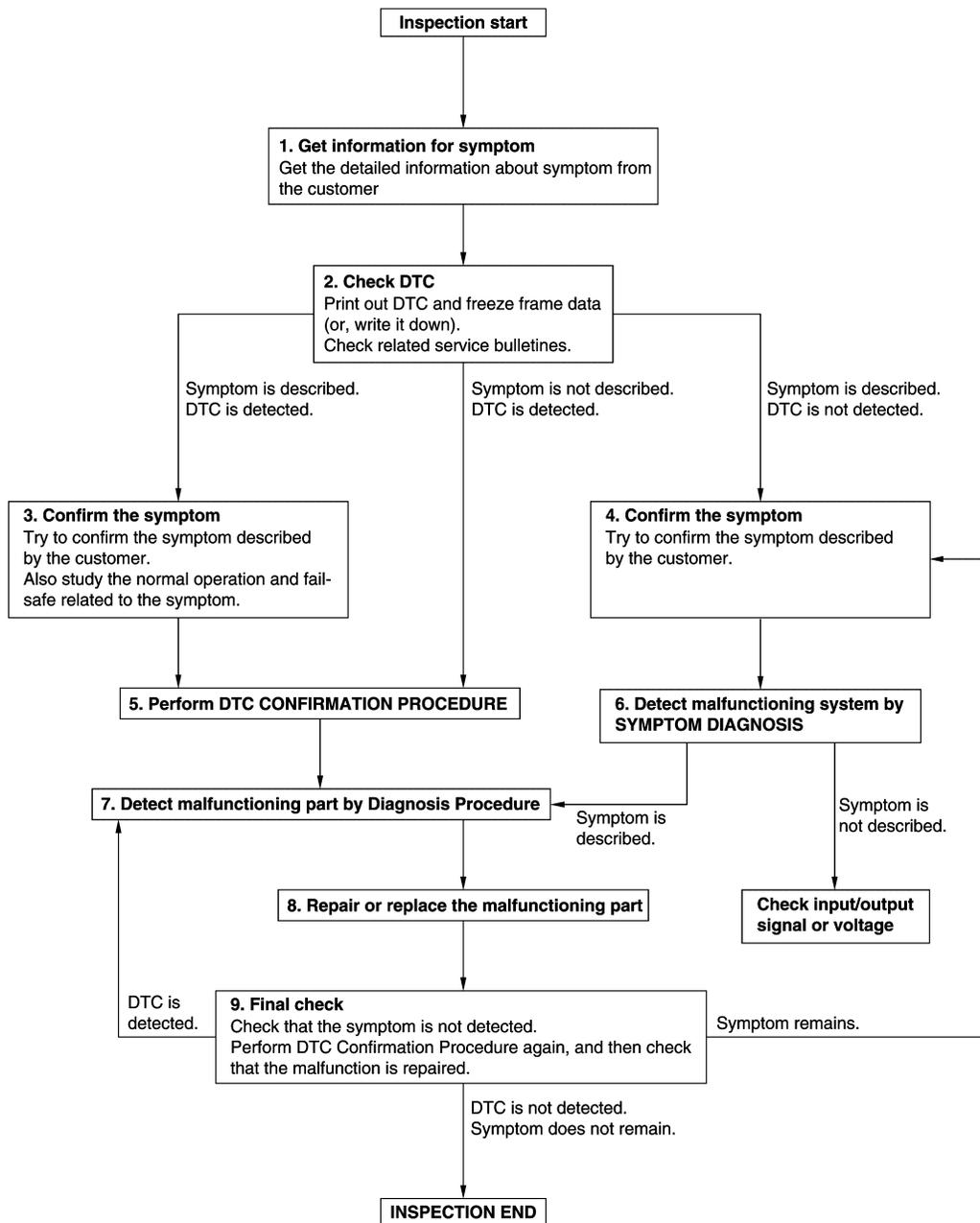
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000010789820

OVERALL SEQUENCE



DETAILED FLOW

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[HALOGEN HEADLAMP]

1. GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2. CHECK DTC

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

Are any symptoms described and any DTC detected?

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

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

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

3. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

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

>> GO TO 5.

4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

>> GO TO 6.

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to 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-44. "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.

7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[HALOGEN HEADLAMP]

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-44. "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.

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B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

DTC/CIRCUIT DIAGNOSIS

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:0000000010789821

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B121A	FR FOG LAMP LH PWR SPLY CIRC (Front fog lamp left hand power supply circuit)	[CIRC SHORT TO GRND] When front fog lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the front fog lamp LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front fog lamp LH bulb
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the front fog lamp LH power supply circuit until the front fog lamp ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "F FOG LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
F FOG LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the front fog lamp LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-300, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST, and front fog lamp switch ON.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-300, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000010789822

1. CHECK FRONT FOG LAMP LH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

- Turn lighting switch OFF, and front fog lamp switch OFF.
- Disconnect IPDM E/R connector and front fog lamp LH connector.
- Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E148	51	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK FRONT FOG LAMP LH POWER SUPPLY

ⓂWith CONSULT

- Connect IPDM E/R connector.
- Turn ignition switch ON
- Select "FRONT FOG LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
- With operating the test items, check the voltage between front fog lamp LH harness connector and ground.

+		-	Test item	Voltage	
Front fog lamp LH					
Connector	Terminal				
E159	1	Ground	FRONT FOG LAMP	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK FRONT FOG LAMP LH BULB

Check the front fog lamp LH bulb. Refer to [EXL-301, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front fog lamp LH bulb. Refer to [EXL-379, "Replacement"](#).

Component Inspection

INFOID:000000010789823

EXL

1.CHECK FRONT FOG LAMP LH BULB

- Turn ignition switch OFF.
- Disconnect front fog lamp LH connector.
- Check resistance of front fog lamp LH terminals.

Front fog lamp LH		Resistance
Terminal		
1	2	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Replace front fog lamp LH bulb. Refer to [EXL-379, "Replacement"](#).

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789824

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1231	DTRL RH PWR SPLY CIRC (Daytime running light right hand power supply circuit)	[CIRC SHORT TO GRND] When daytime running light ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the daytime running light RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp RH internal circuit
 - LED (Daytime running light)
 - Control circuit
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the daytime running light RH power supply circuit until the daytime running light ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓟ With CONSULT

1. Turn ignition switch ON.
2. Select "DTRL RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
DTRL RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the daytime running light RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-302, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓟ With CONSULT

1. Turn ignition switch OFF.
2. Start engine.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-302, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789825

1. CHECK DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT (SHORT)

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R		—	Continuity
Connector	Terminal		
E149	58	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK DAYTIME RUNNING LIGHT RH POWER SUPPLY

Ⓜ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp RH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp RH					
Connector	Terminal				
E151	1	Ground	DAYTIME RUNNING LIGHT	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK DAYTIME RUNNING LIGHT RH

Check the daytime running light RH. Refer to [EXL-303, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-376, "Removal and Installation"](#).

Component Inspection

INFOID:0000000010789826

EXL

1.CHECK DAYTIME RUNNING LIGHT RH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check resistance of front combination lamp RH terminals.

Front combination lamp RH		Resistance
Terminal		
1	2	
		Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp RH. Refer to [EXL-376, "Removal and Installation"](#).

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789827

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B1256	FR FOG LAMP RH PWR SPLY CIRC (Front fog lamp right hand power supply circuit)	[CIRC SHORT TO GRND] When front fog lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the front fog lamp RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front fog lamp RH bulb
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the front fog lamp RH power supply circuit until the front fog lamp ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "F FOG RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
F FOG RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the front fog lamp RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-304, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST, and front fog lamp switch ON.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-304, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789828

1. CHECK FRONT FOG LAMP RH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF, and front fog lamp switch OFF.
3. Disconnect IPDM E/R connector and front fog lamp RH connector.

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R		—	Continuity
Connector	Terminal		
E149	57	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK FRONT FOG LAMP RH POWER SUPPLY

④ With CONSULT

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

+		-	Test item		Voltage
Front fog lamp RH					
Connector	Terminal				
E158	1	Ground	FRONT FOG LAMP	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK FRONT FOG LAMP RH BULB

Check the front fog lamp RH bulb. Refer to [EXL-305, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front fog lamp RH bulb. Refer to [EXL-379, "Replacement"](#).

Component Inspection

INFOID:000000010789829

1. CHECK FRONT FOG LAMP RH BULB

1. Turn ignition switch OFF.
2. Disconnect front fog lamp RH connector.
3. Check resistance of front fog lamp RH terminals.

Front fog lamp RH		Resistance
Terminal		
1	2	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front fog lamp RH bulb. Refer to [EXL-379, "Replacement"](#).

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EXL

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789830

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20CB	DTRL LH PWR SPLY CIRC (Daytime running light left hand power supply circuit)	[CIRC SHORT TO GRND] When daytime running light ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the daytime running light LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED (Daytime running light)
 - Control circuit
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the daytime running light LH power supply circuit until the daytime running light ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "DTRL LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
DTRL LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the daytime running light LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-306, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Start engine.
3. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
4. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-306, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789831

1. CHECK DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT (SHORT)

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R		—	Continuity
Connector	Terminal		
E148	49	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK DAYTIME RUNNING LIGHT LH POWER SUPPLY

Ⓜ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp LH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp LH					
Connector	Terminal				
E153	1	Ground	DAYTIME RUNNING LIGHT	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK DAYTIME RUNNING LIGHT LH

Check the daytime running light LH. Refer to [EXL-307, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp LH. Refer to [EXL-376, "Removal and Installation"](#).

Component Inspection

INFOID:0000000010789832

EXL

1.CHECK DAYTIME RUNNING LIGHT LH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check resistance of front combination lamp LH terminals.

Front combination lamp LH		Resistance
Terminal		
1	2	
		Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace front combination lamp LH. Refer to [EXL-376, "Removal and Installation"](#).

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789833

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20CE	HL (HI) LH PWR SPLY CIRC [Headlamp (high) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (HI) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (HI) LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Headlamp (HI) LH bulb
- Headlamp (HI) LH harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (HI) LH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (HI) LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (HI) LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (HI) LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-308, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND, and lighting switch HI.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-308, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789834

1. CHECK HEADLAMP (HI) LH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

3. Disconnect IPDM E/R connector and front combination lamp LH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E149	59	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK HEADLAMP (HI) LH POWER SUPPLY

④ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp LH harness connector and ground.

+		-	Test item		Voltage
Front combination lamp LH					
Connector	Terminal	Ground	HEADLAMP (HI)	On	9 – 16 V
E153	6				

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

3.CHECK HEADLAMP (HI) LH

Check the headlamp (HI) LH. Refer to [EXL-309. "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair or replace the malfunctioning part.

Component Inspection

INFOID:000000010789835

EXL

1.CHECK HEADLAMP (HI) LH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check resistance of front combination lamp LH terminals.

Front combination lamp LH		Resistance
Terminal		
6	5	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK HEADLAMP (HI) LH

1. Remove headlamp (HI) LH bulb.
2. Check resistance of front combination lamp LH terminals.

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp LH		Resistance
Terminal		
6	5	Except 0 Ω

Is the inspection result normal?

YES >> Replace headlamp (HI) LH bulb. Refer to [EXL-376. "Replacement"](#).

NO >> Repair or replace the headlamp (HI) LH harness.

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789836

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20CF	HL (HI) RH PWR SPLY CIRC [Headlamp (high) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (HI) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (HI) RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Headlamp (HI) RH bulb
- Headlamp (HI) RH harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (HI) RH power supply circuit until the headlamp (HI) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (HI) RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (HI) RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (HI) RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-311, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND, and lighting switch HI.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-311, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789837

1. CHECK HEADLAMP (HI) RH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

3. Disconnect IPDM E/R connector and front combination lamp RH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E148	54	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK HEADLAMP (HI) RH POWER SUPPLY

④ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp RH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp RH					
Connector	Terminal				
E151	6	Ground	HEADLAMP (HI)	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

3.CHECK HEADLAMP (HI) RH

Check the headlamp (HI) RH. Refer to [EXL-312. "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Repair or replace the malfunctioning part.

Component Inspection

INFOID:000000010789838

1.CHECK HEADLAMP (HI) RH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check resistance of front combination lamp RH terminals.

Front combination lamp RH		Resistance
Terminal		
6	5	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK HEADLAMP (HI) RH

1. Remove headlamp (HI) RH bulb.
2. Check resistance of front combination lamp RH terminals.

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp RH		Resistance
Terminal		
6	5	Except 0 Ω

Is the inspection result normal?

YES >> Replace headlamp (HI) RH bulb. Refer to [EXL-376. "Replacement"](#).

NO >> Repair or replace the headlamp (HI) RH harness.

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B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789839

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D0	HL (LO) LH PWR SPLY CIRC [Headlamp (low) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (LO) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (LO) LH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Headlamp (LO) LH bulb
- Headlamp (LO) LH harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (LO) LH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (LO) LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (LO) LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (LO) LH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-314, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-314, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789840

1. CHECK HEADLAMP (LO) LH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

3. Disconnect IPDM E/R connector and front combination lamp LH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E148	50	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK HEADLAMP (LO) LH POWER SUPPLY

④ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp LH harness connector and ground.

+		-	Test item		Voltage
Front combination lamp LH					
Connector	Terminal	Ground	HEADLAMP (LO)	On	9 – 16 V
E154	7				

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

3.CHECK HEADLAMP (LO) LH

Check the headlamp (LO) LH bulb. Refer to [EXL-315. "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Repair or replace the malfunctioning part.

Component Inspection

INFOID:000000010789841

EXL

1.CHECK HEADLAMP (LO) LH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp LH connector.
3. Check resistance of front combination lamp LH terminals.

Front combination lamp LH		Resistance
Terminal		
7	8	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK HEADLAMP (LO) LH

1. Remove headlamp (HI) LH bulb.
2. Check resistance of front combination lamp LH terminals.

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp LH		Resistance
Terminal		
7	8	Except 0 Ω

Is the inspection result normal?

- YES >> Replace headlamp (LO) LH bulb. Refer to [EXL-376. "Replacement"](#).
NO >> Repair or replace the headlamp (LO) LH harness.

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789842

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D1	HL (LO) RH PWR SPLY CIRC [Headlamp (low) left hand power supply circuit]	[CIRC SHORT TO GRND] When headlamp (LO) ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the headlamp (LO) RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Headlamp (LO) RH bulb
- Headlamp (LO) RH harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the headlamp (LO) RH power supply circuit until the headlamp (LO) ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "HL (LO) RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
HL (LO) RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the headlamp (LO) RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-317, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 2ND.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-317, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789843

1. CHECK HEADLAMP (LO) RH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

3. Disconnect IPDM E/R connector and front combination lamp RH connector.
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E149	62	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2.CHECK HEADLAMP (LO) RH POWER SUPPLY

④ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between front combination lamp RH harness connector and ground.

+		-	Test item	Voltage	
Front combination lamp RH					
Connector	Terminal				
E152	7	Ground	HEADLAMP (LO)	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3.CHECK HEADLAMP (LO) RH

Check the headlamp (LO) RH bulb. Refer to [EXL-318, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Repair or replace the malfunctioning part.

Component Inspection

INFOID:000000010789844

1.CHECK HEADLAMP (LO) RH

1. Turn ignition switch OFF.
2. Disconnect front combination lamp RH connector.
3. Check resistance of front combination lamp RH terminals.

Front combination lamp RH		Resistance
Terminal		
7	8	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
NO >> GO TO 2.

2.CHECK HEADLAMP (LO) RH

1. Remove headlamp (HI) RH bulb.
2. Check resistance of front combination lamp RH terminals.

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp RH		Resistance
Terminal		
7	8	Except 0 Ω

Is the inspection result normal?

YES >> Replace headlamp (LO) RH bulb. Refer to [EXL-376. "Replacement"](#).

NO >> Repair or replace the headlamp (LO) RH harness.

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B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789845

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D2	PARKING LAMP PWR SPLY CIRC (Parking lamp power supply circuit)	[CIRC SHORT TO GRND] When the parking lamp, license plate lamp, and tail lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the parking lamp LH power supply circuit or parking lamp RH power supply circuit.

POSSIBLE CAUSE

- Harness or connector
- Front combination lamp LH internal circuit
 - LED (Parking lamp)
 - Control circuit
 - Harness
- Front combination lamp RH internal circuit
 - LED (parking lamp)
 - Control circuit
 - Harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the parking lamp (LH/RH) power supply circuit until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "P LAMP CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
P LAMP CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the parking lamp LH or parking lamp RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-321, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-321, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789846

1. CHECK PARKING LAMP POWER SUPPLY CIRCUIT (SHORT)

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

IPDM E/R			—	Continuity
Connector	Terminal			
RH	E149	61	Ground	Not existed
LH	E148	56		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK PARKING LAMP POWER SUPPLY

Ⓜ With CONSULT

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

+			-	Test item	Voltage		
Front combination lamp							
Connector	Terminal		Ground	PARKING LAMP			
RH	E151	3				On	9 – 16 V
						Off	0 – 1 V
LH	E153					On	9 – 16 V
			Off	0 – 1 V			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK PARKING LAMP

Check the parking lamp. Refer to [EXL-321, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the corresponding front combination lamp. Refer to [EXL-376, "Removal and Installation"](#).

Component Inspection

INFOID:000000010789847

1. CHECK PARKING LAMP

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Check resistance of front combination lamp terminals.

Parking lamp LH

Front combination lamp LH		Resistance
Terminal		
3	2	Except 0 Ω

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Parking lamp RH

Front combination lamp RH		Resistance
Terminal		
3	2	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the corresponding front combination lamp. Refer to [EXL-376. "Removal and Installation"](#).

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789848

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D4	TAIL LAMP LH PWR SPLY CIRC (Tail lamp left hand power supply circuit)	[CIRC SHORT TO GRND] When the parking lamp, license plate lamp, and tail lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the following power supply circuit. <ul style="list-style-type: none">• Tail lamp LH (body side)• Tail lamp LH (back door side)• License plate lamp LH• License plate lamp RH

POSSIBLE CAUSE

- Harness or connector
- Tail lamp LH (body side) bulb
- Tail lamp LH (back door side) bulb
- Tail lamp LH (body side) bulb socket or harness
- Tail lamp LH (back door side) bulb socket or harness
- License plate lamp LH bulb
- License plate lamp RH bulb
- License plate lamp LH bulb socket
- License plate lamp RH bulb socket
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

- Tail lamp LH (body side)
- Tail lamp LH (back door side)
- License plate lamp LH
- License plate lamp RH

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "T LAMP LH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
T LAMP LH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the tail lamp LH (body side), tail lamp LH (back door side), license plate lamp LH or license plate lamp RH power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-324, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

- YES >> Refer to [EXL-324, "Diagnosis Procedure"](#).
NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:000000010789849

1. CHECK TAIL LAMP LH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect the following connectors.
 - IPDM E/R
 - Rear combination lamp LH (body side)
 - Rear combination lamp LH (back door side)
 - License plate lamp LH
 - License plate lamp RH
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E10	4	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Repair or replace harness.

2. CHECK TAIL LAMP LH POWER SUPPLY

With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between rear combination lamp LH (body side) harness connector and ground.

+		-	Test item	Voltage	
Rear combination lamp LH (body side)					
Connector	Terminal				
B80	1	Ground	TAIL LAMP	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK TAIL LAMP LH

Check the tail lamp LH. Refer to [EXL-325, "Component Inspection \(Tail Lamp\)"](#).

Is the inspection result normal?

- YES >> GO TO 4.
NO >> Repair or replace the malfunctioning part.

4. CHECK LICENSE PLATE LAMP

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Check the license plate lamp. Refer to [EXL-325, "Component Inspection \(License Plate Lamp\)"](#).

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Repair or replace the malfunctioning part.

Component Inspection (Tail Lamp)

INFOID:0000000010789850

1.CHECK TAIL LAMP LH

1. Turn ignition switch OFF.
2. Disconnect rear combination lamp LH (body side) and rear combination lamp LH (back door side) connector.
3. Check resistance of rear combination lamp LH (body side) and rear combination lamp LH (back door side) terminals.

Rear combination lamp LH (body side)

Rear combination lamp LH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

Tail lamp LH (back door side)

Rear combination lamp LH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> GO TO 2.

2.CHECK TAIL LAMP LH

1. Remove tail lamp LH bulb
2. Check resistance of rear combination lamp LH (body side) and rear combination lamp LH (back door side) terminals.

Rear combination lamp LH (body side)

Rear combination lamp LH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

Tail lamp LH (back door side)

Rear combination lamp LH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

Is the inspection result normal?

- YES >> Replace the corresponding tail lamp LH bulb. Refer to [EXL-389, "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (body side) or [EXL-391, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Replacement"](#) (back door side).
- NO >> Repair or replace the corresponding tail lamp LH bulb socket and harness.

Component Inspection (License Plate Lamp)

INFOID:0000000010789851

1.CHECK LICENSE PLATE LAMP

1. Turn ignition switch OFF.
2. Disconnect license plate lamp connector.
3. Check resistance of license plate lamp terminals.

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EXL

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

License plate lamp LH

License plate lamp LH		Resistance
Terminal		
2	1	Except 0 Ω

License plate lamp RH

License plate lamp RH		Resistance
Terminal		
2	1	Except 0 Ω

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK LICENSE PLATE LAMP

1. Remove license plate lamp bulb.
2. Check resistance of license plate lamp terminals.

License plate lamp LH

License plate lamp LH		Resistance
Terminal		
2	1	Except 0 Ω

License plate lamp RH

License plate lamp RH		Resistance
Terminal		
2	1	Except 0 Ω

Is the inspection result normal?

YES >> Replace the corresponding license plate lamp bulb. Refer to [EXL-394. "Replacement"](#).

NO >> Repair or replace the corresponding license plate lamp bulb socket.

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

DTC Description

INFOID:000000010789852

DTC DETECTION LOGIC

DTC No.	CONSULT screen terms (Trouble diagnosis content)	DTC detection condition
B20D5	TAIL LAMP RH PWR SPLY CIRC (Tail lamp right hand power supply circuit)	[CIRC SHORT TO GRND] When the parking lamp, license plate lamp, and tail lamp ON conditions are satisfied (smart FET inside IPDM E/R is ON), and overcurrent is detected in the following power supply circuit. <ul style="list-style-type: none">• Tail lamp RH (body side)• Tail lamp RH (back door side)

POSSIBLE CAUSE

- Harness or connector
- Tail lamp RH (body side) bulb
- Tail lamp RH (back door side) bulb
- Tail lamp RH (body side) bulb socket or harness
- Tail lamp RH (back door side) bulb socket or harness
- IPDM E/R

FAIL-SAFE

Shuts off the power supply to the following power supply circuits until the parking lamp, license plate lamp, and tail lamp ON conditions are no longer satisfied.

- Tail lamp RH (body side)
- Tail lamp RH (back door side)

DTC CONFIRMATION PROCEDURE

1. PRECONDITIONING

Ⓜ With CONSULT

1. Turn ignition switch ON.
2. Select "T LAMP RH CIRC MALFUNCTN" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
3. Check the monitor status.

Monitor item	Monitor status
T LAMP RH CIRC MALFUNCTN	0
	1

What is the monitor status?

"0" >> GO TO 2.

"1" >> A short circuit is detected multiple times in the tail lamp RH (body side) or tail lamp RH (back door side) power supply circuit, and damage accumulates at the smart FET inside the IPDM E/R. For this reason, IPDM E/R does not turn ON the smart FET. Because the DTC cannot be reproduced in this state, perform [EXL-328, "Diagnosis Procedure"](#) and replace IPDM E/R after the malfunctioning part is repaired. Refer to [PCS-60, "Removal and Installation"](#).

2. PERFORM DTC CONFIRMATION PROCEDURE

Ⓜ With CONSULT

1. Turn ignition switch OFF.
2. Turn ignition switch ON.
3. Turn lighting switch 1ST.
4. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
5. Check DTC.

Is DTC detected?

YES >> Refer to [EXL-328, "Diagnosis Procedure"](#).

NO-1 >> To check malfunction symptom before repair: Refer to [GI-44, "Intermittent Incident"](#).

NO-2 >> Confirmation after repair: INSPECTION END

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

INFOID:000000010789853

Diagnosis Procedure

1. CHECK TAIL LAMP RH POWER SUPPLY CIRCUIT (SHORT)

1. Turn ignition switch OFF.
2. Turn lighting switch OFF.
3. Disconnect the following connectors.
 - IPDM E/R
 - Rear combination lamp RH (body side)
 - Rear combination lamp RH (back door side)
4. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		—	Continuity
Connector	Terminal		
E10	17	Ground	Not existed

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Repair or replace harness.

2. CHECK TAIL LAMP RH POWER SUPPLY

Ⓜ With CONSULT

1. Connect IPDM E/R connector.
2. Turn ignition switch ON
3. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
4. With operating the test items, check the voltage between rear combination lamp RH (body side) harness connector and ground.

+		-	Test item	Voltage	
Rear combination lamp RH (body side)					
Connector	Terminal				
B59	1	Ground	TAIL LAMP	On	9 – 16 V
				Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

3. CHECK TAIL LAMP RH

Check the tail lamp RH. Refer to [EXL-328, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END
 NO >> Repair or replace the malfunctioning part.

Component Inspection

INFOID:000000010789854

1. CHECK TAIL LAMP RH

1. Turn ignition switch OFF.
2. Disconnect rear combination lamp RH (body side) and rear combination lamp RH (back door side) connector.
3. Check resistance of rear combination lamp RH (body side) and rear combination lamp RH (back door side) terminals.

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Rear combination lamp RH (body side)

Rear combination lamp RH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

A

B

Tail lamp RH (back door side)

Rear combination lamp RH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

C

D

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

E

2. CHECK TAIL LAMP RH

1. Remove tail lamp RH bulb
2. Check resistance of rear combination lamp RH (body side) and rear combination lamp RH (back door side) terminals.

F

Rear combination lamp RH (body side)

Rear combination lamp RH (body side)		Resistance
Terminal		
1	4	Except 0 Ω

G

H

Tail lamp RH (back door side)

Rear combination lamp RH (back door side)		Resistance
Terminal		
1	3	Except 0 Ω

I

J

Is the inspection result normal?

YES >> Replace the corresponding tail lamp RH bulb. Refer to [EXL-389. "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (body side) or [EXL-391. "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Replacement"](#) (back door side).

K

NO >> Repair or replace the corresponding tail lamp RH bulb socket and harness.

EXL

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HEADLAMP (HI) CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:000000010789855

1. CHECK HEADLAMP (HI) OPERATION

④ With CONSULT

1. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the headlamp (HI) is turned ON.

On : Headlamp (HI) ON

Off : Headlamp (HI) OFF

Is the inspection result normal?

- YES >> Headlamp (HI) circuit is normal.
NO >> Refer to [EXL-330, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789856

1. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Turn ignition switch ON.
4. Select "HEADLAMP (HI)" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	HEADLAMP (HI)		
RH	E148	54			On	9 – 16 V
					Off	0 – 1 V
LH	E149	59			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

- YES >> GO TO 2.
NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK HEADLAMP (HI) POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E148	54	E151	6	Existed
LH	E149	59	E153		

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Repair or replace harness.

3. CHECK HEADLAMP (HI) GROUND CIRCUIT

Check continuity between front combination lamp connector and ground.

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E151	5	Ground	Existed
LH	E153			

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK HEADLAMP (HI) BULB

Check the applicable headlamp (HI) bulb.

Is the inspection result normal?

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

NO >> Replace the corresponding headlamp (HI) bulb. Refer to [EXL-376, "Replacement"](#).

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EXL

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

HEADLAMP (LO) CIRCUIT

Component Function Check

INFOID:000000010789857

1. CHECK HEADLAMP (LO) OPERATION

④ With CONSULT

1. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the inspection result normal?

YES >> Headlamp (LO) circuit is normal.

NO >> Refer to [EXL-332, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789858

1. CHECK HEADLAMP (LO) OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Turn ignition switch ON.
4. Select "HEADLAMP (LO)" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	HEADLAMP (LO)		
RH	E149	62			On	9 – 16 V
					Off	0 – 1 V
LH	E148	50			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2. CHECK HEADLAMP (LO) POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	62	E152	7	Existed
LH	E148	50	E154		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK HEADLAMP (LO) GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E152	8	Ground	Existed
LH	E154			

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK HEADLAMP (LO) BULB

Check the applicable headlamp (LO) bulb.

Is the inspection result normal?

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

NO >> Replace the corresponding headlamp (LO) bulb. Refer to [EXL-376, "Replacement"](#).

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PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

PARKING LAMP CIRCUIT

Component Function Check

INFOID:000000010789859

1.CHECK PARKING LAMP OPERATION

④With CONSULT

1. Select "PARKING LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the parking lamp is turned ON.

On : Parking lamp ON
Off : Parking lamp OFF

Is the inspection result normal?

- YES >> Parking lamp circuit is normal.
 NO >> Refer to [EXL-334, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789860

1.CHECK PARKING LAMP OUTPUT VOLTAGE

④With CONSULT

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

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	PARKING LAMP		
RH	E149	61			On	9 – 16 V
					Off	0 – 1 V
LH	E148	56			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2.CHECK PARKING LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	61	E151	3	Existed
LH	E148	56	E153		

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3.CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E151	2	Ground	Existed
LH	E153			

Is the inspection result normal?

- YES >> Replace the corresponding front combination lamp. Refer to [EXL-376, "Removal and Installation"](#).
- NO >> Repair or replace harness.

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EXL

TAIL LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

TAIL LAMP CIRCUIT

Component Function Check

INFOID:000000010789861

1. CHECK TAIL LAMP OPERATION

④ With CONSULT

1. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
2. With operating the test items, check that the tail lamp is turned ON.

On : Tail Lamp ON

Off : Tail lamp OFF

Is the inspection result normal?

- YES >> Tail lamp circuit is normal.
 NO >> Refer to [EXL-336. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789862

1. CHECK TAIL LAMP OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - Rear combination lamp LH (body side)
 - Rear combination lamp RH (body side)
 - Rear combination lamp LH (back door side)
 - Rear combination lamp RH (back door side)
3. Turn ignition switch ON.
4. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector	Terminal					
RH	E10	17	Ground	TAIL LAMP	On	9 – 16 V
					Off	0 – 1 V
LH		4			On	9 – 16 V
					Off	0 – 1 V

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

2. CHECK TAIL LAMP POWER SUPPLY CIRCUIT

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

Body side

IPDM E/R			Rear combination lamp (body side)		Continuity
Connector	Terminal		Connector	Terminal	
RH	E10	17	B59	1	Existed
LH		4	B80		

TAIL LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Back door side

IPDM E/R		Rear combination lamp (back door side)		Continuity
Connector	Terminal	Connector	Terminal	
RH	E10	17	D156	Existed
LH		4	D155	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK TAIL LAMP GROUND CIRCUIT

Check continuity between each tail lamp harness connector and ground.

Body side

Rear combination lamp (body side)		Terminal	—	Continuity
Connector	Terminal			
RH	B59	1	Ground	Existed
LH	B80			

Back door side

Rear combination lamp (back door side)			—	Continuity
Connector	Terminal	Terminal		
RH	D156	1	Ground	Existed
LH	D155			

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK TAIL LAMP BULB

Check the applicable tail lamp bulb.

Is the inspection result normal?

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

NO >> Replace the corresponding tail lamp bulb. Refer to [EXL-389. "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (body side) or [EXL-391. "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Replacement"](#) (back door side).

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EXL

LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

LICENSE PLATE LAMP CIRCUIT

Component Function Check

INFOID:000000010789863

1. CHECK TAIL LAMP LH OPERATION

Check that tail lamp LH is turned ON when lighting switch is turned 1ST.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to [EXL-336, "Component Function Check"](#).

2. CHECK LICENSE PLATE LAMP OPERATION

Ⓢ With CONSULT

1. Select "TAIL LAMP" in "Active Test" mode of "IPDM E/R" using CONSULT.

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

On : License plate lamp ON

Off : License plate lamp OFF

Is the inspection result normal?

YES >> License plate lamp circuit is normal.

NO >> Refer to [EXL-338, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789864

1. CHECK LICENSE PLATE LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector and license plate lamp connector.

3. Check continuity between IPDM E/R harness connector and license plate lamp harness connector.

IPDM E/R		License plate lamp		Continuity
Connector	Terminal	Connector	Terminal	
RH	E10	D161	2	Existed
LH		D162		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK LICENSE PLATE LAMP GROUND CIRCUIT

Check continuity between license plate lamp harness connector and ground.

License plate lamp		Terminal	—	Continuity
Connector	Terminal			
RH	D161	1	Ground	Existed
LH	D162			

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK LICENSE PLATE LAMP BULB

Check the applicable license plate lamp bulb.

Is the inspection result normal?

YES >> Check the corresponding license plate lamp bulb socket. Repair or replace if necessary.

NO >> Replace the corresponding license plate lamp bulb. Refer to [EXL-394, "Replacement"](#).

DAYTIME RUNNING LIGHT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

DAYTIME RUNNING LIGHT CIRCUIT

Component Function Check

INFOID:000000010789865

1.CHECK DAYTIME RUNNING LIGHT OPERATION

④With CONSULT

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

On : Daytime running light ON

Off : Daytime running light OFF

Is the inspection result normal?

- YES >> Daytime running light circuit is normal.
 NO >> Refer to [EXL-339, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789865

1.CHECK DAYTIME RUNNING LIGHT OUTPUT VOLTAGE

④With CONSULT

1. Turn ignition switch OFF.
2. Disconnect front combination lamp connector.
3. Turn ignition switch ON.
4. Select "DAYTIME RUNNING LIGHT" in "Active Test" mode of "IPDM E/R" using CONSULT.
5. With operating the test items, check voltage between IPDM E/R harness connector and ground.

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	DAYTIME RUNNING LIGHT		
RH	E149	58			On	9 – 16 V
					Off	0 – 1 V
LH	E148	49			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2.CHECK DAYTIME RUNNING LIGHT POWER SUPPLY CIRCUIT

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

IPDM E/R			Front combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	58	E151	1	Existed
LH	E148	49	E153		

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3.CHECK DAYTIME RUNNING LIGHT GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

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DAYTIME RUNNING LIGHT CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front combination lamp		Terminal	—	Continuity
Connector				
RH	E151	2	Ground	Existed
LH	E153			

Is the inspection result normal?

- YES >> Replace the corresponding front combination lamp. Refer to [EXL-376, "Removal and Installation"](#).
- NO >> Repair or replace harness.

STOP LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

STOP LAMP CIRCUIT

Component Function Check

INFOID:000000010789867

1.CHECK STOP LAMP OPERATION

1. Turn ignition switch ON.
2. With operating the brake pedal, check that the stop lamp and high-mounted stop lamp is turned ON.

Depressed : Stop lamp and high-mounted stop lamp ON
Fully released : Stop lamp and high-mounted stop lamp OFF

Is the inspection result normal?

- YES >> Stop lamp circuit is normal.
NO >> Refer to [EXL-341, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789868

1.CHECK SYMPTOM

Check symptom (A or B)

Symptom	
A	All of stop lamp and high-mounted stop lamp are not turned ON
B	Any of stop lamp and high-mounted stop lamp are not turned ON

Which symptom is detected?

- A >> GO TO 2.
B >> GO TO 7.

2.CHECK FUSE

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

Except R9M engine models with M/T

Unit	Location	Fuse No.	Capacity
• BCM • Stop lamp switch	Fuse block (J/B)	#10	10 A
Stop lamp switch		#30	

R9M engine models with M/T

Unit	Location	Fuse No.	Capacity
• BCM • Stop lamp switch	Fuse block (J/B)	#10	10 A
Stop lamp switch		#20	

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

3.CHECK BCM POWER SUPPLY (STOP LAMP)

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

STOP LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

+		-	Voltage
BCM			
Connector	Terminal		
M85	145	Ground	9 – 16 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK STOP LAMP SWITCH POWER SUPPLY

1. Disconnect stop lamp switch connector.
2. Connect BCM connector.
3. Turn ignition switch ON.
4. Check voltage between stop lamp switch harness connector and ground.

CVT models

+		-	Voltage
Stop lamp switch			
Connector	Terminal		
E115	1	Ground	9 – 16 V
	3		

MR20DD engine models with M/T

+		-	Voltage
Stop lamp switch			
Connector	Terminal		
E120	1	Ground	9 – 16 V
	3		

R9M engine models with M/T

+		-	Voltage
Stop lamp switch			
Connector	Terminal		
E121	1	Ground	9 – 16 V
	3		

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK STOP LAMP SWITCH SIGNAL CIRCUIT (OPEN)

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

CVT models

BCM		Stop lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
E23	157	E115	2	Existed
	158		4	

STOP LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

MR20DD engine models with M/T

BCM		Stop lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
E23	157	E120	2	Existed
	158		4	

R9M engine models with M/T

BCM		Stop lamp switch		Continuity
Connector	Terminal	Connector	Terminal	
E23	157	E121	2	Existed
	158		4	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

6. CHECK STOP LAMP SWITCH

Check stop lamp switch. Refer to [EXL-345. "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-121. "Removal and Installation"](#).

NO >> Replace stop lamp switch. Refer to [BR-21. "Removal and Installation"](#) (LHD models) or [BR-85. "Removal and Installation"](#) (RHD models).

7. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP OUTPUT VOLTAGE

 With CONSULT

1. Disconnect rear combination lamp (body side) and high-mounted stop lamp connectors.
2. Turn ignition switch ON.
3. Select "HEAD LAMP" of "BCM" using CONSULT.
4. Select "STOP LAMP 1", "STOP LAMP 2" or "STOP LAMP 3" in "Active Test" mode.
5. With operating the test items, check voltage between BCM harness connector and ground.

Stop lamp RH

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
B46	129	Ground	STOP LAMP 1	On	9 – 16 V
			Off	0 V	

Stop lamp LH

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
B46	134	Ground	STOP LAMP 2	On	9 – 16 V
			Off	0 V	

High-mounted stop lamp

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
B47	39	Ground	STOP LAMP 3	On	9 – 16 V
			Off	0 V	

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

STOP LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

8. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP POWER SUPPLY CIRCUIT (SHORT)

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

Stop lamp

BCM			—	Continuity
Connector	Terminal			
RH	B46	129	Ground	Not existed
LH		134		

High-mounted stop lamp

BCM			—	Continuity
Connector	Terminal			
B47	39		Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

NO >> Repair or replace harness.

9. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and each stop lamp harness connector.

Stop lamp

BCM			Rear combination lamp (body side)		Continuity
Connector	Terminal		Connector	Terminal	
RH	B46	129	B59	2	Existed
LH		134	B80		

High-mounted stop lamp

BCM		High-mounted stop lamp		Continuity
Connector	Terminal	Connector	Terminal	
B47	39	D154	1	Existed

Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace harness.

10. CHECK STOP LAMP / HIGH-MOUNTED STOP LAMP GROUND CIRCUIT

Check continuity between each stop lamp harness connector and ground.

Stop lamp

Rear combination lamp (body side)			—	Continuity
Connector	Terminal			
RH	B59		4	Ground
LH	B80			

High-mounted stop lamp

High-mounted stop lamp		—	Continuity
Connector	Terminal		
D154	2	Ground	Existed

Is the inspection result normal?

YES-1 >> Stop lamp: GO TO 11.

STOP LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

YES-2 >> High-mounted stop lamp: Replace high-mounted stop lamp. Refer to [EXL-392. "Removal and Installation"](#).

NO >> Repair or replace harness.

11.CHECK STOP LAMP BULB

Check the applicable stop lamp bulb.

Is the inspection result normal?

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

NO >> Replace the corresponding stop lamp bulb. Refer to [EXL-389. "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#).

Component Inspection

INFOID:000000010789869

1.CHECK STOP LAMP SWITCH-1

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch connector.
3. Check continuity of stop lamp switch terminals.

Except R9M engine models with M/T

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Existed
		Fully released	Not existed

R9M engine models with M/T

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Not existed
		Fully released	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK STOP LAMP SWITCH-2

1. Adjust stop lamp switch installation. Refer to [BR-11. "Inspection and Adjustment"](#) (LHD models) or [BR-75. "Inspection and Adjustment"](#) (RHD models).
2. Check continuity of stop lamp switch terminals.

Except R9M engine models with M/T

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Existed
		Fully released	Not existed

STOP LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

R9M engine models with M/T

Stop lamp switch		Condition	Continuity
Terminal			
1	2	Depressed	Existed
		Fully released	Not existed
3	4	Depressed	Not existed
		Fully released	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace stop lamp switch. Refer to [BR-21, "Removal and Installation"](#) (LHD models) or [BR-85, "Removal and Installation"](#) (RHD models).

FRONT FOG LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:000000010789870

1.CHECK FRONT FOG LAMP OPERATION

④ With CONSULT

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

On : Front fog lamp ON
Off : Front fog lamp OFF

Is the inspection result normal?

- YES >> Front fog lamp circuit is normal.
 NO >> Refer to [EXL-347, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789871

1.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

④ With CONSULT

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

+			-	Test item	Voltage	
IPDM E/R						
Connector		Terminal	Ground	FRONT FOG LAMP		
RH	E149	57			On	9 – 16 V
					Off	0 – 1 V
LH	E148	51			On	9 – 16 V
			Off	0 – 1 V		

Is the inspection result normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

2.CHECK FRONT FOG LAMP POWER SUPPLY CIRCUIT

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

IPDM E/R			Front fog lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E149	57	E158	1	Existed
LH	E148	51	E159		

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3.CHECK FRONT FOG LAMP GROUND CIRCUIT

Check continuity between front fog lamp harness connector and ground.

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Front fog lamp		Terminal	—	Continuity
Connector				
RH	E158	2	Ground	Existed
LH	E159			

Is the inspection result normal?

- YES >> Replace the corresponding front fog lamp bulb. Refer to [EXL-379, "Replacement"](#).
NO >> Repair or replace harness.

REAR FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

REAR FOG LAMP CIRCUIT

Component Function Check

INFOID:000000010789872

1. CHECK REAR FOG LAMP OPERATION

④ With CONSULT

1. Select "HEAD LAMP" of "BCM" using CONSULT.
2. Select "RR FOG LAMP" in "Active Test" mode.
3. With operating the test items, check that the rear fog lamp is turned ON.

On : Rear fog lamp ON

Off : Rear fog lamp OFF

Is the inspection result normal?

YES >> Rear fog lamp circuit is normal.

NO >> Refer to [EXL-349, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789873

1. CHECK REAR FOG LAMP OUTPUT VOLTAGE

④ With CONSULT

1. Turn ignition switch OFF.
2. Disconnect rear fog lamp connector.
3. Turn ignition switch ON.
4. Select "HEAD LAMP" of "BCM" using CONSULT.
5. Select "RR FOG LAMP" in "Active Test" mode.
6. With operating the test items, check voltage between rear fog lamp harness connector and ground.

+		-	Test item	Voltage	
Rear fog lamp					
Connector	Terminal				
B152	2	Ground	RR FOG LAMP	On	9 – 16 V
				Off	0 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

2. CHECK REAR FOG LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector and rear fog lamp harness connector.

BCM		Rear fog lamp		Continuity
Connector	Terminal	Connector	Terminal	
B46	122	B152	2	Existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK REAR FOG LAMP POWER SUPPLY CIRCUIT (SHORT)

Check continuity between BCM harness connector and ground.

REAR FOG LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

BCM		—	Continuity
Connector	Terminal		
B46	122	Ground	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

NO >> Repair or replace harness.

4. CHECK REAR FOG LAMP GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between rear fog lamp harness connector and ground.

Rear fog lamp		—	Continuity
Connector	Terminal		
B152	1	Ground	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK REAR FOG LAMP BULB

Check rear fog lamp bulb.

Is the inspection result normal?

YES >> Check rear fog lamp bulb socket. Repair or replace if necessary.

NO >> Replace rear fog lamp bulb. Refer to [EXL-396, "Replacement"](#).

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

TURN SIGNAL LAMP CIRCUIT

Component Function Check

INFOID:000000010789874

1.CHECK TURN SIGNAL LAMP OPERATION

1. Turn ignition switch ON.
2. With operating the turn signal switch, check that the turn signal lamp is blinks.

Right : Turn signal lamps RH blink
Left : Turn signal lamps LH blink
Center : Turn signal lamps OFF

Is the inspection result normal?

- YES >> Turn signal lamp circuit is normal.
NO >> Refer to [EXL-351. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789875

1.CHECK SYMPTOM

Check symptom (A or B)

Symptom	
A	All of turn signal lamp are not blinks
B	Applicable side performs high flasher activation

Which symptom is detected?

- A >> GO TO 2.
B >> GO TO 4.

2.CHECK FUSE

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

Unit	Location	Fuse No.	Capacity
BCM	Fuse block (J/B)	#1	15 A

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

3.CHECK BCM POWER SUPPLY (TURN SIGNAL LAMP)

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

+		-	Voltage
BCM			
Connector	Terminal		
M85	144	Ground	9 – 16 V

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121. "Removal and Installation"](#).
NO >> Repair or replace harness.

4.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect the following connectors.
 - Front turn signal lamp

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EXL

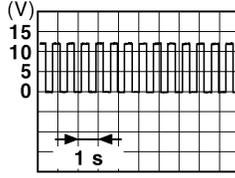
TURN SIGNAL LAMP CIRCUIT

[HALOGEN HEADLAMP]

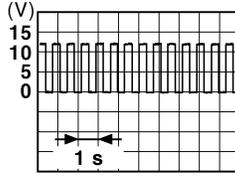
< DTC/CIRCUIT DIAGNOSIS >

- Door mirror
- Rear combination lamp (body side)
- 3. Turn ignition switch ON.
- 4. With operating the turn signal switch, check voltage between BCM harness connector and ground.

Front turn signal lamp

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
RH	E23	Ground	Turn signal switch	Right	 PKID0926E
				Center	0 V
LH				167	Left
			Center	0 V	

Side turn signal lamp

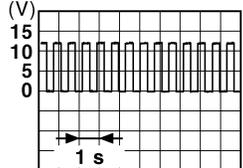
+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
RH	M87	Ground	Turn signal switch	Right	 PKID0926E
				Center	0 V
LH				42	Left
			Center	0 V	

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Rear turn signal lamp

+		-	Test item	Voltage (Approx.)	
BCM					
Connector	Terminal				
RH	B46	Ground	Turn signal switch	Right	 <small>PKID0926E</small>
				Center	0 V
LH				136	Left
				Center	0 V

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (SHORT)

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

Front turn signal lamp

BCM			—	Continuity
Connector	Terminal			
RH	E23	168	Ground	Not existed
LH		167		

Side turn signal lamp

BCM			—	Continuity
Connector	Terminal			
RH	M87	43	Ground	Not existed
LH		42		

Rear turn signal lamp

BCM			—	Continuity
Connector	Terminal			
RH	B46	136	Ground	Not existed
LH		133		

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).
- NO >> Repair or replace harness.

6. CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector.

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TURN SIGNAL LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

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

Front turn signal lamp

BCM			Front turn signal lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E23	168	E46	1	Existed
LH		167	E27		

Side turn signal lamp (LHD models)

BCM			Door mirror		Continuity
Connector		Terminal	Connector	Terminal	
RH	M87	43	D43	13	Existed
LH		42	D3		

Side turn signal lamp (RHD models)

BCM			Door mirror		Continuity
Connector		Terminal	Connector	Terminal	
RH	M87	43	D23	13	Existed
LH		42	D98		

Rear turn signal lamp

BCM			Rear combination lamp (body side)		Continuity
Connector		Terminal	Connector	Terminal	
RH	B46	136	B59	3	Existed
LH		133	B80		

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

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

Front turn signal lamp

Front combination lamp			—	Continuity
Connector		Terminal		
RH	E46	2	Ground	Existed
LH	E27			

Side turn signal lamp (LHD models)

Door mirror			—	Continuity
Connector		Terminal		
RH	D43	14	Ground	Existed
LH	D3			

Side turn signal lamp (RHD models)

Door mirror			—	Continuity
Connector		Terminal		
RH	D23	14	Ground	Existed
LH	D98			

TURN SIGNAL LAMP CIRCUIT

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

Rear turn signal lamp

Rear turn signal lamp		Terminal	—	Continuity
Connector				
RH	B59	4	Ground	Existed
LH	B80			

Is the inspection result normal?

YES-1 >> Front turn signal lamp or rear turn signal lamp: GO TO 8.

YES-2 >> Side turn signal lamp: Replace side turn signal lamp. Refer to [EXL-385, "Removal and Installation"](#).

NO >> Repair or replace harness.

8. CHECK TURN SIGNAL LAMP BULB

Check the applicable turn signal lamp bulb.

Is the inspection result normal?

YES-1 >> Front turn signal lamp: Check the corresponding front turn signal lamp bulb socket. Repair or replace if necessary.

YES-2 >> Rear turn signal lamp: Check the corresponding rear turn signal lamp bulb socket and harness. Repair or replace if necessary.

NO >> Replace the corresponding turn signal lamp bulb. Refer to [EXL-376, "Replacement"](#) (front turn signal lamp) or [EXL-389, "REAR COMBINATION LAMP \(BODY SIDE\) : Replacement"](#) (rear turn signal lamp).

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EXL

LIGHT & RAIN SENSOR

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

LIGHT & RAIN SENSOR

Component Function Check

INFOID:0000000011008678

1.CHECK LIGHT & RAIN SENSOR

1. Clean light & rain sensor detection area of windshield fully.
2. Turn ignition switch ON.
3. Turn lighting switch AUTO.
4. With the light & rain sensor illuminating, check the auto light function.

Condition		Auto light function
Light & rain sensor	When illuminating	Not operating
	When shutting off light	Operating

Is the inspection result normal?

- YES >> Light & rain sensor is normal.
NO >> Refer to [EXL-356, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:0000000011008679

1.CHECK LIGHT & RAIN SENSOR POWER SUPPLY

1. Turn ignition switch OFF
2. Disconnect light & rain sensor connector.
3. Turn ignition switch ON.
4. Check voltage between light & rain sensor harness connector and ground.

+		-	Voltage
Light & rain sensor			
Connector	Terminal		
R20	1	Ground	Battery voltage

Is the inspection result normal?

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

2.CHECK LIGHT & RAIN SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Remove interior room lamp relay.
3. Check continuity between interior room lamp relay harness connector and light & rain sensor harness connector.

Interior Room lamp relay		Light & rain sensor		Continuity
Connector	Terminal	Connector	Terminal	
M44	5	R20	1	Existed

Is the inspection result normal?

- YES >> Perform the interior interior room lamp power supply circuit diagnosis. Refer to [INL-65, "Diagnosis Procedure"](#).
NO >> Repair or replace harness.

3.CHECK LIGHT & RAIN SENSOR GROUND CIRCUIT

Check continuity between light & rain sensor harness connector and ground.

Light & rain sensor		—	Continuity
Connector	Terminal		
R20	3	Ground	Existed

LIGHT & RAIN SENSOR

[HALOGEN HEADLAMP]

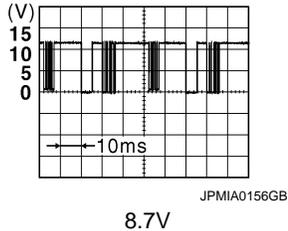
< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Repair or replace harness.

4.CHECK LIGHT & RAIN SENSOR SIGNAL

1. Connect light & rain sensor connector.
2. Turn ignition switch ON.
3. Check voltage between BCM harness connector and ground.

+		-	Condition	Voltage (Approx.)
BCM				
Connector	Terminal			
M87	47	Ground	Ignition switch ON	

Is the inspection result normal?

- YES >> Replace light & rain sensor. Refer to [EXL-381, "Removal and Installation"](#).
- NO >> GO TO 5.

5.CHECK LIGHT & RAIN SENSOR SIGNAL CIRCUIT (OPEN)

1. Turn ignition switch OFF.
2. Disconnect BCM connector and light & rain sensor connector.
3. Check continuity between BCM harness connector and light & rain sensor harness connector.

BCM		Light & rain sensor		Continuity
Connector	Terminal	Connector	Terminal	
M87	47	R20	2	Existed

Is the inspection result normal?

- YES >> GO TO 6.
- NO >> Repair or replace harness.

6.CHECK LIGHT & RAIN SENSOR SIGNAL CIRCUIT (SHORT)

Check continuity between BCM harness connector and ground.

BCM		—	Continuity
Connector	Terminal		
M87	47	Ground	Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).
- NO >> Repair or replace harness.

HAZARD SWITCH

Component Function Check

INFOID:000000010789878

1. CHECK HAZARD SWITCH SIGNAL

④ With CONSULT

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

Monitor item	Condition	Monitor status
HAZARD SW	Hazard switch	ON
		Off

Is the inspection result normal?

- YES >> Hazard switch circuit is normal.
 NO >> Refer to [EXL-358, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010789879

1. CHECK HAZARD SWITCH SIGNAL

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

+		-	Voltage
Hazard switch			
Connector	Terminal		
M45	2	Ground	9 – 16 V

Is the inspection result normal?

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

2. CHECK HAZARD SWITCH SIGNAL CIRCUIT (OPEN)

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

Hazard switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M45	2	M87	51	Existed

Is the inspection result normal?

- YES >> GO TO 3.
 NO >> Repair or replace harness.

3. CHECK HAZARD SWITCH SIGNAL CIRCUIT (SHORT)

Check continuity between hazard switch harness connector and ground.

Hazard switch		—	Continuity
Connector	Terminal		
M45	2	Ground	Not existed

Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

HAZARD SWITCH

[HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

4.CHECK HAZARD SWITCH GROUND CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch		—	Continuity
Connector	Terminal		
M45	1	Ground	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK HAZARD SWITCH

Check hazard switch. Refer to [EXL-359, "Component Inspection"](#).

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace hazard switch. Refer to [EXL-383, "Removal and Installation"](#).

Component Inspection

INFOID:000000010789880

1.CHECK HAZARD SWITCH

1. Turn ignition switch OFF.
2. Disconnect hazard switch connector.
3. Check continuity of hazard switch terminals.

Hazard switch		Condition	Continuity
Terminal			
1	2	Hazard switch ON	Existed
		OFF	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace hazard switch. Refer to [EXL-383, "Removal and Installation"](#).

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HEADLAMP AIMING SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

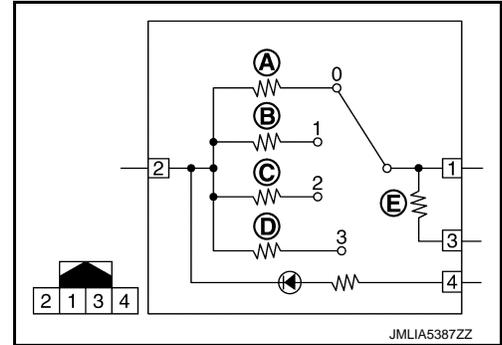
HEADLAMP AIMING SWITCH

Component Inspection

INFOID:000000010789881

1. CHECK HEADLAMP AIMING SWITCH

1. Turn ignition switch OFF.
2. Remove headlamp aiming switch.
3. Check resistance among each headlamp aiming switch terminals.



2-row seat models

Headlamp aiming switch		Condition	Resistance (Approx.)
Terminal			
1	2	0	Ⓐ: 910 Ω
		1	Ⓑ: 510 Ω
		2	Ⓒ: 243 Ω
		3	Ⓓ: 140 Ω
	3	—	Ⓔ: 390 Ω

3-row seat models

Headlamp aiming switch		Condition	Resistance (Approx.)
Terminal			
1	2	0	Ⓐ: 910 Ω
		1	Ⓑ: 316 Ω
		2	Ⓒ: 162 Ω
		3	Ⓓ: 68 Ω
	3	—	Ⓔ: 390 Ω

Is the inspection result normal?

YES >> Headlamp aiming switch is normal.

NO >> Replace headlamp aiming switch. Refer to [EXL-384, "Removal and Installation"](#).

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000010789882

NOTE:

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

Symptom		Possible cause	Inspection item
Headlamp (HI) is not turned ON	One side	<ul style="list-style-type: none"> Headlamp (HI) power supply/ground circuit Headlamp (HI) bulb Headlamp (HI) harness IPDM E/R 	Headlamp (HI) circuit Refer to EXL-330, "Component Function Check" .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-365, "Diagnosis Procedure" .	
High beam indicator lamp is not turned ON [Headlamp (HI) is turned ON]		Combination meter	Combination meter Data monitor "HI-BEAM IND"
Headlamp (LO) is not turned ON	One side	<ul style="list-style-type: none"> Headlamp (LO) power supply/ground circuit Headlamp (LO) bulb Headlamp (LO) harness IPDM E/R 	Headlamp (LO) circuit Refer to EXL-332, "Component Function Check" .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-366, "Diagnosis Procedure" .	
Dipped beam indicator lamp is not turned ON [Headlamp (LO) is turned ON]		Combination meter	Combination meter Data monitor "DIPPED BEAM IND"
Each lamp is not turned ON/OFF with lighting switch AUTO		<ul style="list-style-type: none"> Combination switch input/output signal circuit Combination switch BCM 	Combination switch Refer to BCS-119, "Symptom Table" .
		<ul style="list-style-type: none"> Light & rain sensor power supply/ground/signal circuit Light & rain sensor BCM 	Light & rain sensor Refer to EXL-356, "Component Function Check" .
Parking lamp is not turned ON		<ul style="list-style-type: none"> Parking lamp power supply/ground circuit Front combination lamp internal circuit - LED (Parking lamp) - Control circuit - Harness IPDM E/R 	Parking lamp circuit Refer to EXL-334, "Component Function Check" .
Tail lamp is not turned ON		<ul style="list-style-type: none"> Tail lamp power supply/ground circuit Tail lamp bulb Tail lamp bulb socket/harness IPDM E/R 	Tail lamp circuit Refer to EXL-336, "Component Function Check" .
License plate lamp is not turned ON		<ul style="list-style-type: none"> License plate lamp power supply/ground circuit License plate lamp bulb License plate lamp bulb socket 	License plate lamp circuit Refer to EXL-338, "Component Function Check" .
Parking lamp, license plate lamp and tail lamp are not turned ON		Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-367, "Diagnosis Procedure" .	

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Symptom	Possible cause	Inspection item	
Position lamp indicator is not turned ON (Parking lamp, license plate lamp and tail lamp are turned ON)	Combination meter	Combination meter Data monitor "LIGHT IND"	
Daytime running light is not turned ON	<ul style="list-style-type: none"> • Daytime running light power supply/ground circuit • Front combination lamp internal circuit - LED (Daytime running light) - Control circuit - Harness • IPDM E/R 	Daytime running light circuit Refer to EXL-339, "Component Function Check" .	
Turn signal lamp does not blink	Indicator lamp is normal (All of turn signal lamp is not blinks)	Turn signal lamp circuit Refer to EXL-351, "Component Function Check" .	
	Indicator lamp is normal (Applicable side performs high flasher activation)		<ul style="list-style-type: none"> • Fuse • BCM power supply (turn signal lamp) circuit • BCM
	Indicator lamp is included	<ul style="list-style-type: none"> • Front turn signal lamp - Front turn signal lamp power supply/ground circuit - Front turn signal lamp bulb - Front turn signal lamp bulb socket - BCM • Side turn signal lamp - Side turn signal lamp power supply/ground circuit - Side turn signal lamp - BCM • Rear turn signal lamp - Rear turn signal lamp power supply/ground circuit - Rear turn signal lamp bulb - Rear turn signal lamp bulb socket/harness - BCM 	Combination switch Refer to BCS-119, "Symptom Table" .
Turn signal indicator lamp does not blink (Turn signal lamp is normal)	One side	Combination meter	—
	Both sides (Always)	<ul style="list-style-type: none"> • Turn indicator signal • BCM • Combination meter 	Combination meter Data monitor "TURN IND"
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul style="list-style-type: none"> • Combination meter power supply/ground circuit • Combination meter 	Combination meter Power supply and ground circuit Refer to MWI-129, "COMBINATION METER : Diagnosis Procedure" .
<ul style="list-style-type: none"> • Hazard warning lamp does not activate (Turn signal is normal) • Hazard warning lamp continues activating 	<ul style="list-style-type: none"> • Hazard switch signal/ground circuit • Hazard switch • BCM 	Hazard switch Refer to EXL-358, "Component Function Check" .	

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Symptom	Possible cause	Inspection item
Stop lamp and high-mounted stop lamp are not turned ON	<ul style="list-style-type: none"> • Fuse • BCM power supply (stop lamp) circuit • Stop lamp switch power supply/signal circuit • Stop lamp switch • BCM 	Stop lamp circuit Refer to EXL-341, "Component Function Check" .
	Any of stop lamp and high-mounted stop lamp are not turned ON	
Front fog lamp is not turned ON	One side	<ul style="list-style-type: none"> • Front fog lamp power supply/ground circuit • Front fog lamp bulb • IPDM E/R Front fog lamp circuit Refer to EXL-347, "Component Function Check" .
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-368, "Diagnosis Procedure" .
Front fog lamp indicator lamp is not turned ON (Front fog lamp is turned ON)	Combination meter	<ul style="list-style-type: none"> • Combination meter Data monitor "FR FOG IND" • BCM (HEAD LAMP) Active test "FR FOG LAMP"
Rear fog lamp is not turned ON	Rear fog lamp indicator lamp is normal	<ul style="list-style-type: none"> • Rear fog lamp power supply/ground circuit • Rear fog lamp bulb • Rear fog lamp bulb socket • BCM Rear fog lamp circuit Refer to EXL-349, "Component Function Check" .
	Rear fog lamp indicator lamp is included	<ul style="list-style-type: none"> • Combination switch input/output signal circuit • Combination switch • BCM Combination switch Refer to BCS-119, "Symptom Table" .
Rear fog lamp indicator lamp is not turned ON (Rear fog lamp is turned ON)	<ul style="list-style-type: none"> • Rear fog lamp status signal • BCM • Combination meter 	<ul style="list-style-type: none"> • Combination meter Data monitor "RR FOG IND" • BCM (HEAD LAMP) Active test "RR FOG LAMP"

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

NORMAL OPERATING CONDITION

Description

INFOID:000000010789883

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.

HIGH BEAM ASSIST SYSTEM

When driving while using the high beam assist system, the headlamp beam may not switch or the beam switching timing may vary according to the ambient environment (the condition of the vehicle ahead, the condition of the road, the position of the vehicle, etc.). This is due to control differences and is not a malfunction.

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

INFOID:000000010789884

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

Diagnosis Procedure

INFOID:000000010789885

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-119. "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HIGH BEAM REQUEST SIGNAL

 With CONSULT

1. Select "HIGH BEAM REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the lighting switch, check the monitor status.

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

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121. "Removal and Installation"](#).

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:000000010789886

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

Diagnosis Procedure

INFOID:000000010789887

1. CHECK COMBINATION SWITCH

Check combination switch. Refer to [BCS-119, "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2. CHECK LOW BEAM REQUEST SIGNAL

Ⓔ With CONSULT

1. Select "LOW BEAM REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the lighting switch, check the monitor status.

Monitor item	Condition	Monitor status
LOW BEAM REQ	Lighting switch	2ND On
		OFF Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

INFOID:000000010789888

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

Diagnosis Procedure

INFOID:000000010789889

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-119. "Symptom Table"](#).

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK POSITION LIGHT REQUEST SIGNAL

Ⓜ With CONSULT

1. Select "POSITION LIGHT REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the lighting switch, check the monitor status.

Monitor item	Condition	Monitor status
POSITION LIGHT REQ	Lighting switch	1ST On
		OFF Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to [PCS-60. "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121. "Removal and Installation"](#).

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BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:000000010789890

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

Diagnosis Procedure

INFOID:000000010789891

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to [BCS-119, "Symptom Table"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LIGHT REQUEST SIGNAL

Ⓔ With CONSULT

1. Select "FRONT FOG LAMP REQ" in "Data Monitor" mode of "IPDM E/R" using CONSULT.
2. With operating the front fog lamp switch, check the monitor status.

Monitor item	Condition	Monitor status
FRONT FOG LAMP REQ	Front fog lamp switch (With lighting switch 1ST)	ON
		OFF

Is the item status normal?

YES >> Replace IPDM E/R. Refer to [PCS-60, "Removal and Installation"](#).

NO >> Replace BCM. Refer to [BCS-121, "Removal and Installation"](#).

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

LHD MODELS

LHD MODELS : Description

INFOID:0000000011008552

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming adjustment 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 luggage room.)

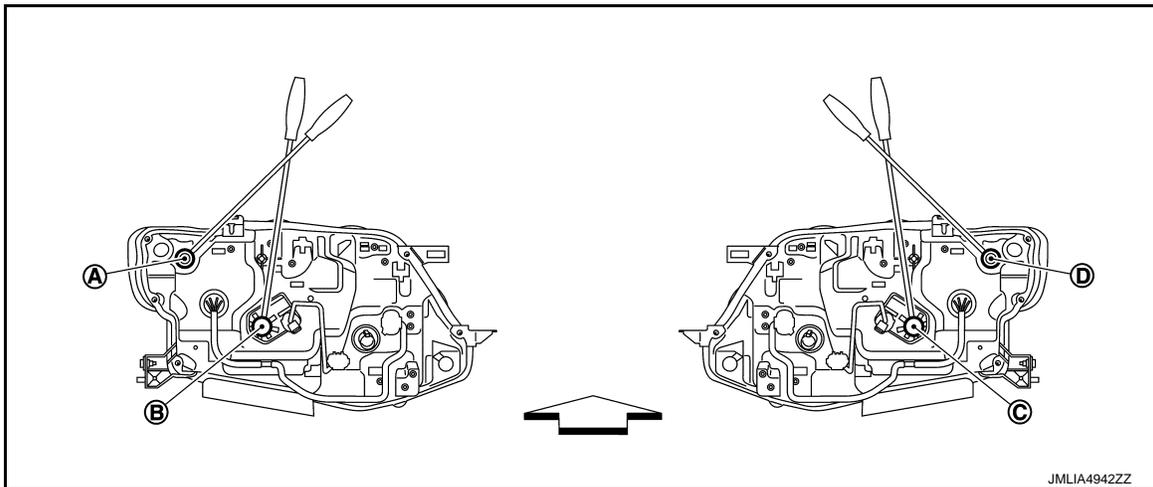
NOTE:

- Never remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.

CAUTION:

- **Never use organic solvent (thinner, gasoline etc.).**
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



- Ⓐ Headlamp LH (INSIDE/OUTSIDE) adjustment screw
- Ⓑ Headlamp LH (UP/DOWN) adjustment screw
- Ⓒ Headlamp RH (UP/DOWN) adjustment screw

- Ⓓ Headlamp RH (INSIDE/OUTSIDE) adjustment screw

↔ : Vehicle front

Adjustment screw	Screwdriver rotation	Facing direction
Ⓐ Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
	Counterclockwise	OUTSIDE
Ⓑ Headlamp LH (UP/DOWN)	Clockwise	UP
	Counterclockwise	DOWN
Ⓒ Headlamp RH (UP/DOWN)	Clockwise	UP
	Counterclockwise	DOWN

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

Adjustment screw	Screwdriver rotation	Facing direction
① Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
	Counterclockwise	OUTSIDE

LHD MODELS : Aiming Adjustment Procedure

INFOID:000000011008553

1. Place the screen.

NOTE:

- Stop the vehicle at the perpendicular angle to the wall.
- Set the screen so that it is perpendicular to a level load surface.

2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).

3. Start the engine and illuminate the headlamp (LO).

CAUTION:

Never cover lens surface with tape, etc. because it is made from plastic.

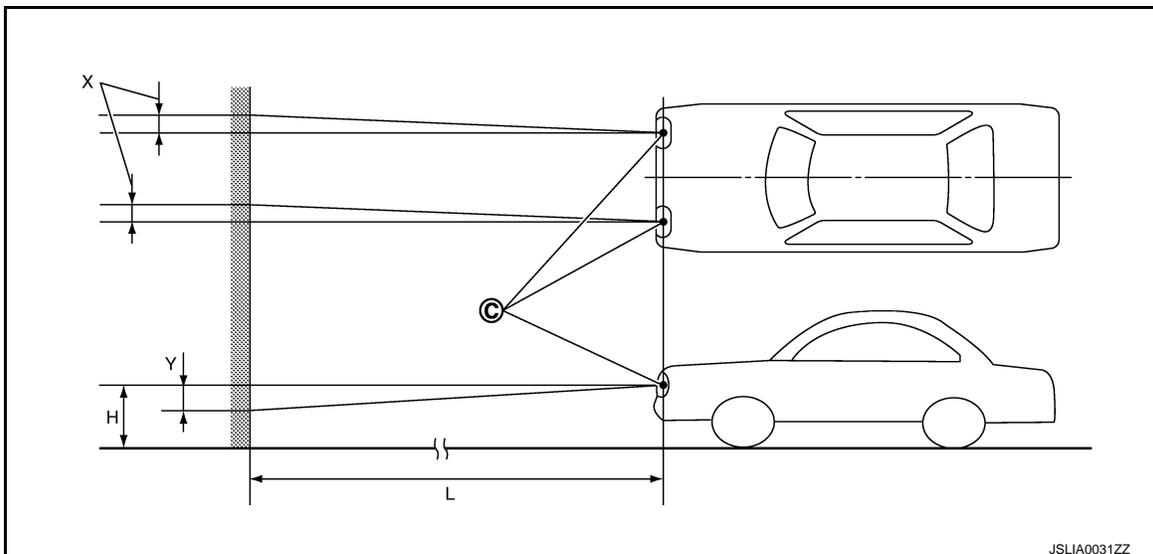
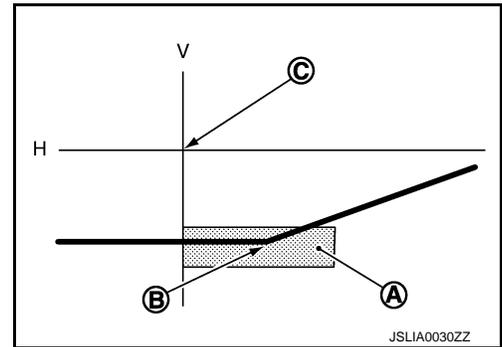
NOTE:

Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.

4. Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

Low beam distribution on the screen

- ① Aiming adjustment area
- ② Elbow point
- ③ Headlamp center
- H. Horizontal center line of headlamp
- V. Vertical center line of headlamp



- ③ Vertical center line of headlamp
- H. Horizontal center line of headlamp
- L. Distance from headlamp center to screen
- X. Aiming adjustment area (Lateral)
- Y. Aiming adjustment area (Vertical)

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

Unit: mm (in)

Aiming adjustment area		
Vertical direction (Y) (Lower side from headlamp center height)		Lateral direction (X) (Right side from headlamp center line)
Highest light axis	100 (3.94)	0 - 100 (3.94)
Target light axis	100 (3.94)	
Lowest light axis	130 (5.12)	

RHD MODELS

RHD MODELS : Description

INFOID:0000000011008554

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming adjustment 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 luggage room.)

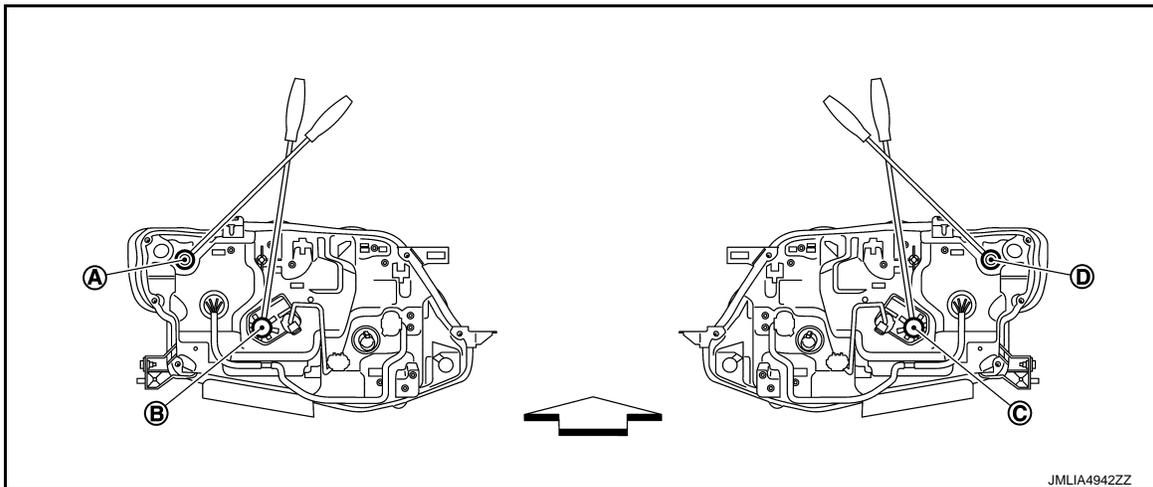
NOTE:

- Never remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.

CAUTION:

- **Never use organic solvent (thinner, gasoline etc.).**
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



- Ⓐ Headlamp LH (INSIDE/OUTSIDE) adjustment screw
- Ⓑ Headlamp LH (UP/DOWN) adjustment screw
- Ⓒ Headlamp RH (UP/DOWN) adjustment screw
- Ⓓ Headlamp RH (INSIDE/OUTSIDE) adjustment screw

↔ : Vehicle front

Adjustment screw	Screwdriver rotation	Facing direction
Ⓐ Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
	Counterclockwise	OUTSIDE

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

Adjustment screw	Screwdriver rotation	Facing direction
Ⓑ Headlamp LH (UP/DOWN)	Clockwise	UP
	Counterclockwise	DOWN
Ⓒ Headlamp RH (UP/DOWN)	Clockwise	UP
	Counterclockwise	DOWN
Ⓓ Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
	Counterclockwise	OUTSIDE

RHD MODELS : Aiming Adjustment Procedure

INFOID:000000011008555

1. Place the screen.

NOTE:

- Stop the vehicle at the perpendicular angle to the wall.
- Set the screen so that it is perpendicular to a level load surface.

2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).

3. Start the engine and illuminate the headlamp (LO).

CAUTION:

Never cover lens surface with tape, etc. because it is made from plastic.

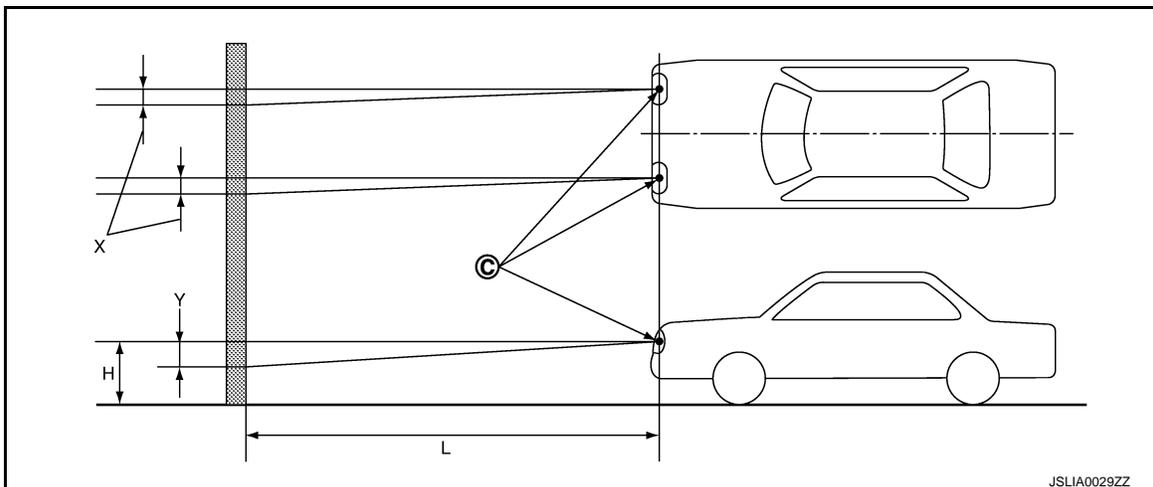
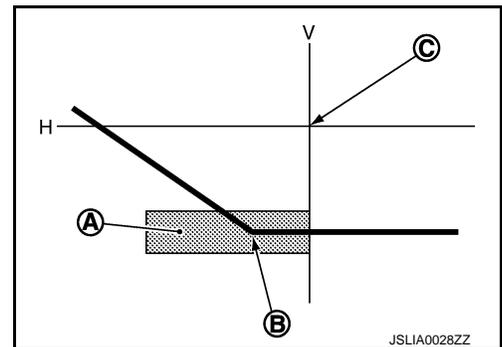
NOTE:

Block light from the headlamp that is not being adjusted with a thick fabric or another object, so that it does not reach the adjustment screen.

4. Use the aiming adjustment screw to adjust the elbow point projected by the low beams on the screen, so that it is within the aiming adjustment area.

Low beam distribution on the screen

- Ⓐ Aiming adjustment area
- Ⓑ Elbow point
- Ⓒ Headlamp center
- H. Horizontal center line of headlamp
- V. Vertical center line of headlamp



- Ⓒ Vertical center line of headlamp
- H. Horizontal center line of headlamp
- L. Distance from headlamp center to screen
- X. Aiming adjustment area (Lateral)
- Y. Aiming adjustment area (Vertical)

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

Distance from headlamp center to screen (L) : 10 m (32.8 ft)

Unit: mm (in)

Aiming adjustment area

Vertical direction (Y) (Lower side from headlamp center height)		Lateral direction (X) (Left side from headlamp center line)
Highest light axis	100 (3.94)	0 - 100 (3.94)
Target light axis	100 (3.94)	
Lowest light axis	130 (5.12)	

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EXL

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[HALOGEN HEADLAMP]

FRONT FOG LAMP AIMING ADJUSTMENT

Description

INFOID:000000011008556

PREPARATION BEFORE ADJUSTING

NOTE:

For details, refer to the regulations in your own country.

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 luggage room.)

NOTE:

Never remove the temporary tire, jack and on-vehicle tool.

- Wipe out dirt on the headlamp.

CAUTION:

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

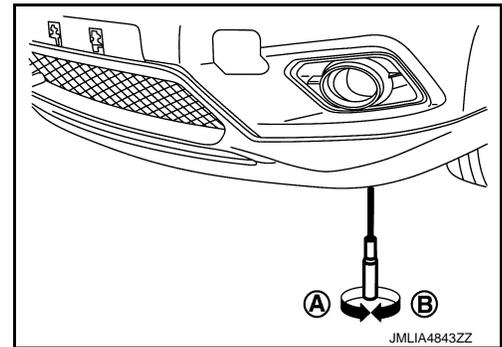
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

Ⓐ: DOWN

Ⓑ: UP



Aiming Adjustment Procedure

INFOID:000000011008557

1. Place the screen.

NOTE:

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

2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.

3. Start the engine. Turn the front fog lamp ON.

CAUTION:

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

NOTE:

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

4. Adjust the cutoff line height Ⓐ with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and Ⓐ becomes 150 mm (5.90 in).

Front fog lamp light distribution on the screen

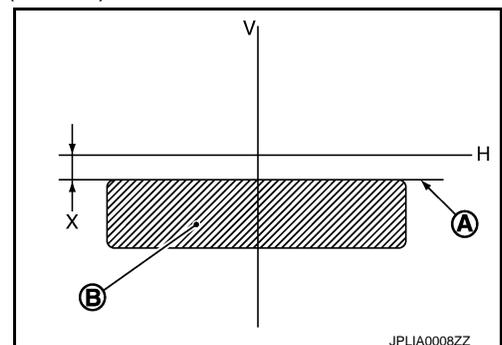
Ⓐ : Cutoff line

Ⓑ : High illuminance area

H : Horizontal center line of front fog lamp

V : Vertical center line of front fog lamp

X : Cutoff line height



FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

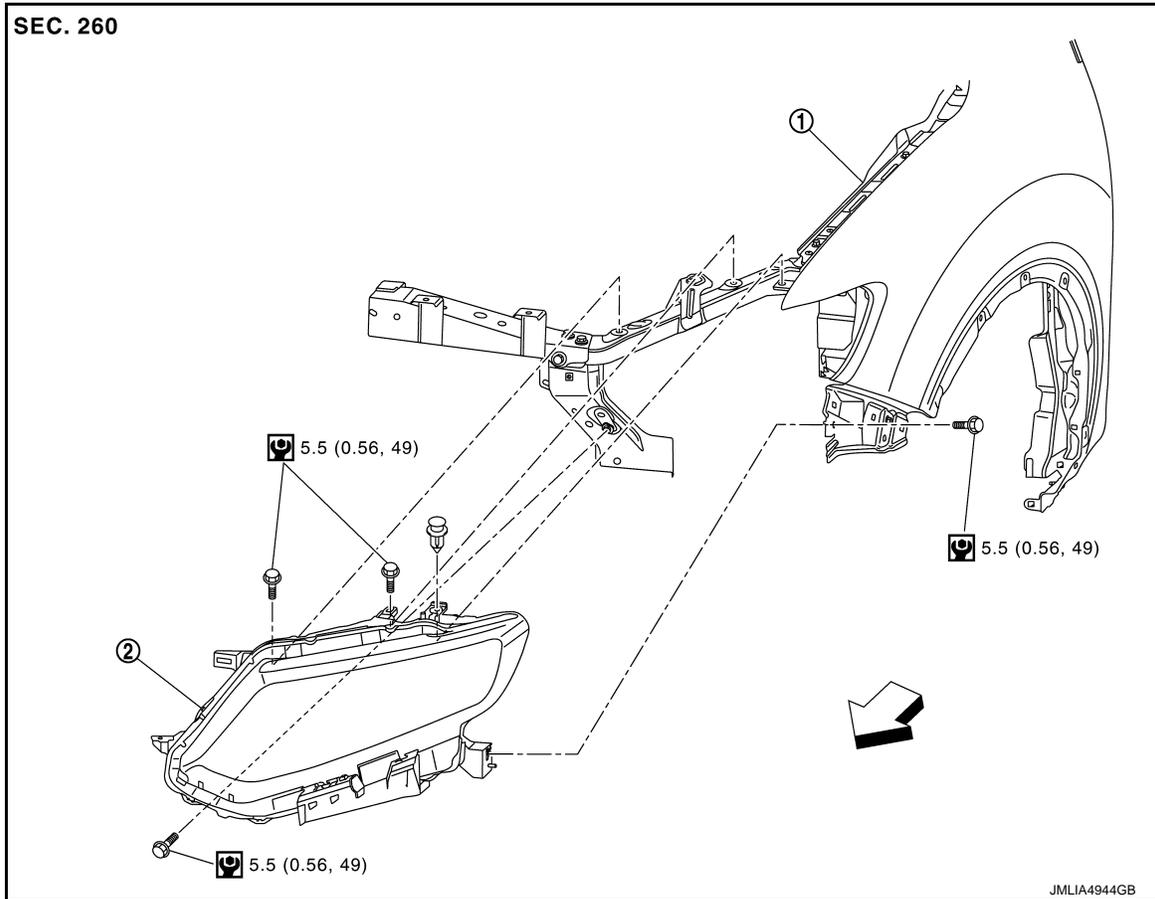
REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000010789898

REMOVAL



① Front fender panel

② Front combination lamp

← : Vehicle front

🔩 : N·m (kg-m, in-lb)

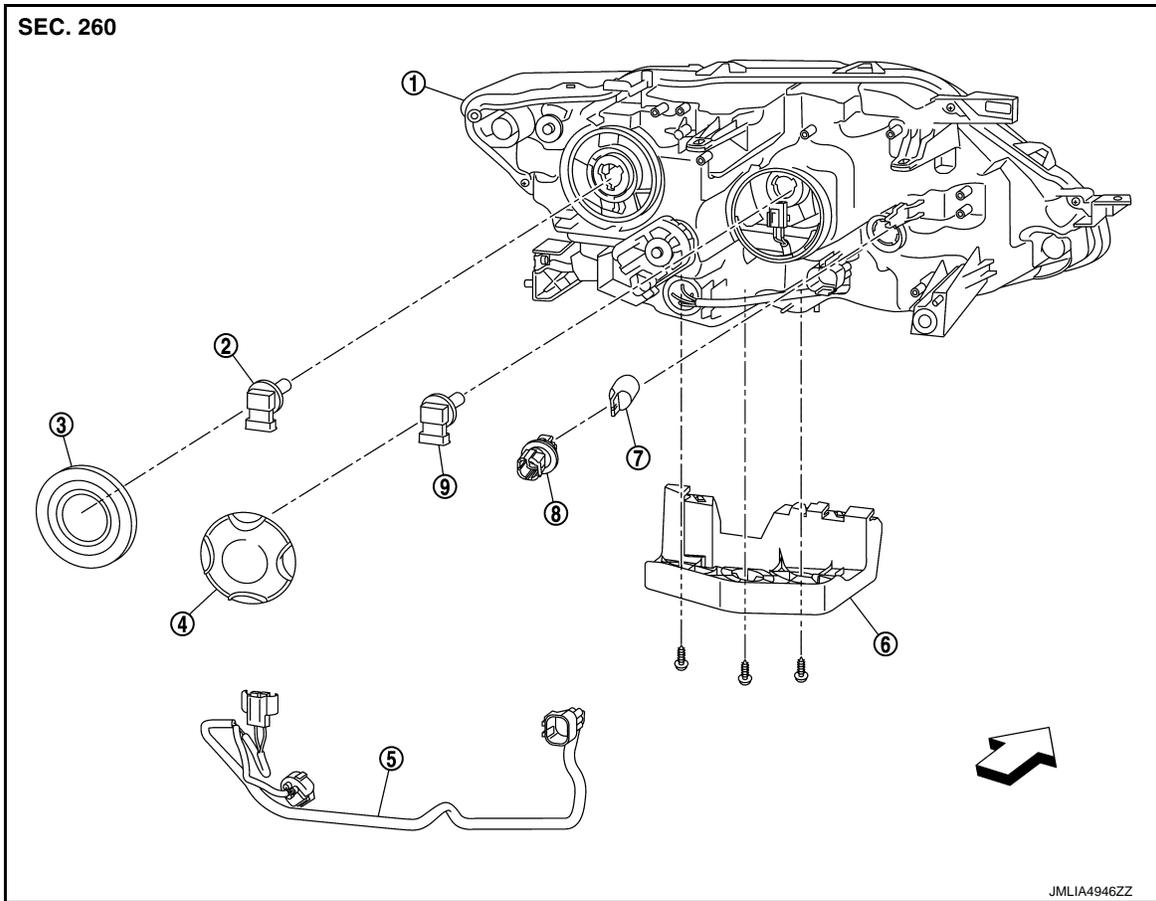
DISASSEMBLY

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FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]



- | | | |
|----------------------------------|--------------------------------------|----------------------------------|
| ① Front combination lamp housing | ② Headlamp bulb (Lo) | ③ Socket cover |
| ④ Back cover | ⑤ Front combination lamp harness | ⑥ Front combination lamp bracket |
| ⑦ Front turn signal lamp bulb | ⑧ Front turn signal lamp bulb socket | ⑨ Headlamp bulb (Hi) |
- ← : Vehicle front

Removal and Installation

INFOID:000000010789899

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove front bumper fascia. Refer to [EXT-15, "Removal and Installation"](#).
2. Remove front combination lamp assembly mounting bolts and clip.
3. Remove harness clip of front combination lamp bracket.
4. Pull out front combination lamp forward the vehicle.
5. Disconnect front combination lamp harness connectors, and then remove front combination lamp.

INSTALLATION

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

CAUTION:

After installation, perform aiming adjustment. Refer to the following:

- LHD MODELS: Refer to [EXL-369, "LHD MODELS : Description"](#).
- RHD MODELS: Refer to [EXL-371, "RHD MODELS : Description"](#).

Replacement

INFOID:000000010789900

CAUTION:

FRONT COMBINATION LAMP

[HALOGEN HEADLAMP]

< REMOVAL AND INSTALLATION >

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).
- After installing the bulb, install the socket cover, back cover, and 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 (HI)

LH side

1. Remove air duct 1. Refer to the following.
 - MR20DD: Refer to [EM-31, "Removal and Installation"](#).
 - QR25DE: Refer to [EM-175, "Removal and Installation"](#).
 - R9M: Refer to [EM-308, "Removal and Installation"](#).
2. Remove back cover.
3. Disconnect headlamp bulb harness connector.
4. Rotate headlamp bulb counterclockwise and unlock it, and then remove headlamp bulb.

RH side

1. Remove back cover.
2. Disconnect headlamp bulb harness connector.
3. Rotate headlamp bulb counterclockwise and unlock it, and then remove headlamp bulb.

HEADLAMP BULB (LO)

LH side

1. Remove air duct 1. Refer to the following.
 - MR20DD: Refer to [EM-31, "Removal and Installation"](#).
 - QR25DE: Refer to [EM-175, "Removal and Installation"](#).
 - R9M: Refer to [EM-308, "Removal and Installation"](#).
2. Remove back cover.
3. Disconnect headlamp bulb harness connector.
4. Rotate headlamp bulb counterclockwise and unlock it, and then remove headlamp bulb.

RH side

1. Remove back cover.
2. Disconnect headlamp bulb harness connector.
3. Rotate headlamp bulb counterclockwise and unlock it, and then remove headlamp bulb.

DAYTIME RUNNING LIGHT/ PARKING LAMP BULB

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace front combination lamp as a set. Refer to [EXL-376, "Removal and Installation"](#).

FRONT TURN SIGNAL LAMP BULB

LH side

1. Remove air duct 1. Refer to the following.
 - MR20DD: Refer to [EM-31, "Removal and Installation"](#).
 - QR25DE: Refer to [EM-175, "Removal and Installation"](#).
 - R9M: Refer to [EM-308, "Removal and Installation"](#).
2. Rotate front turn signal lamp bulb socket counterclockwise and unlock it.
3. Remove front turn signal lamp bulb from turn signal lamp bulb socket.

RH side

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

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FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

Disassembly and Assembly

INFOID:000000010789901

DISASSEMBLY

1. Remove front combination lamp bracket fixing screws, and then remove front combination lamp bracket.
2. Disconnect front combination lamp harness.
3. Rotate front turn signal lamp bulb socket counterclockwise and unlock it.
4. Remove front turn signal lamp bulb from front turn signal lamp bulb socket.
5. Remove back cover.
6. Remove headlamp bulb (Hi)
7. Remove socket cover.
8. Remove headlamp bulb (Lo).

ASSEMBLY

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

CAUTION:

- After installing the bulb, install the socket cover, back cover, and bulb socket securely watertightness.
- After installation, perform aiming adjustment. Refer to following.
 - LHD MODELS: Refer to [EXL-369, "LHD MODELS : Description"](#).
 - RHD MODELS: Refer to [EXL-371, "RHD MODELS : Description"](#).

FRONT FOG LAMP

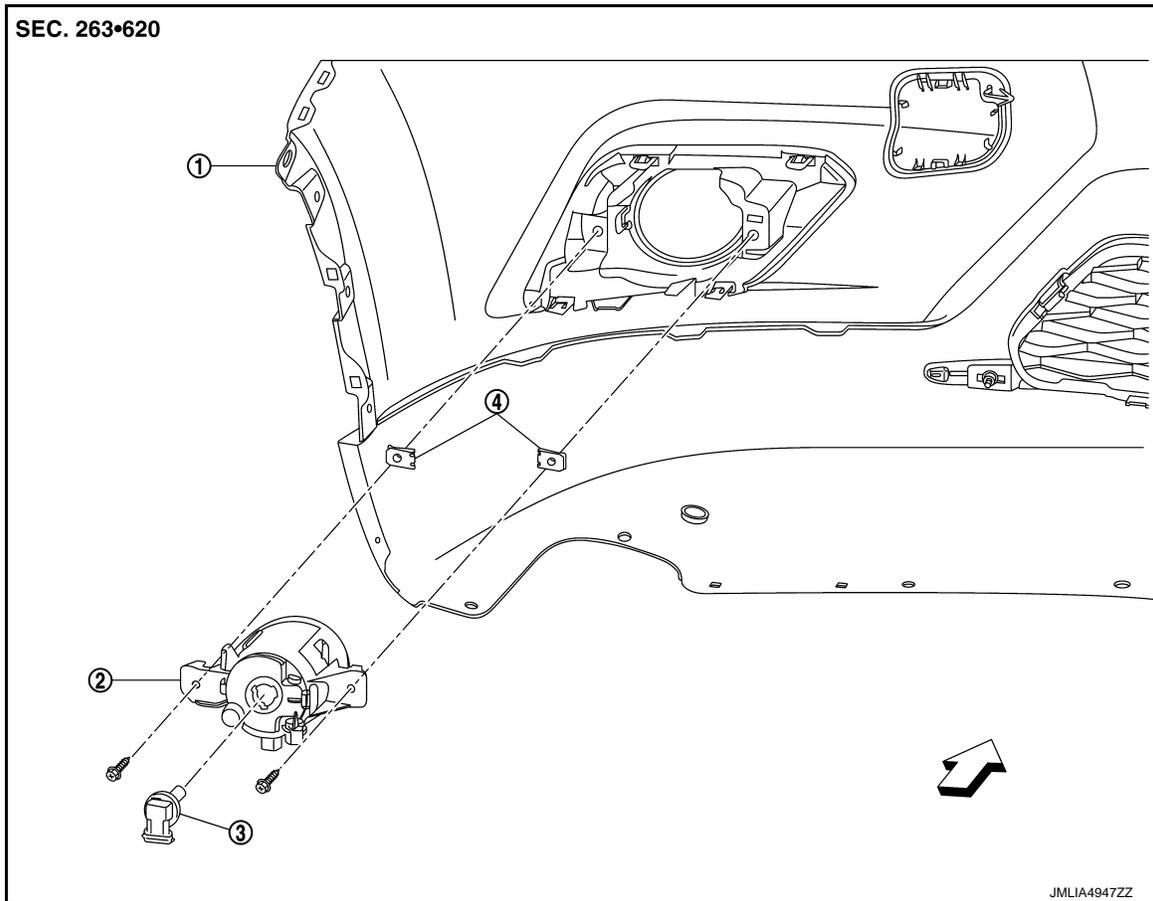
< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

FRONT FOG LAMP

Exploded View

INFOID:000000010789902



① Front bumper fascia

② Front fog lamp

③ Front fog lamp bulb

④ Spring nut

↔ : Vehicle front

Removal and Installation

INFOID:000000010789903

CAUTION:
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove front fender protector to make work space. Refer to [EXT-35, "FENDER PROTECTOR : Removal and Installation"](#).
2. Disconnect front fog lamp harness connector.
3. Remove front fog lamp fixing screws, and then remove front fog lamp.

INSTALLATION

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

CAUTION:
After installation, perform aiming adjustment. Refer to [EXL-374, "Description"](#).

Replacement

INFOID:000000010789904

CAUTION:

FRONT FOG LAMP

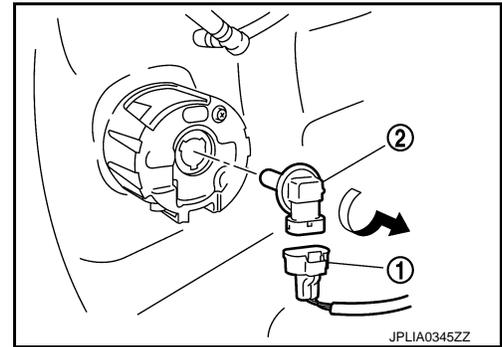
[HALOGEN HEADLAMP]

< REMOVAL AND INSTALLATION >

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

FRONT FOG LAMP BULB

1. Remove fender protector to make work space. Refer to [EXT-35, "FENDER PROTECTOR : Removal and Installation"](#).
2. Disconnect front fog lamp harness connector ①.
3. Rotate front fog lamp bulb ② counterclockwise and unlock it.



LIGHT & RAIN SENSOR

[HALOGEN HEADLAMP]

< REMOVAL AND INSTALLATION >

LIGHT & RAIN SENSOR

Exploded View

INFOID:000000011008692

Refer to [WW-109, "Exploded View"](#).

Removal and Installation

INFOID:000000011008693

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

Remove light & rain sensor. Refer to [WW-109, "Removal and Installation"](#).

INSTALLATION

Install in the reverse order of removal.

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EXL

LIGHTING & TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:000000010789906

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

Remove lighting & turn signal switch (combination switch). Refer to [BCS-122, "Removal and Installation"](#).

INSTALLATION

Install in the reverse order of removal.

HAZARD SWITCH

Removal and Installation

INFOID:000000010789907

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove center ventilator grille. Refer to following.
 - LHD MODELS: Refer to [IP-14, "Removal and Installation"](#).
 - RHD MODELS: Refer to [IP-41, "Removal and Installation"](#).
2. Disengage fixing pawls, and then remove hazard switch from center ventilator grille.

INSTALLATION

Install in the reverse order of removal.

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EXL

HEADLAMP AIMING SWITCH

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

HEADLAMP AIMING SWITCH

Removal and Installation

INFOID:000000010789908

REMOVAL

1. Remove instrument lower panel RH. Refer to the following.
 - LHD MODELS: [IP-14, "Removal and Installation"](#).
 - RHD MODELS: [IP-41, "Removal and Installation"](#).
2. Disengage headlamp aiming switch fixing pawls, and then remove headlamp aiming switch from instrument lower panel RH.

INSTALLATION

Install in the reverse order of removal.

SIDE TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:000000010789909

Refer to [MIR-27, "Exploded View"](#).

Removal and Installation

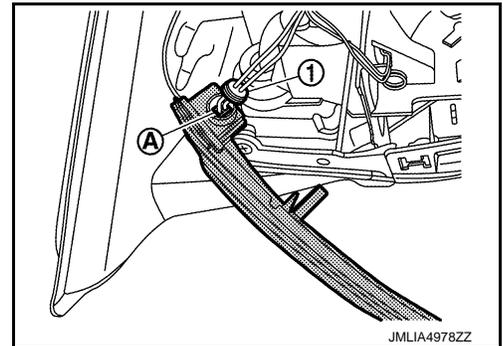
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CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove door mirror cover. Refer to [MIR-30, "DOOR MIRROR COVER : Removal and Installation"](#).
2. Remove side turn signal lamp fixing screws.
3. Remove seal packing ① and disconnect side turn signal lamp harness connector ②, and then remove side turn signal lamp from door mirror housing.



INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000010789911

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

SIDE TURN SIGNAL LAMP BULB

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace side turn signal lamp as a set. Refer to [EXL-385, "Removal and Installation"](#).

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

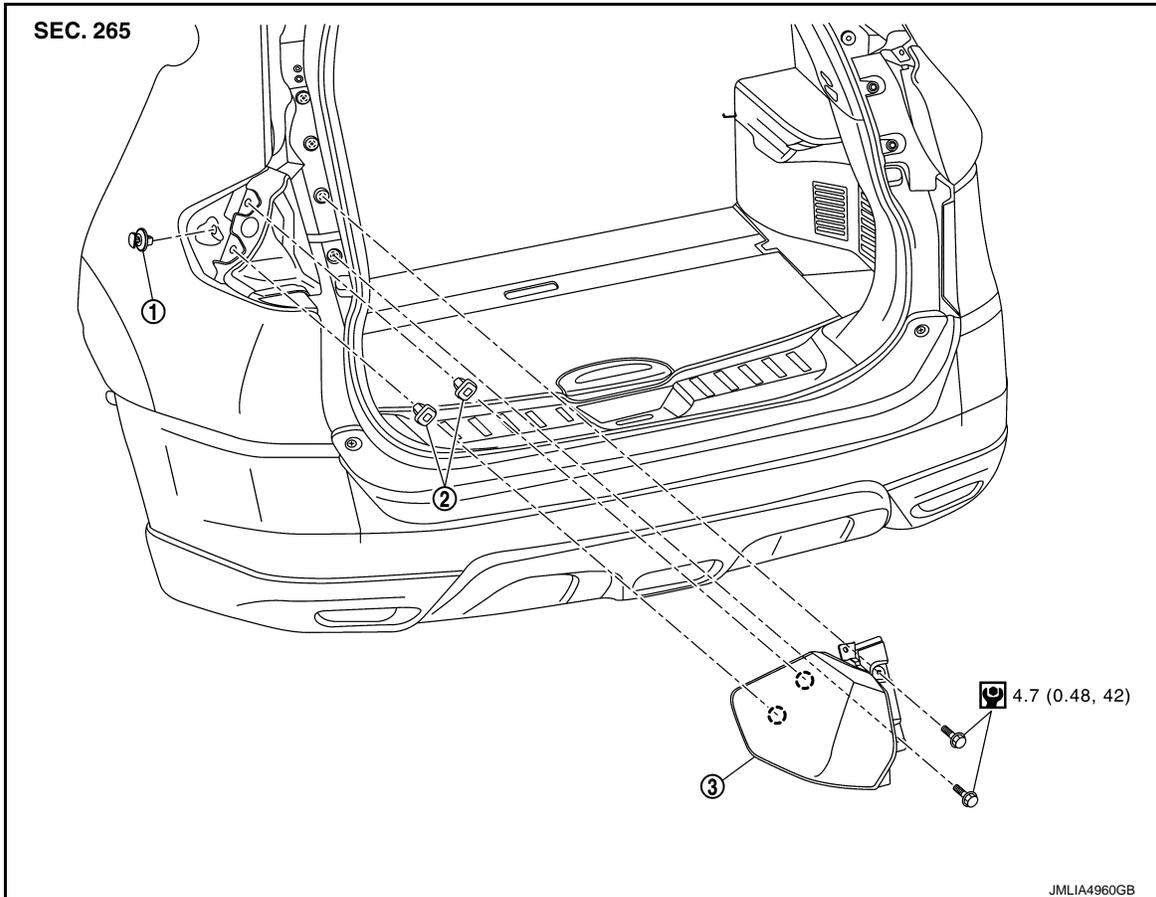
REAR COMBINATION LAMP

Exploded View

INFOID:000000010789912

REMOVAL

Body Side



① Clip

② Grommet

③ Rear combination lamp
(body side)

○ : Clip

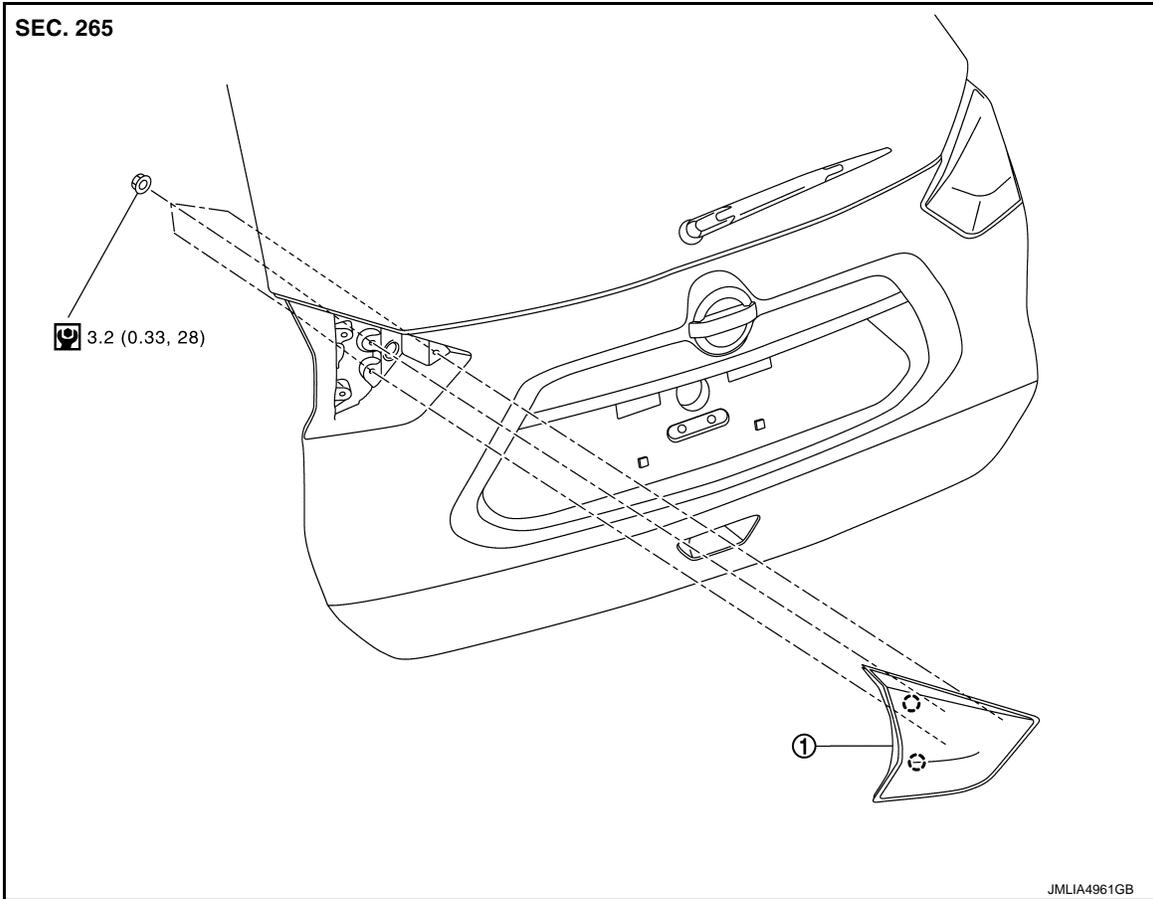
⊙ : N-m (kg-m, in-lb)

Back Door Side

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]



① Rear combination lamp
(back door side)

⊖ : Clip

⊖ : N·m (kg·m, in·lb)

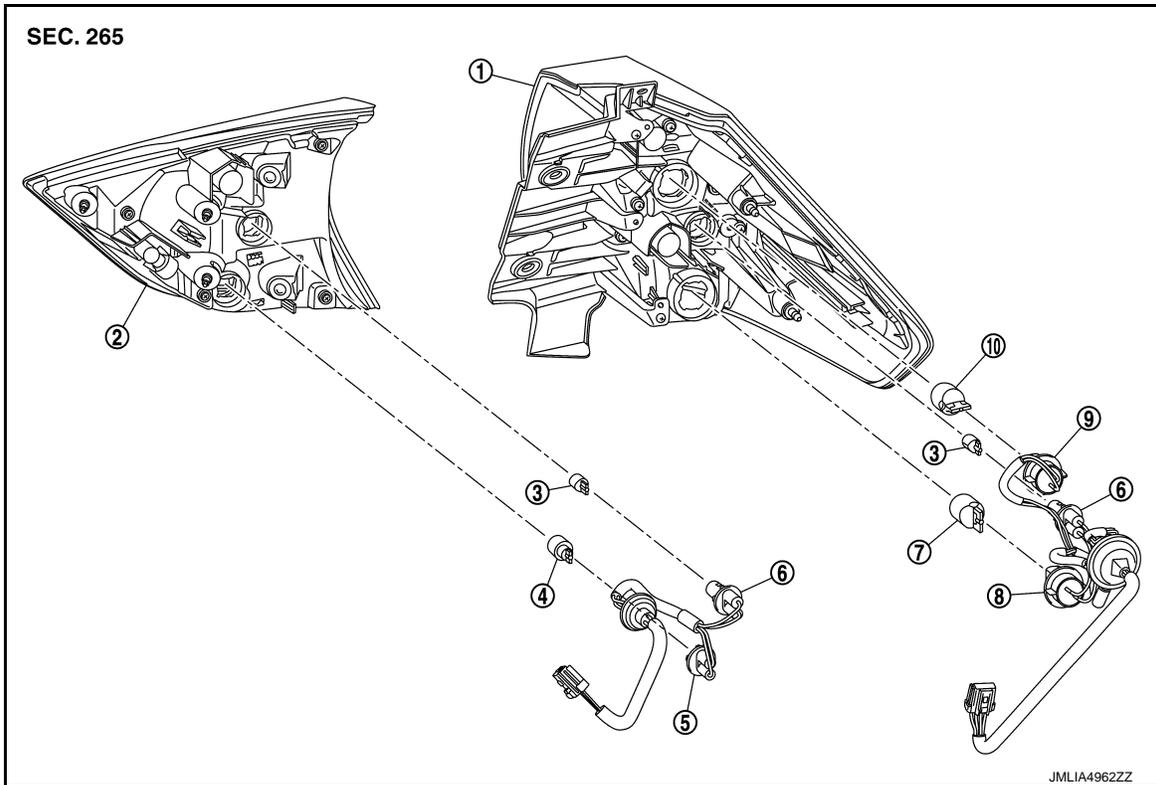
DISASSEMBLY

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]



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|-------------------------------------|------------------------------------------|-------------------------|
| ① Rear combination lamp (body side) | ② Rear combination lamp (back door side) | ③ Tail lamp bulb |
| ④ Back-up lamp bulb | ⑤ Back-up lamp bulb socket | ⑥ Tail lamp bulb socket |
| ⑦ Rear turn signal lamp bulb | ⑧ Rear turn signal lamp bulb socket | ⑨ Stop lamp bulb socket |
| ⑩ Stop lamp bulb | | |

REAR COMBINATION LAMP (BODY SIDE)

REAR COMBINATION LAMP (BODY SIDE) : Removal and Installation

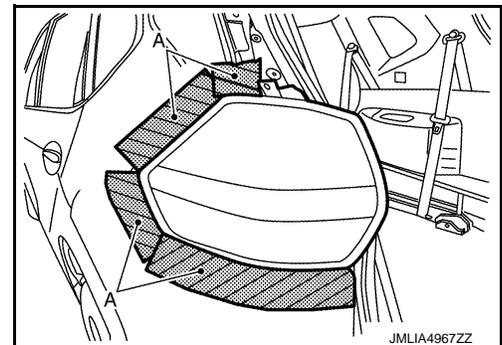
INFOID:000000010789913

CAUTION:

Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Fully open back door.
2. Remove rear spoiler. Refer to [EXT-64, "Removal and Installation"](#).
3. Remove rear combination lamp (body side) mounting bolts.
4. Apply protective tapes (A) on the part to protect it from damage.



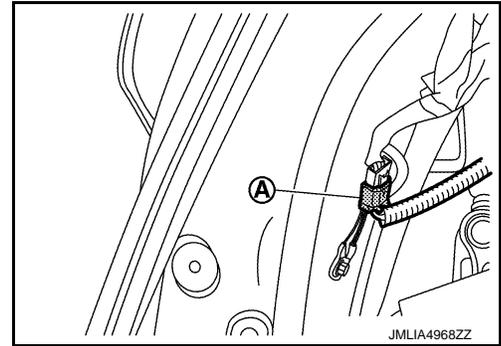
5. Remove luggage side lower finisher. Refer to [INT-43, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation"](#).

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

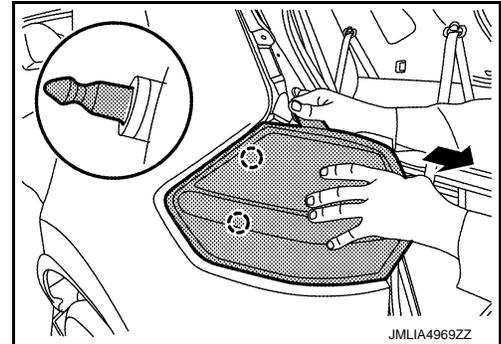
[HALOGEN HEADLAMP]

6. Disconnect rear combination lamp (body side) harness connector (A).



7. Pull rear combination lamp (body side) toward vehicle rear to disengage fixing clips, and then remove rear combination lamp (body side).

 : Clip



INSTALLATION

Install in the reverse order of removal.

REAR COMBINATION LAMP (BODY SIDE) : Replacement

INFOID:0000000010789914

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

TAIL LAMP BULB

1. Remove rear combination lamp (body side). Refer to [EXL-388, "REAR COMBINATION LAMP \(BODY SIDE\) : Removal and Installation"](#).
2. Rotate tail lamp bulb socket counterclockwise, and then remove tail lamp bulb socket.
3. Remove tail lamp bulb from tail lamp bulb socket.

STOP LAMP BULB

1. Remove rear combination lamp (body side). Refer to [EXL-388, "REAR COMBINATION LAMP \(BODY SIDE\) : Removal and Installation"](#).
2. Rotate stop lamp bulb socket counterclockwise, and then remove stop lamp bulb socket.
3. Remove stop lamp bulb from stop lamp bulb socket.

REAR TURN SIGNAL LAMP BULB

1. Remove rear combination lamp (body side). Refer to [EXL-388, "REAR COMBINATION LAMP \(BODY SIDE\) : Removal and Installation"](#).
2. Rotate rear turn signal lamp bulb socket counterclockwise, and then remove rear turn signal lamp bulb socket.
3. Remove rear turn signal lamp bulb from rear turn signal lamp bulb socket.

REAR COMBINATION LAMP (BACK DOOR SIDE)

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

REAR COMBINATION LAMP (BACK DOOR SIDE) : Removal and Installation

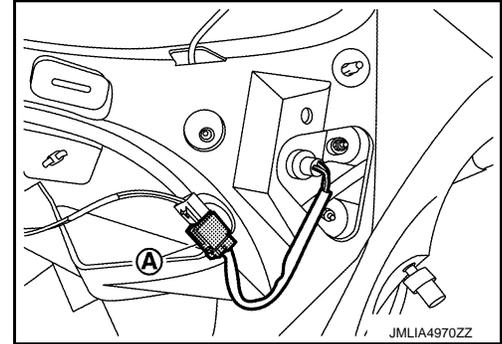
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CAUTION:

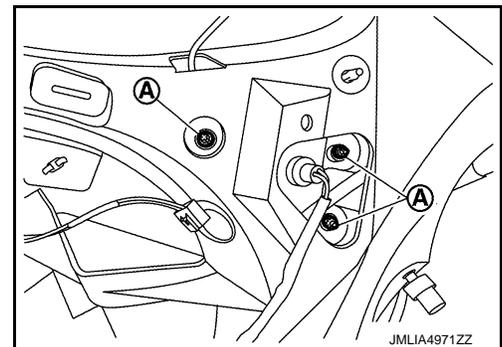
Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

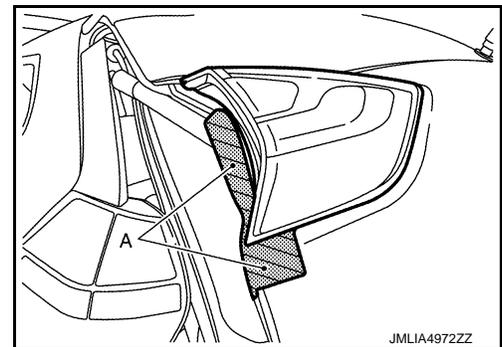
1. Fully open back door.
2. Remove back door inner finisher. Refer to [JNT-47, "Removal and Installation"](#).
3. Disconnect rear combination lamp (back door side) harness connector (A).



4. Remove rear combination lamp (back door side) mounting nuts (A).

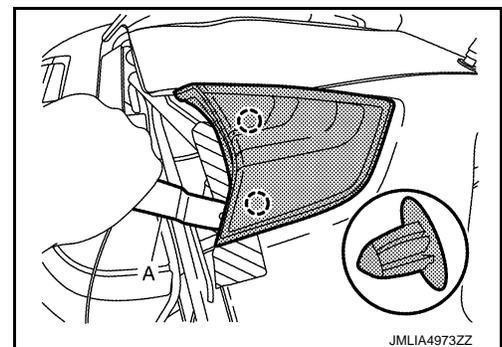


5. Apply protective tape (A) on the part to protect it from damage.



6. Disengage rear combination lamp (back door side) fixing clips using a remover tool (A), and then remove rear combination lamp (back door side).

 : Clip



INSTALLATION

REAR COMBINATION LAMP

[HALOGEN HEADLAMP]

< REMOVAL AND INSTALLATION >

Install in the reverse order of removal.

REAR COMBINATION LAMP (BACK DOOR SIDE) : Replacement

INFOID:000000010789916

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

TAIL LAMP BULB

1. Remove rear combination lamp (back door side). Refer to [EXL-390, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Removal and Installation"](#).
2. Rotate tail lamp bulb socket counterclockwise, and then remove tail lamp bulb socket.
3. Remove tail lamp bulb from tail lamp bulb socket.

BACK-UP LAMP BULB

1. Remove rear combination lamp (back door side). Refer to [EXL-390, "REAR COMBINATION LAMP \(BACK DOOR SIDE\) : Removal and Installation"](#).
2. Rotate back-up lamp bulb socket counterclockwise, and then remove back-up lamp bulb socket.
3. Remove back-up lamp bulb from back-up lamp bulb socket.

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EXL

HIGH-MOUNTED STOP LAMP

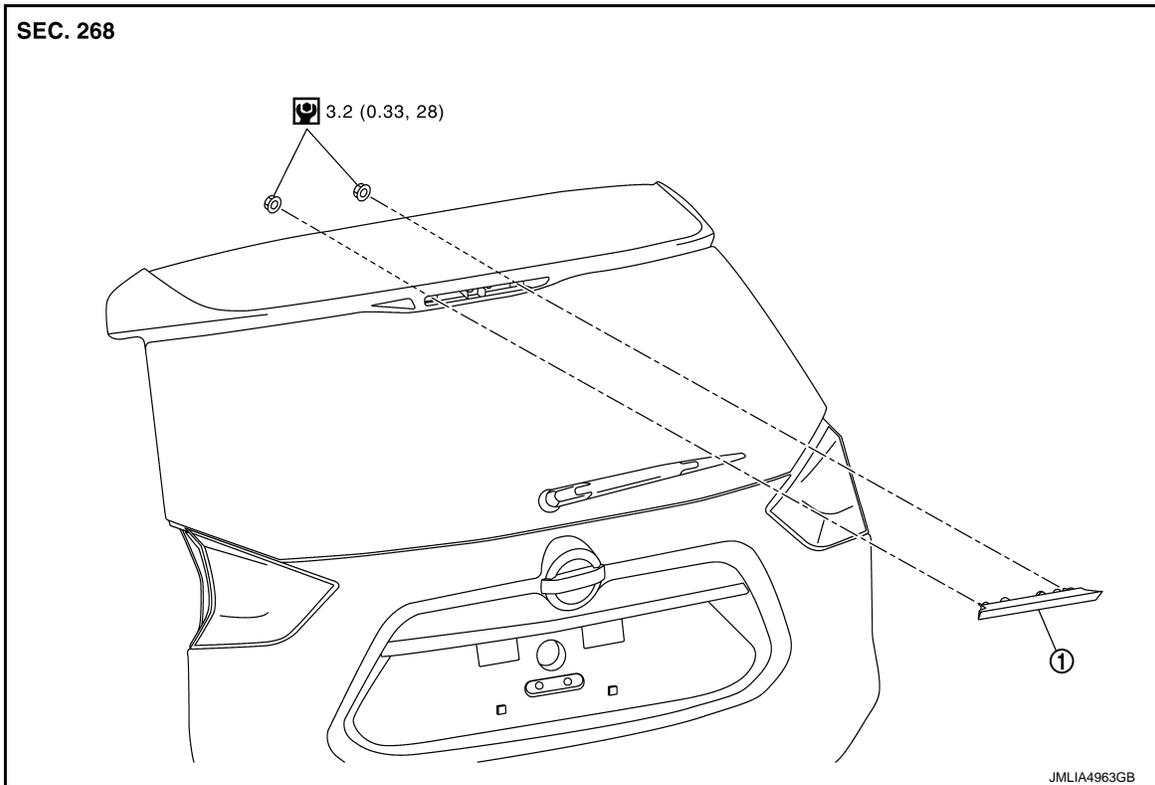
< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000010789917



① High-mounted stop lamp

⊙ : N·m (kg·m, in·lb)

Removal and Installation

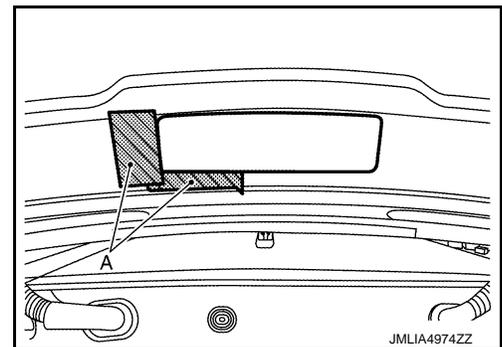
INFOID:000000010789918

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Fully open back door.
2. Apply protective tapes (A) on the part to protect it from damage.

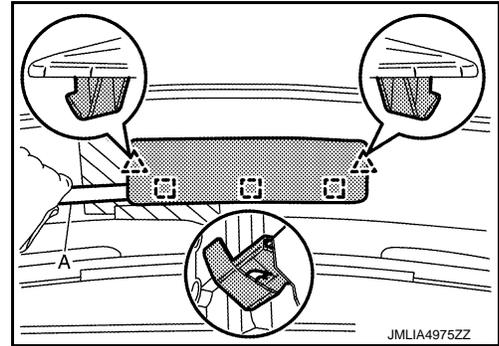


HIGH-MOUNTED STOP LAMP

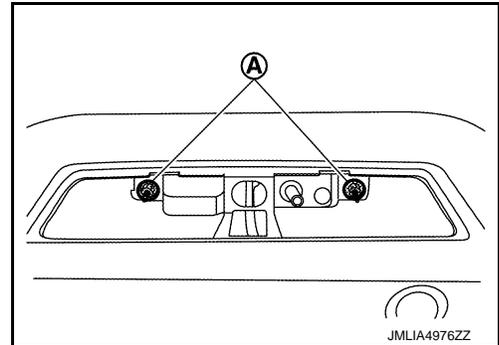
< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

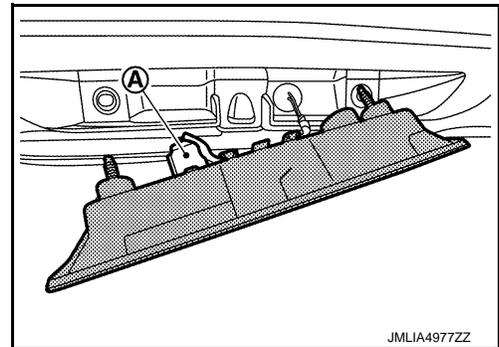
3. Disengage back door cover fixing metal clips and pawls using a remover tool (A), and then remove back door cover.



4. Remove high-mounted stop lamp mounting nuts (A).



5. Disconnect high-mounted stop lamp harness connector (A), and then remove high-mounted stop lamp.



INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:0000000010789919

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

HIGH-MOUNTED STOP LAMP BULB

CAUTION:

Replacement of a single part is not possible due to the adoption of LED bulb. For replacement, replace high-mounted stop lamp unit as a set. Refer to [EXL-392, "Removal and Installation"](#).

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EXL

LICENSE PLATE LAMP

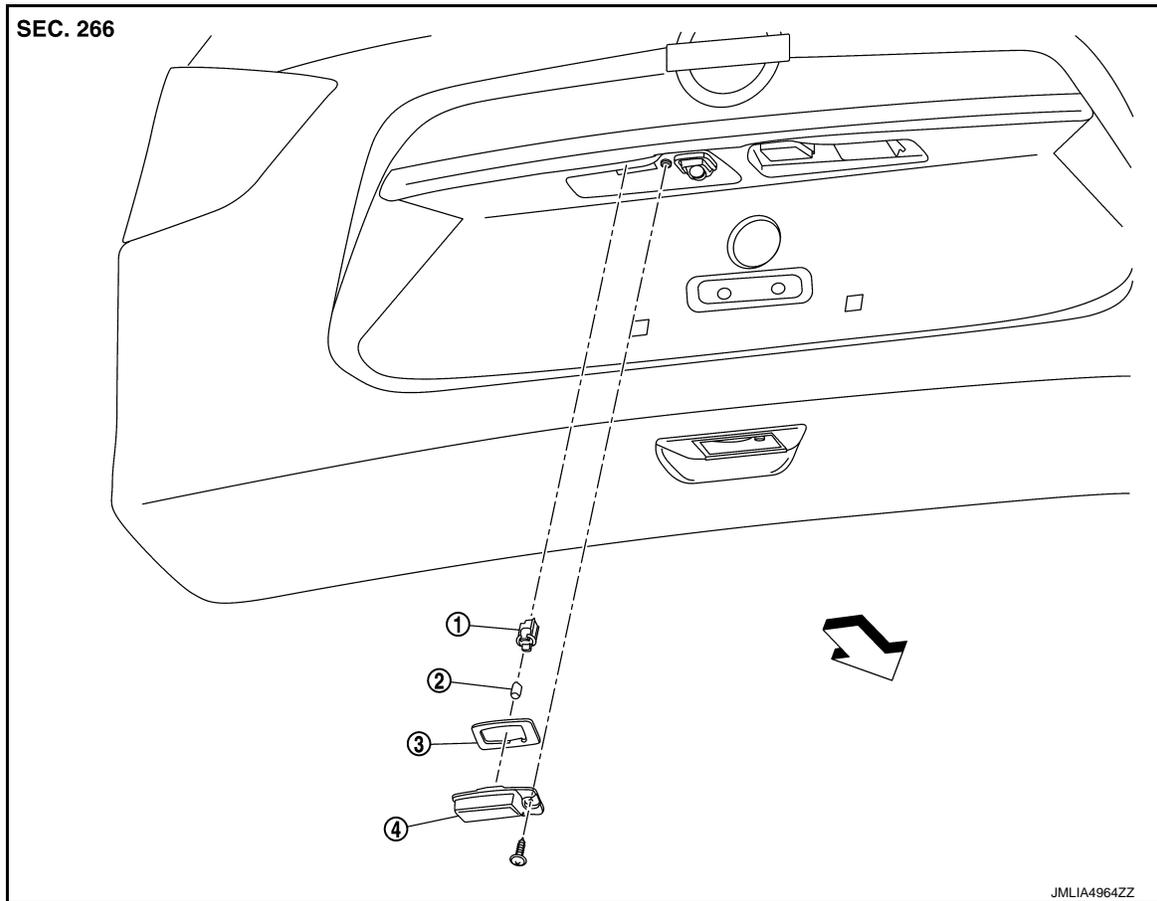
< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

LICENSE PLATE LAMP

Exploded View

INFOID:000000010789920



① License plate lamp bulb socket

② License plate lamp bulb

③ Seal packing

④ License plate lamp housing

↶ : Vehicle front

Removal and Installation

INFOID:000000010789921

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove back door finisher cap. Refer to [EXT-66, "Removal and Installation"](#).
2. Remove license plate lamp fixing screw.
3. Disengage license plate lamp housing fixing portion from back door.
4. Disconnect license plate lamp harness connector, and then remove license plate lamp.

INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000010789922

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

LICENSE PLATE LAMP

[HALOGEN HEADLAMP]

< REMOVAL AND INSTALLATION >

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

LICENSE PLATE LAMP BULB

1. Remove license plate lamp. Refer to [EXL-394, "Removal and Installation"](#).
2. Rotate license plate lamp bulb socket counterclockwise and unlock it.
3. Remove license plate lamp bulb from license plate lamp bulb socket.

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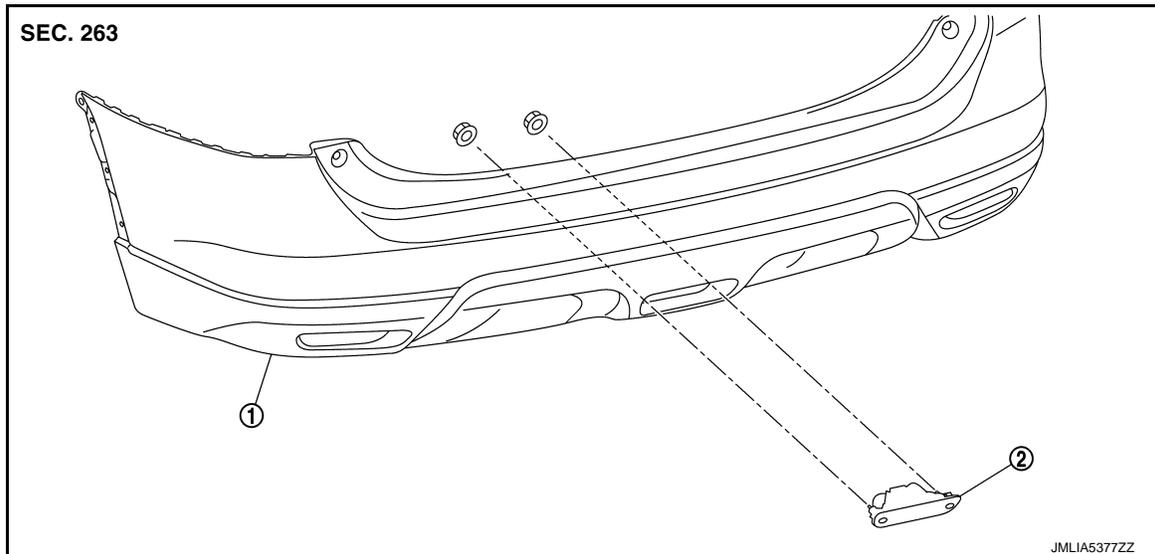
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REAR FOG LAMP

Exploded View

INFOID:000000010789923



① Rear bumper fascia

② Rear fog lamp

Removal and Installation

INFOID:000000010789924

CAUTION:

Disconnect battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).

REMOVAL

1. Remove rear bumper fascia. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove rear fog lamp mounting nuts.
3. Remove rear fog lamp from rear bumper fascia.

INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:000000010789925

CAUTION:

- Disconnect the battery negative terminal or remove power circuit fuse when performing the operation for preventing electric leakage. Refer to [EXL-214, "Precautions for Removing Battery Terminal"](#).
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned OFF.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

REAR FOG LAMP BULB

1. Remove rear bumper fascia. Refer to [EXT-18, "Removal and Installation"](#).
2. Disconnect rear fog lamp bulb harness connector.
3. Rotate rear fog lamp bulb socket counterclockwise and unlock it.
4. Remove rear fog lamp bulb from rear fog lamp bulb socket.

REAR REFLEX REFLECTOR

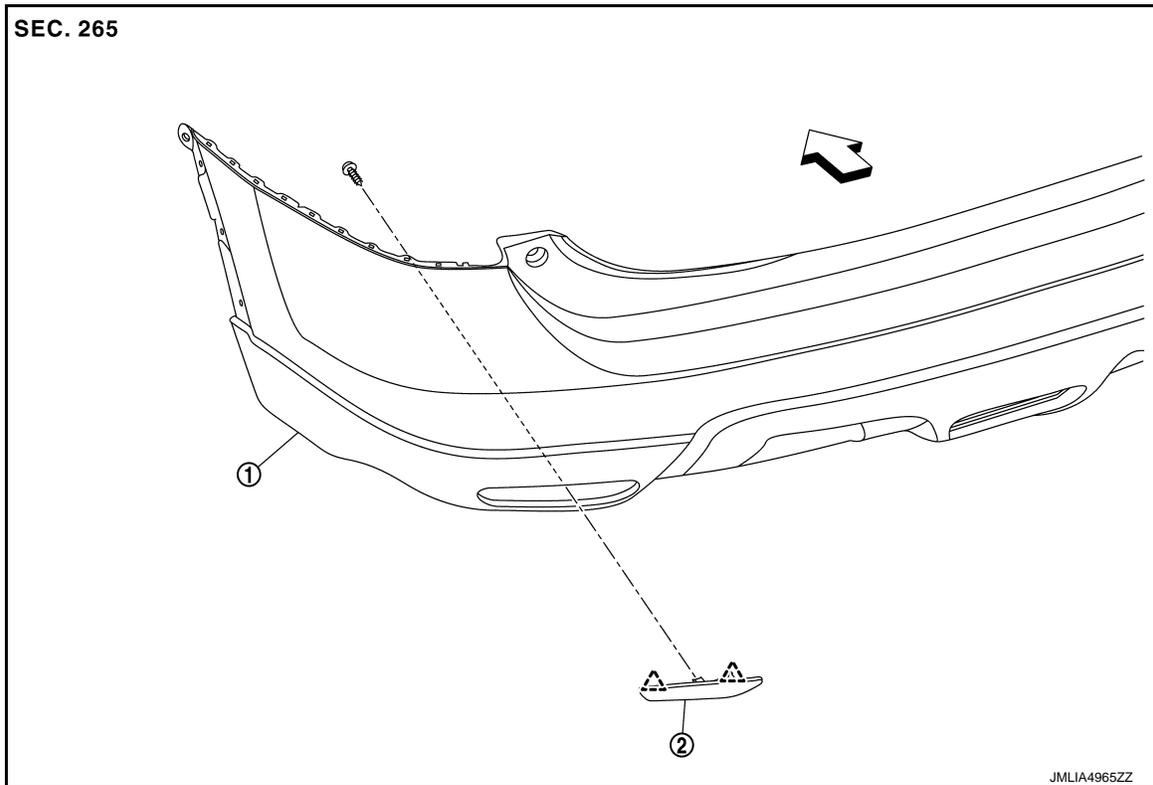
< REMOVAL AND INSTALLATION >

[HALOGEN HEADLAMP]

REAR REFLEX REFLECTOR

Exploded View

INFOID:000000010789926



① Rear bumper fascia

② Rear reflex reflector

△ : Pawl

↩ : Vehicle front

Removal and Installation

INFOID:000000010789927

REMOVAL

1. Remove rear bumper fascia. Refer to [EXT-18, "Removal and Installation"](#).
2. Remove rear reflex reflector fixing screw and pawls, and then remove rear reflex reflector.

INSTALLATION

Install in the reverse order of removal.

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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HALOGEN HEADLAMP]

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000010789928

Bulb Specifications

	Item	Type	Wattage (W)
Front combination lamp	Headlamp (Hi)	H9	65
	Headlamp (Lo)	H11	55
	Parking lamp/ daytime running light	LED	—
	Front turn signal lamp	WY21W (Amber)	21
Front fog lamp		H11	55
Side turn signal lamp		LED	—
Rear combination lamp	Stop lamp	W21W	21
	Tail lamp	W5W	5
	Rear turn signal lamp	WY21W	21
	Back-up lamp	W16W	16
Rear fog lamp		W21W	21
License plate lamp		W5W	5
High-mounted stop lamp		LED	—