SECTION EXL
EXTERIOR LIGHTING SYSTEM

CONTENTS

HALOGEN TYPE

PRECAUTION

PRECAUTIONS

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

INFOID:0000000006466719

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.

The vehicle may be equipped with a passenger air bag deactivation switch. Because no rear seat exists where a rear-facing child restraint can be placed, the switch is designed to turn off the passenger air bag so that a rear-facing child restraint can be used in the front passenger seat. The switch is located in the center of the instrument panel, near the ashtray. When the switch is turned to the ON position, the passenger air bag is enabled and could inflate for certain types of collision. When the switch is turned to the OFF position, the passenger air bag is disabled and will not inflate. A passenger air bag OFF indicator on the instrument panel lights up when the passenger air bag is switched OFF. The driver air bag always remains enabled and is not affected by the passenger air bag deactivation switch.

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the “SRS AIR BAG”.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**
- **The vehicle may be equipped with a passenger air bag deactivation switch which can be operated by the customer. When the passenger air bag is switched OFF, the passenger air bag is disabled and will not inflate. When the passenger air bag is switched ON, the passenger air bag is enabled and could inflate for certain types of collision. After SRS maintenance or repair, make sure the passenger air bag deactivation switch is in the same position (ON or OFF) as when the vehicle arrived for service.**

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

WARNING:

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precaution Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:0000000006466721

NOTE:

- Before removing and installing any control units, first turn the ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

For vehicle with steering lock unit, if the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the operation procedure below before starting the repair operation.

OPERATION PROCEDURE

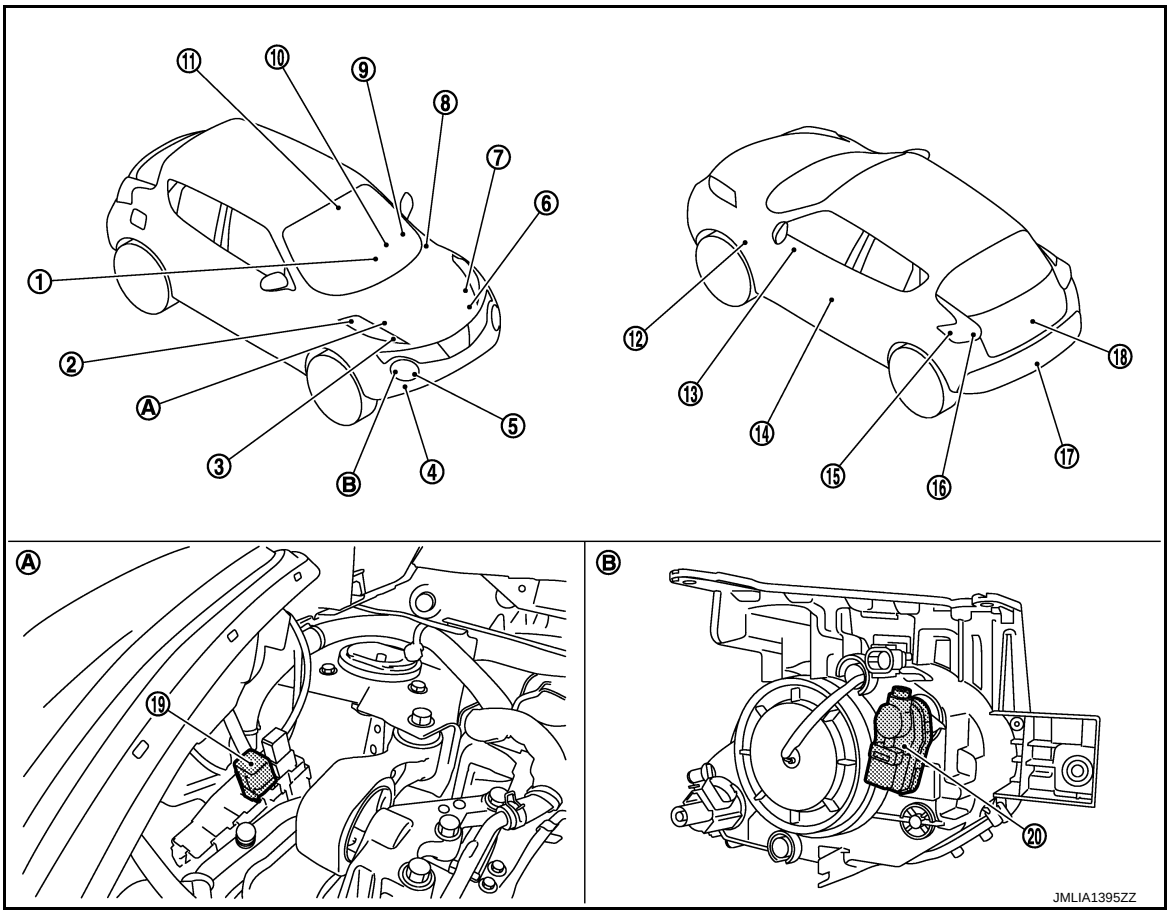
1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Turn the ignition switch to ACC position.
   (At this time, the steering lock will be released.)
3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
4. Perform the necessary repair operation.
5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the ignition switch is turned to LOCK position.)
6. Perform self-diagnosis check of all control units using CONSULT-III.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000006451687



1. Hazard switch
2. Parking lamp
3. Front turn signal lamp
4. Front fog lamp*1
5. Headlamp
6. ECM
   Refer to EC-461, "ECM".
7. IPDM E/R
   Refer to PCS-5, "Component Parts Location".
8. BCM
   Refer to BCS-6, "BODY CONTROL SYSTEM : Component Parts Location".
9. Combination switch
10. Combination meter
11. Light & rain sensor*2
12. Side turn signal lamp
13. Headlamp aiming switch
14. Front door switch (driver side)
15. Rear turn signal lamp
16. Tail lamp
17. Rear fog lamp
18. License plate lamp
19. Daytime running light relay*3
20. Aiming motor

A. Engine room (RH)
B. Headlamp (back)

*1: With front fog lamp models

*2: With auto light system

*3: With daytime running light system

Component Description

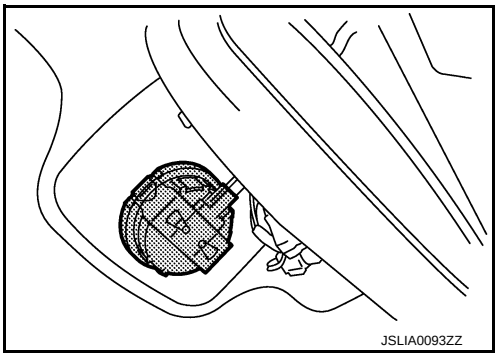
INFOID:0000000006452117

Part	Description
BCM	Controls the exterior lighting system.
ECM	Transmits engine status signal to BCM. (via CAN communication)
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (via CAN communication).
Combination meter	• 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). • Turns the tail lamp indicator lamp, high beam indicator lamp, front fog lamp indicator lamp and rear fog lamp indicator lamp ON according to the request from BCM (via CAN communication).
Light & rain sensor	Refer to EXL-8, "Light & Rain Sensor".
Head lamp aiming motor	The headlamp levelizer adjusts the headlamp light axis upward and downward with the aiming motor integrated in the headlamp.
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "COMBINATION SWITCH READING SYSTEM : System Description".
Headlamp aiming switch	Adjusts height of headlamp aiming.
Door switch	Refer to DLK-22, "Component Description".
Hazard switch	Inputs the hazard switch signal to BCM.

Light & Rain Sensor

INFOID:0000000006452116

- 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.

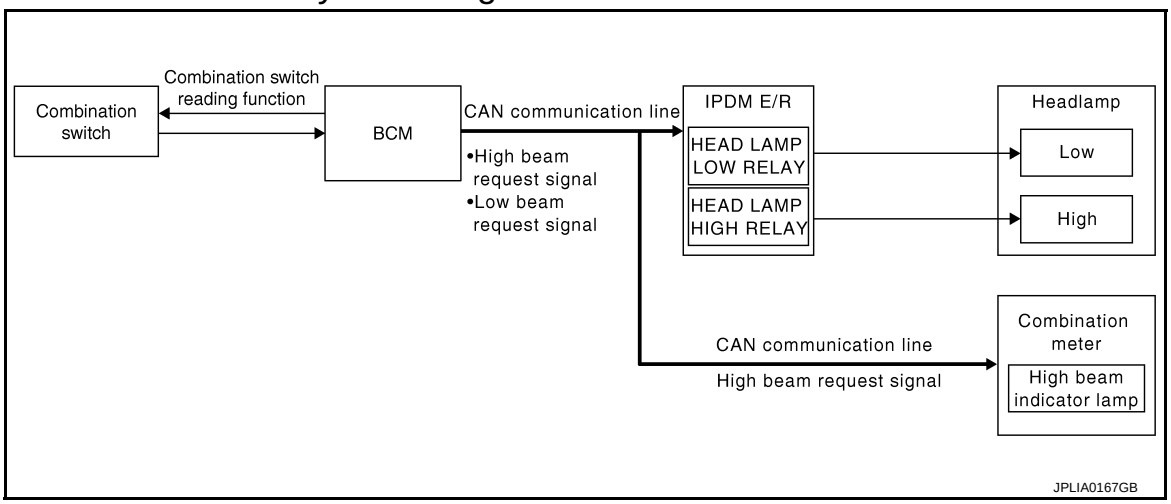


SYSTEM

HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Diagram

INFOID:0000000006451689



HEADLAMP SYSTEM : System Description

INFOID:0000000006451690

OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition
- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)
- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON

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

HEADLAMP (HI) OPERATION

- BCM transmits the high beam request signal to IPDM E/R and the combination meter using CAN communication according to the headlamp (HI) ON condition. At this time, BCM stops to transmit low beam request signal.

Headlamp (HI) ON condition
- Lighting switch HI with the lighting switch 2ND or AUTO (auto light function ON judgment)
- Lighting switch PASS
- Lighting switch AUTO, with the front fog lamp switch ON, the ignition switch ON and lighting switch HI.

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

FOLLOW ME HOME FUNCTION

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

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

Follow me home ON condition
- Ignition switch OFF
- Lighting switch OFF

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

Follow me home OFF condition
- Ignition switch is turned from OFF→ACC or ON
- Lighting switch is turned from OFF→ON

NOTE:
- Flash-to-pass operation illumination time for 1 time can be extended to approximately 30 seconds during operation of follow me home function.
- Flash-to-pass operation can be illuminated continuously for approximately 60 seconds (flash-to-pass operation, 2 times), approximately 90 seconds (flash-to-pass operation, 3 times), and a maximum of approximately 120 seconds (flash-to-pass operation, 4 times).
- Follow me home function activating time can be set by CONSULT-III. Refer to EXL-20, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)"(with Intelligent Key), EXL-25, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)"(without Intelligent Key).

HEADLAMP SYSTEM : Fail-Safe

INFOID:0000000006696679

CAN COMMUNICATION CONTROL

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

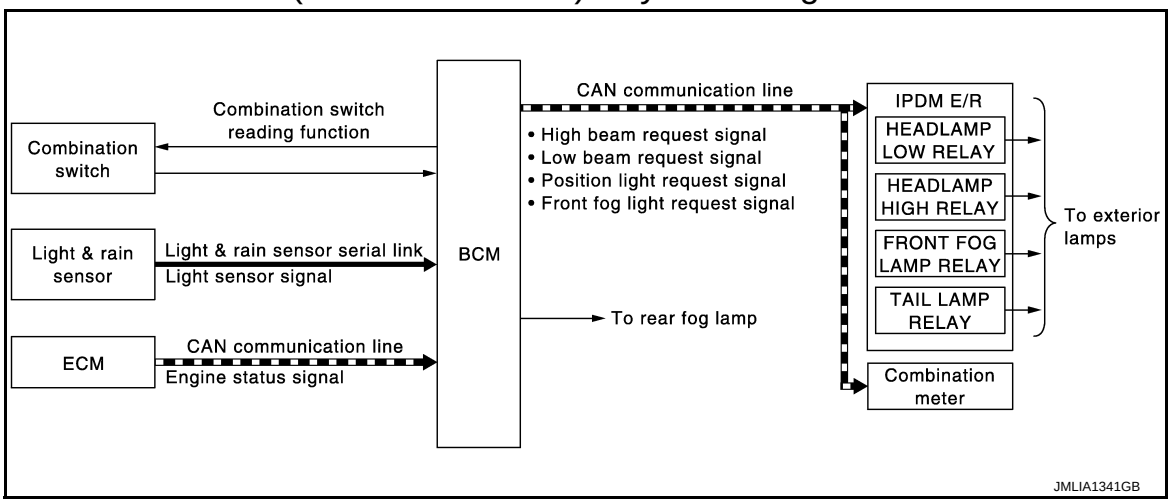
If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	• Turns ON the headlamp low relay when the ignition switch is turned ON • Turns OFF the headlamp low relay when the ignition switch is turned OFF • Headlamp high relay OFF

AUTO LIGHT SYSTEM (WITHOUT DTRL)

AUTO LIGHT SYSTEM (WITHOUT DTRL) : System Diagram

INFOID:0000000006451832



AUTO LIGHT SYSTEM (WITHOUT DTRL) : System Description

INFOID:0000000006451833

OUTLINE

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

Control by BCM
- Combination switch reading function
- Headlamp control function
- Auto light function

Control by IPDM E/R

- Relay control function
- Auto light function turns the exterior lamps* ON/OFF automatically according to the outside brightness.
  *: Headlamp (LO/HI), parking, license plate and tail lamps (Headlamp HI depends on the combination switch condition.) license plate lamp

AUTO LIGHT FUNCTION

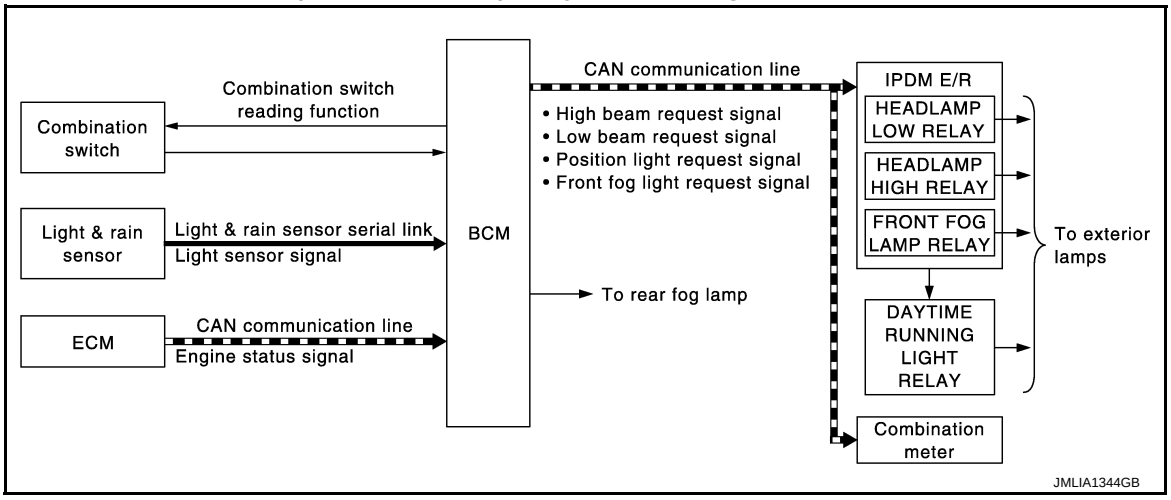
- BCM detects the combination switch condition with the combination switch reading function.
- BCM detects the engine condition by the engine status signal received from ECM via CAN communication.
- BCM receives exterior lamp ON/OFF requests from the light & rain sensor by light & rain sensor serial 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-III. Refer to EXL-20, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)".

AUTO LIGHT SYSTEM (WITH DTRL)

AUTO LIGHT SYSTEM (WITH DTRL) : System Diagram

INFOID:0000000006451834



AUTO LIGHT SYSTEM (WITH DTRL) : System Description

INFOID:0000000006451835

OUTLINE

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

Control by BCM
- Combination switch reading function
- Headlamp control function
- Auto light function

Control by IPDM E/R
- Relay control function
- Auto light function turns the exterior lamps* ON/OFF automatically according to the outside brightness.
  *: Headlamp (LO/HI), parking lamp, tail lamp (Headlamp HI depends on the combination switch condition.)

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.

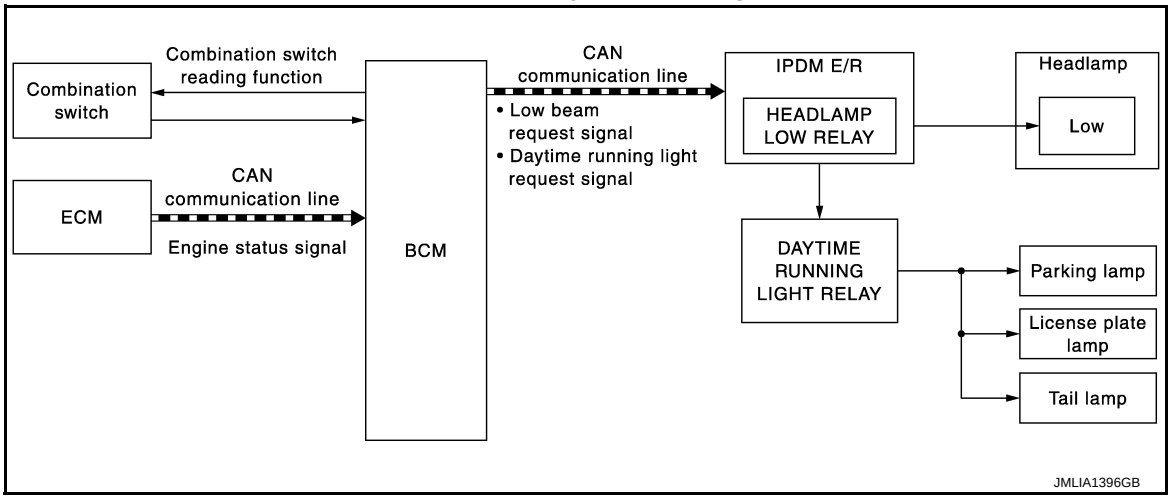
NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT-III. Refer to EXL-20, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)".

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Diagram

INFOID:0000000006451836



DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:0000000006451837

OUTLINE

- Turns the following exterior lamps ON as the daytime running light.
- Headlamp (LO)
- Parking, license plate and tail lamps.
- Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects vehicle condition depending on the following signals.
- Engine status signal (received from ECM via CAN communication)
- BCM transmits the low beam request signal and 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
- Lighting switch OFF
- Auto light switch is ON, front fog lamp switch and rear fog lamp switch are OFF, and auto light judgement is OFF.
- IPDM E/R turns the integrated headlamp low relay and daytime running light relay ON according to the low beam request signal and daytime running light request signal. And it turns each lamps ON.

HEADLAMP AIMING CONTROL (MANUAL)

HEADLAMP AIMING CONTROL (MANUAL) : System Description

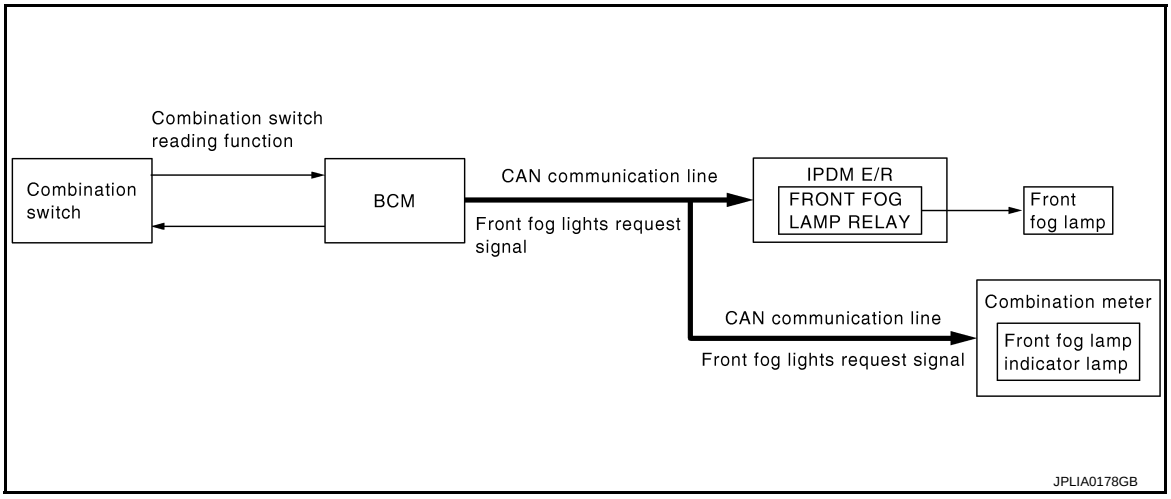
INFOID:0000000006451692

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

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Diagram

INFOID:0000000006460640



FRONT FOG LAMP SYSTEM : System Description

INFOID:0000000006460641

OUTLINE

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

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

- Front fog lamp switch ON and any of the followings.

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO and the ignition switch ON

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

FRONT FOG LAMP SYSTEM : Fail-Safe

INFOID:0000000006696680

CAN COMMUNICATION CONTROL

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

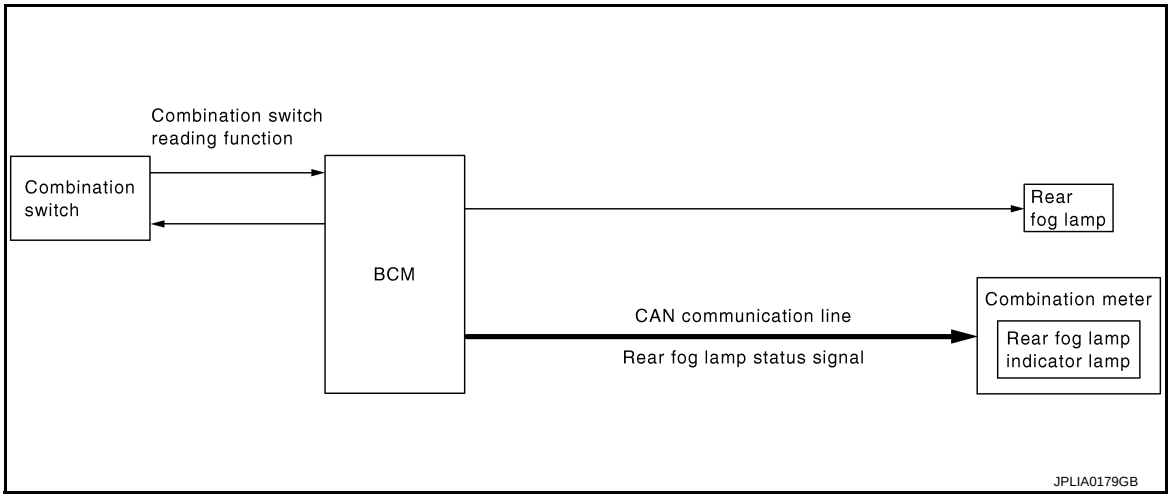
If No CAN Communication Is Available With BCM

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

REAR FOG LAMP SYSTEM

REAR FOG LAMP SYSTEM : System Diagram

INFOID:0000000006451696



REAR FOG LAMP SYSTEM : System Description

INFOID:0000000006451697

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 switch is turned from OFF to ON with any of following condition.

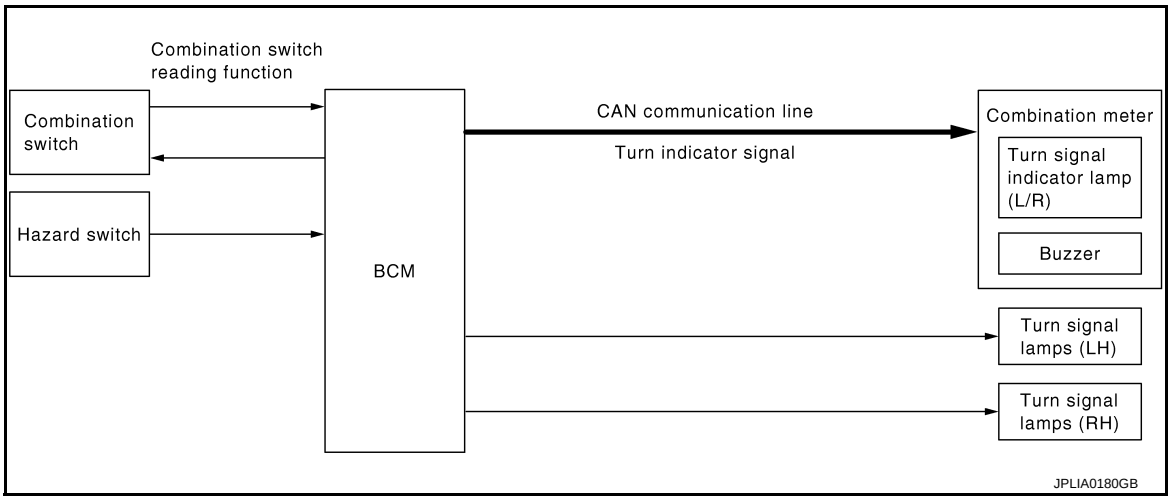
- Lighting switch 2ND
- Lighting switch AUTO and the ignition switch ON
- Front fog lamp ON

- 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.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram

INFOID:0000000006451698



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:0000000006451699

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

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

3-TIME FLASHER FUNCTION

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

HIGH FLASHER OPERATION

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

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

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL)

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL) : System Diagram

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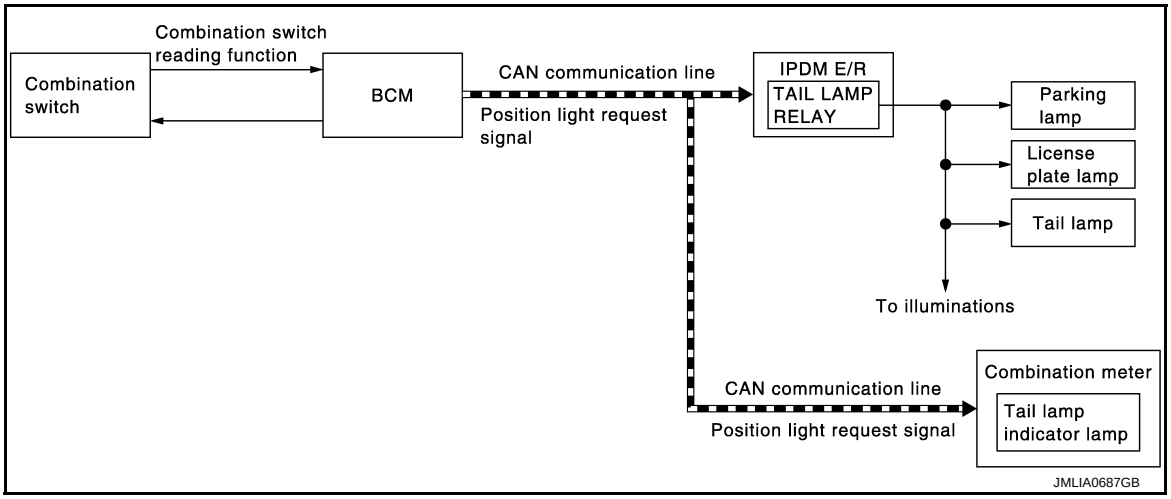


PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL) : System Description

INFOID:0000000006452107

OUTLINE

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

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

Parking, license plate and tail lamps ON condition
- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON

• IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
• Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL) : Fail-Safe

INFOID:0000000006696681

CAN COMMUNICATION CONTROL

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

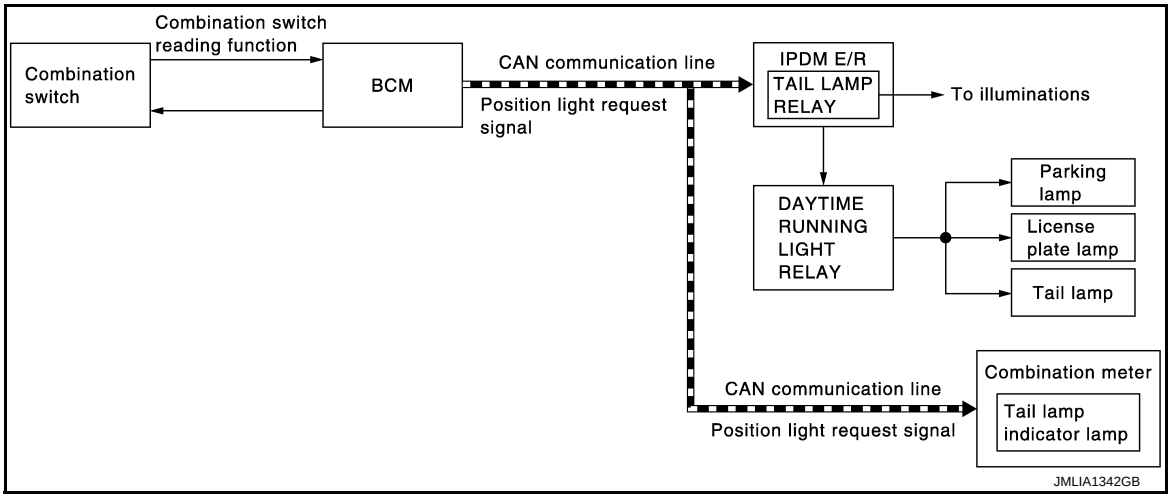
If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
• Parking lamp • License plate lamp • Illumination • Tail lamp	• Turns ON the tail lamp relay when the ignition switch is turned ON • Turns OFF the tail lamp relay when the ignition switch is turned OFF

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL)

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) : System Diagram

INFOID:0000000006452109



PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) : System Description

INFOID:0000000006452110

OUTLINE

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

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

Parking, license plate and tail lamps ON condition
- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment

- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON
• IPDM E/R turns the daytime running light relay ON and turns the parking, license plate and tail lamps ON according to the position light request signal.
• Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) : Fail-Safe

INFOID:0000000006696742

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
• Parking lamp • License plate lamp • Illumination • Tail lamp	• Turns ON the tail lamp relay when the ignition switch is turned ON • Turns OFF the tail lamp relay when the ignition switch is turned OFF

EXTERIOR LAMP BATTERY SAVER SYSTEM (WITHOUT DTRL)

EXTERIOR LAMP BATTERY SAVER SYSTEM (WITHOUT DTRL) : System Diagram

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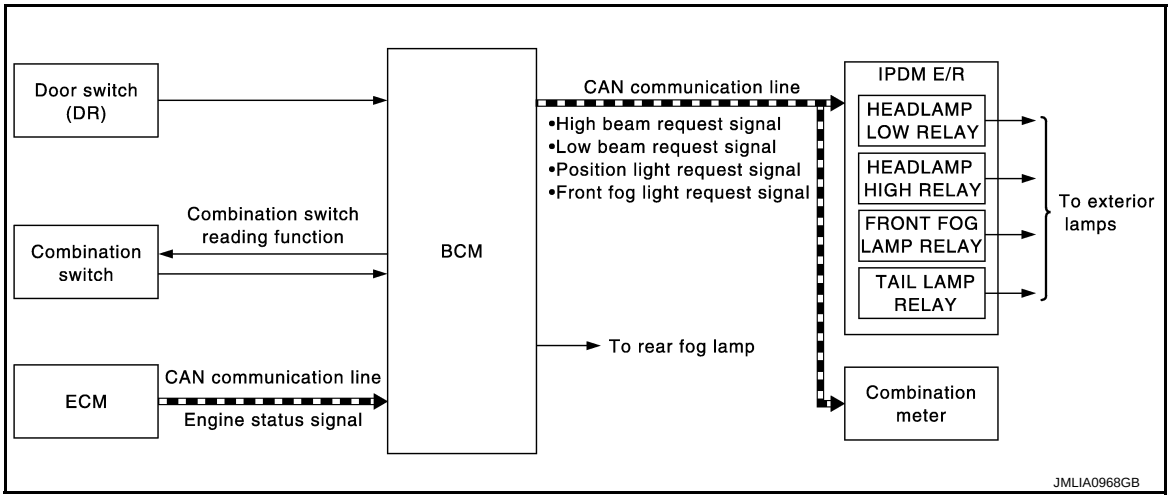


EXTERIOR LAMP BATTERY SAVER SYSTEM (WITHOUT DTRL) : System Description

INFOID:0000000006452113

OUTLINE

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

Control by BCM
- Combination switch reading function
- Headlamp control function
- Exterior lamp battery saver function

Control by IPDM E/R
- Relay control function
• BCM turns the exterior lamps* OFF after a period of time to prevent the battery from over-discharge when the ignition switch is turned OFF with the exterior lamps ON.

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

EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM turns the exterior lamps OFF (battery saver is activated) when all of following condition.

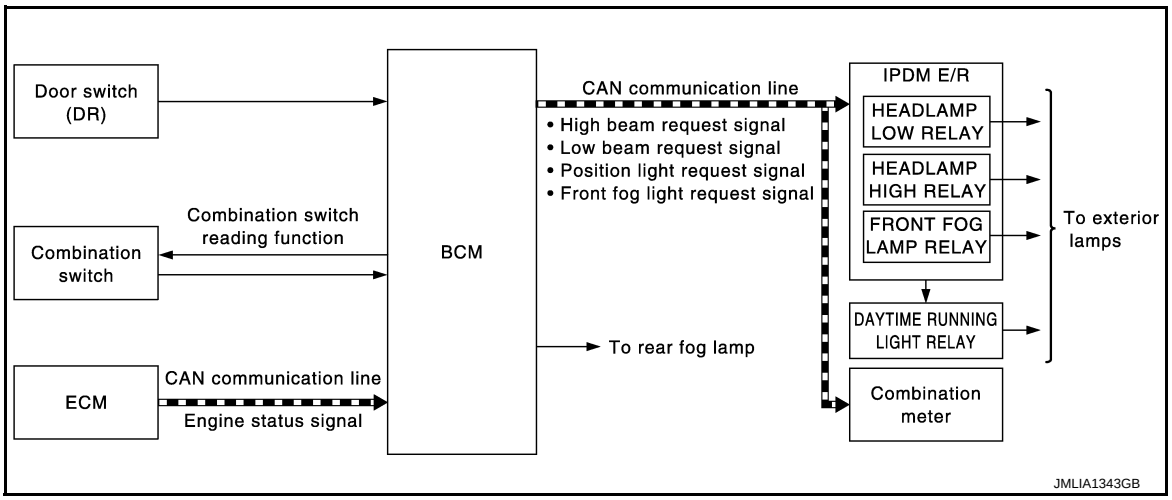
• Exterior lamps ON
• When any of the following conditions is satisfied.
- Driver side door switch is turned from OFF to ON while ignition switch is OFF.
- Ignition switch is turned from ON to OFF while driver side door switch is ON.

NOTE:
When following condition (after the exterior lamp battery saver is activated), exterior lamps can be turned ON.
• Lighting switch ON→ OFF → ON

EXTERIOR LAMP BATTERY SAVER SYSTEM (WITH DTRL)

EXTERIOR LAMP BATTERY SAVER SYSTEM (WITH DTRL) : System Diagram

INFOID:0000000006452114



EXTERIOR LAMP BATTERY SAVER SYSTEM (WITH DTRL) : System Description

INFOID:0000000006452115

OUTLINE

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

Control by BCM
- Combination switch reading function
- Headlamp control function
- Exterior lamp battery saver function

Control by IPDM E/R
- Relay control function
• BCM turns the exterior lamps* OFF after a period of time to prevent the battery from over-discharge when the ignition switch is turned OFF with the exterior lamps ON.

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

EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM turns the exterior lamps OFF (battery saver is activated) when all of following condition.
• Exterior lamps ON
• When any of the following conditions is satisfied.
- Driver side door switch is turned from OFF to ON while ignition switch is OFF.
- Ignition switch is turned from ON to OFF while driver side door switch is ON.

NOTE:
When following condition (after the exterior lamp battery saver is activated), exterior lamps can be turned ON.
• Engine running
• Lighting switchON→ OFF → ON

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

COMMON ITEM

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

INFOID:0000000006696671

APPLICATION ITEM

CONSULT-III 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. Refer to CONSULT-III operation manual.
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	• 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		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
• Automatic A/C • Manual A/C	AIR CONDITONER		×	×*2
• Intelligent Key system • Engine start 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		×	
Theft warning alarm	THEFT ALM	×	×	×
—	RETAINED PWR*1		×	
Signal buffer system	SIGNAL BUFFER		×	×

NOTE:

- *1: This item is displayed, but not used.
- *2: For models with automatic A/C, this diagnosis mode is not used.

FREEZE FRAME DATA (FFD)

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

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power position status of the moment a particular DTC is detected	While turning BCM status from low power consumption mode to normal mode (Power supply position is “LOCK”)
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is “OFF”.)
	LOCK>ACC		While turning power supply position from “LOCK” to “ACC”
	ACC>ON		While turning power supply position from “ACC” to “IGN”
	RUN>ACC		While turning power supply position from “RUN” to “ACC” (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power supply position from “CRANKING” to “RUN” (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from “RUN“ to “ACC” (Emergency stop operation)
	ACC>OFF		While turning power supply position from “ACC” to “OFF”
	OFF>LOCK		While turning power supply position from “OFF” to “LOCK”
	OFF>ACC		While turning power supply position from “OFF” to “ACC”
	ON>CRANK		While turning power supply position from “IGN” to “CRANKING”
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is “OFF”.) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is “LOCK”.) to low power consumption mode
	LOCK		Power supply position is “LOCK” (Ignition switch OFF with steering is locked.)
	OFF		Power supply position is “OFF” (Ignition switch OFF with steering is unlocked.)
	ACC		Power supply position is “ACC” (Ignition switch ACC)
	ON		Power supply position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power supply position is “CRANKING” (At engine cranking)
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.	

HEADLAMP

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

INFOID:0000000006452198

WORK SUPPORT

Service item	Setting item	Setting	
CUSTOM A/LIGHT SETTING*1	MODE 1*2	Normal	
	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)	
	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)	
	MODE 4	Without twilight ON custom & less sensitive setting than normal setting (Turns ON later than normal operation.)	
BATTERY SAVER SET	On*2	With the exterior lamp battery saver function	
	Off	Without the exterior lamp battery saver function	
HEAD LIGHT TIMER	MODE 1	10 sec.	Sets follow me home function activating time
	MODE 2*2	30 sec.	

*1: For models is without auto light system, this item is displayed but work support is not operated.

*2: Factory setting

DATA MONITOR

Monitor item [Unit]	Description
PUSH SW [On/Off]	The switch status input from push-button ignition switch
ENGINE STATE [Stop/Stall/Crank/Run]	The engine status received from ECM via CAN communication
VEH SPEED 1 [km/h]	The value of the vehicle speed received from combination meter via CAN communication
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW* [On/Off]	
FR FOG SW [On/Off]	
RR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH

Monitor item [Unit]	Description
DOOR SW-BK [On/Off]	The switch status input from back door switch
OPTICAL SENSOR* [On/Off/NG]	The sensor condition received from light & rain sensor
OPTI SEN (DTCT) [V]	**NOTE:** The item is indicated, but not monitored
OPTI SEN (FILT) [V]	

*: For models without auto light system, this is not displayed.

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R via CAN communication to turn the tail lamp ON.
	Off	Stops the tail lamp request signal transmission.
HEAD LAMP	Hi	Transmits the high beam request signal via CAN communication to turn the headlamp (HI).
	Lo	Transmits the low beam request signal via CAN communication to turn the headlamp (LO).
	Off	Stops the high & low beam request signal transmission.
FR FOG LAMP	On	Transmits the front fog lights request signal to IPDM E/R via CAN communication to turn the front fog lamp ON.
	Off	Stops the front fog lights request signal transmission.
RR FOG LAMP	On	• Outputs voltage to turn the rear fog lamp ON. • Transmits the rear fog lights request signal to combination meter via CAN communication to turn the rear fog lamp indicator lamp ON.
	Off	• Stops the voltage to turn the rear fog lamp OFF. • Stops the rear fog lamp status signal transmission.
DAYTIME RUNNING LIGHT*	On	Transmits the daytime running light request signal via CAN communication to turn the parking, license plate and tail lamps ON.
	Off	Stop the daytime running light request signal transmission.

*: For models without daytime running light system, this item is not displayed.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:0000000006452199

WORK SUPPORT

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

*: Factory setting

DATA MONITOR

Monitor item [Unit]	Description
REQ SW-DR [On/Off]	The switch status input from the request switch (driver side)
REQ SW-AS [On/Off]	The switch status input from the request switch (passenger side)
PUSH SW [On/Off]	The switch status input from the 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]	Lock signal status received from the remote keyless entry receiver
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver
RKE-PANIC [On/Off]	**NOTE:** The item is indicated, but not monitored

ACTIVE TEST

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

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

COMMON ITEM

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

INFOID:0000000006696674

APPLICATION ITEM

CONSULT-III 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. Refer to CONSULT-III operation manual.
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	• 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		×	×
Interior room lamp control	INT LAMP	×	×	×
Remote keyless entry system	MULTI REMOTE ENT	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER		×	×
• Automatic A/C • Manual A/C • Manual heater	AIR CONDITONER		×	×*2
Combination switch	COMB SW		×	
Body control system	BCM	×		
NATS	IMMU	×		×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
—	RETAINED PWR*1		×	×
Signal buffer system	SIGNAL BUFFER		×	×
—	PANIC ALARM*1			×

- *1: This item is displayed, but is not used.
- *2: For models with automatic A/C, this mode is not used.

HEADLAMP

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

INFOID:0000000006466728

WORK SUPPORT

Service item	Setting item	Setting	
CUSTOM A/LIGHT SETTING*1	MODE 1*2	Normal	
	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)	
	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)	
	MODE 4	Without twilight ON custom & less sensitive setting than normal setting (Turns ON later than normal operation.)	
BATTERY SAVER SET	On*2	With the exterior lamp battery saver function	
	Off	Without the exterior lamp battery saver function	
HEAD LIGHT TIMER	MODE 1	10 sec.	Sets follow me home function activating time
	MODE 2*2	30 sec.	

*1: For models is without auto light system, this item is not displayed.

*2: Factory setting

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged from IGN signal (ignition power supply)
ACC SW [On/Off]	Ignition switch (ACC) status judged from ACC signal (ACC power supply)
VEH SPEED [km/h]	The value of the vehicle speed received from combination meter with CAN communication
HI BEAM SW [On/Off]	Each switch status that BCM judges from the combination switch reading function
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
PASSING SW [On/Off]	
FR FOG SW*1 [On/Off]	
AUTO LIGHT SW*2 [On/Off]	
RR FOG SW [On/Off]	
DOOR SW-DR [On/Off]	The switch status input from front door switch (driver side)
DOOR SW-AS [On/Off]	The switch status input from front door switch (passenger side)
DOOR SW-RR [On/Off]	The switch status input from rear door switch RH
DOOR SW- RL [On/Off]	The switch status input from rear door switch LH
BACK DOOR SW [On/Off]	The switch status input from back door switch

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]	
KEY ON SW [On/Off]	The switch status input from key on switch
KEYLESS LOCK [On/Off]	Lock signal status received from remote keyless entry receiver (integrated in the BCM)
PKB SW [On/Off]	The parking brake switch status received from combination meter with CAN communication
ENGINE RUN [On/Off]	The engine status received from ECM with CAN communication
LIG SEN COND [On/Off/NG]	The sensor condition received from light & rain sensor

*1: Only models with front fog lamp can be monitored.

*2: Only models with auto light system can be monitored.

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	Off	Stops the tail lamp request signal transmission.
HEAD LAMP	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
	Lo	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).
	Off	Stops the high & low beam request signal transmission.
FR FOG LAMP*1	On	Transmits the front fog lights request signal to IPDM E/R with CAN communication to turn the front fog lamp ON.
	Off	Stops the front fog lights request signal transmission.
RR FOG LAMP	On	• Outputs the voltage to turn the rear fog lamp ON. • Transmits the rear fog lamp status signal to the combination meter with CAN communication to turn the rear fog lamp indicator lamp ON.
	Off	• Stops the voltage to turn the rear fog lamp OFF. • Stops the rear fog lamp status signal transmission.
DAYTIME RUNNING LIGHT*2	On	Transmits the daytime running light request signal via CAN communication to turn the parking, license plate and tail lamps ON.
	Off	Stop the daytime running light request signal transmission.

*1: For models without front fog lamp, this item is displayed but active test is not operated.

*2: For models without daytime running light system, this item is not displayed.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:0000000006451709

DATA MONITOR

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch (ON) status judged from IGN signal (ignition power supply)
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

ACTIVE TEST

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

DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

Diagnosis Description

INFOID:0000000006696675

AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp (only for K9K engine models)
- Rear window defogger
- Front wiper motor
- Parking lamp
- License plate lamp
- Tail lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

CAUTION:

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

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
   CAUTION:
   Close passenger door.
3. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
   CAUTION:
   Engine starts when ignition switch is turned ON while brake pedal is depressed.
4. Oil pressure warning lamp starts blinking when the auto active test starts*. (only for K9K engine models)
   *: Except for K9K engine models, oil pressure warning lamp turn ON when auto active test start.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

- When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-87, "Component Function Check" (with super lock) or DLK-258, "Component Function Check" (without super lock).

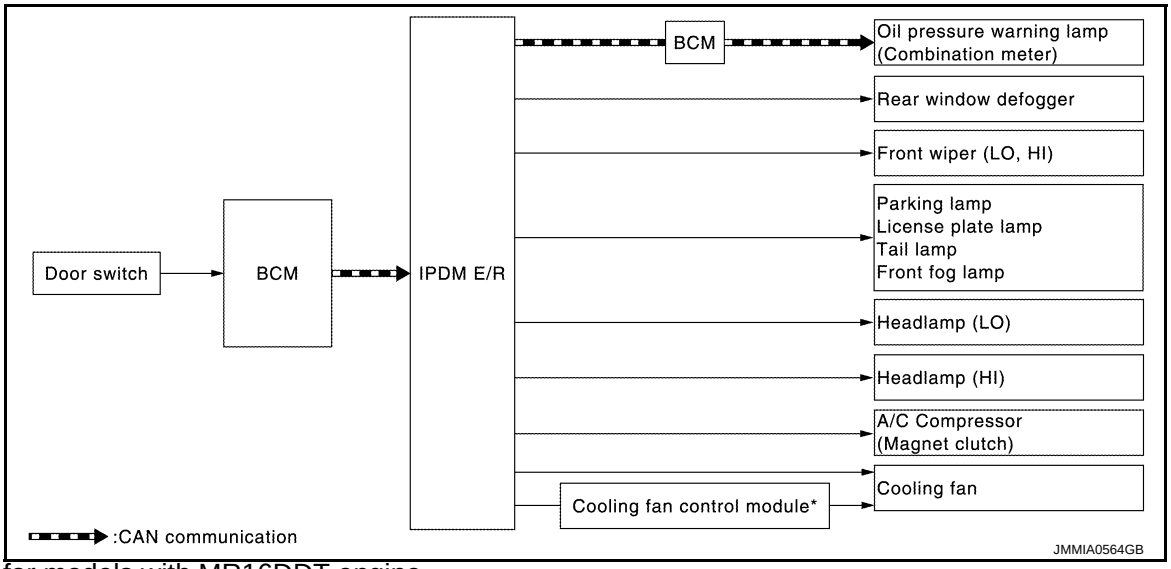
Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test **NOTE:** Except for K9K engine models, turn ON continuously during operation of auto active test.
2	Rear window defogger	10 seconds
3	Front wiper motor	LO for 5 seconds → HI for 5 seconds
4	• Parking lamp • License plate lamp • Tail lamp • Front fog lamp	10 seconds
5	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times

Operation sequence	Inspection location	Operation
6	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
7	Cooling fan	• LO for 5 seconds → HI for 5 seconds (Except for MR16DDT models) • 50% duty for 5 seconds → 100% duty for 5 seconds (For MR16DDT models)

Concept of auto active test



*: Only for models with MR16DDT engine

- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

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

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate (only for K9K engine models)	Perform auto active test. Does the oil pressure warning lamp blink?	YES	• Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO	• CAN communication signal between IPDM E/R and BCM • CAN communication signal between BCM and combination meter • Combination meter
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	• Harness or connector between IPDM E/R and cooling fan motor • Harness or connector between IPDM E/R and cooling fan control module. (Only for models with MR16DDT engine) • Harness or connector between cooling fan control module and cooling fan motor (Only for models with MR16DDT engine) • Cooling fan motor • Cooling fan control module (Only for models with MR16DDT engine) • IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:0000000006696676

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT

Refer to PCS-25, "DTC Index".

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication. **NOTE:** This item is displayed only for vehicle with MR16DDT engine.
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication. **NOTE:** This item is displayed only for vehicle without MR16DDT engine.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the ignition power supply (M/T models) or shift position (CVT models) judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay signal received from BCM via CAN communication.
S/L STATE [LOCK/UNLK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R. **NOTE:** This item is monitored only K9K engine models.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.

Monitor Item [Unit]	MAIN SIGNALS	Description
HL WASHER REQ [Off/On]		Displays the status of the headlamp washer request signal received from BCM via CAN communication.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		**NOTE:** The item is indicated, but not monitored.

ACTIVE TEST

Test item

Test item		Operation	Description
HORN		On	Operates horn relay for 20 ms.
REAR DEFOGGER		Off	OFF
		On	Operates the rear window defogger relay.
FRONT WIPER		Off	OFF
		Lo	Operates the front wiper relay.
		Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	For MR16DDT engine	1	OFF
		2	Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module.
		3	Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module.
		4	Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module.
	Except for MR16DDT engine	1	OFF
		2	Operates the cooling fan relay (LO operation).
		3	Operates the cooling fan relay (HI operation).
		4	
HEAD LAMP WASHER		On	Operates the headlamp washer relay for 1 second.
EXTERNAL LAMPS		Off	OFF
		TAIL	Operates the tail lamp relay.
		Lo	Operates the headlamp low relay.
		Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
		Fog	Operates the front fog lamp relay.

DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

Diagnosis Description

INFOID:0000000006696677

AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp (only for K9K engine models)
- Rear window defogger
- Front wiper motor
- Parking lamp
- License plate lamp
- Tail lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

CAUTION:

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

1. Turn the ignition switch OFF.
2. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
   CAUTION:
   Close passenger door.
3. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
   CAUTION:
   Engine starts when ignition switch is turned ON while brake pedal is depressed.
4. Oil pressure warning lamp starts blinking when the auto active test starts*. (only for K9K engine models)
   *: Except for K9K engine models, oil pressure warning lamp turn ON when auto active test start.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

- When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-397, "Component Function Check" (with super lock) or DLK-522, "Component Function Check" (without super lock).

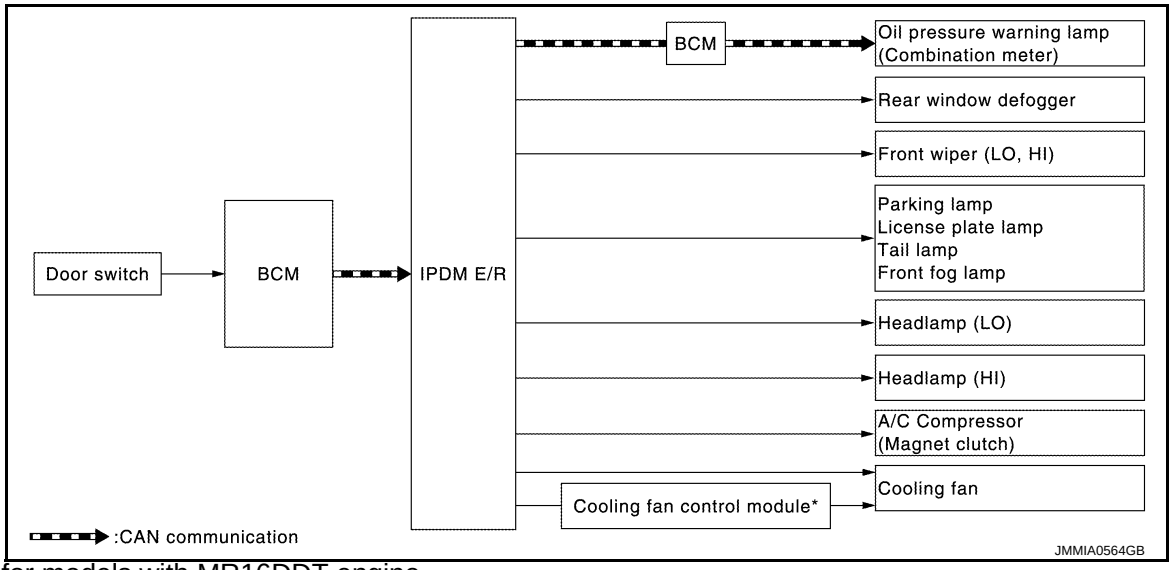
Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test **NOTE:** Except for K9K engine models, turn ON continuously during operation of auto active test.
2	Rear window defogger	10 seconds
3	Front wiper motor	LO for 5 seconds → HI for 5 seconds
4	• Parking lamp • License plate lamp • Tail lamp • Front fog lamp	10 seconds

Operation sequence	Inspection location	Operation
5	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times
6	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
7	Cooling fan	• LO for 5 seconds → HI for 5 seconds (Except for MR16DDT models) • 50% duty for 5 seconds → 100% duty for 5 seconds (For MR16DDT models)

Concept of auto active test



*: Only for models with MR16DDT engine

- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

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

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate (only for K9K engine models)	Perform auto active test. Does the oil pressure warning lamp blink?	YES	• Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO	• CAN communication signal between IPDM E/R and BCM • CAN communication signal between BCM and combination meter • Combination meter
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES	• ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO	• Harness or connector between IPDM E/R and cooling fan motor • Harness or connector between IPDM E/R and cooling fan control module. (Only for model with MR16DDT engine) • Harness or connector between cooling fan control module and cooling fan motor (Only for model with MR16DDT engine) • Cooling fan motor • Cooling fan control module (Only for model with MR16DDT engine) • IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:0000000006696678

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT

Refer to PCS-55, "DTC Index".

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication. **NOTE:** This item is displayed only for vehicle with MR16DDT engine
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication. **NOTE:** This item is displayed only for vehicle without MR16DDT engine
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position (CVT models) judged by IPDM E/R.
ST RLY REQ [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R. **NOTE:** This item is monitored only K9K engine models.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		Displays the status of the headlamp washer request signal received from BCM via CAN communication.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		**NOTE:** This item is indicated, but not monitored.

ACTIVE TEST

Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
REAR DEFOGGER	Off	OFF
	On	Operates the rear window defogger relay.

Test item		Operation	Description
FRONT WIPER		Off	OFF
		Lo	Operates the front wiper relay.
		Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	For MR16DDT engine	1	OFF
		2	Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module.
		3	Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module.
		4	Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module.
	Except for MR16DDT engine	1	OFF
		2	Operates the cooling fan relay (LO operation).
		3	Operates the cooling fan relay (HI operation).
		4	
HEAD LAMP WASHER		On	Operates the headlamp washer relay for 1 second.
EXTERNAL LAMPS		Off	OFF
		TAIL	Operates the tail lamp relay.
		Lo	Operates the headlamp low relay.
		Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
		Fog	Operates the front fog lamp relay.

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000006451714

WITH INTELLIGENT KEY

ECU	Reference
BCM	BCS-41, "Reference Value"
	BCS-64, "Fail-safe"
	BCS-66, "DTC Inspection Priority Chart"
	BCS-67, "DTC Index"
IPDM E/R	PCS-17, "Reference Value"
	PCS-24, "Fail-Safe"
	PCS-25, "DTC Index"

WITHOUT INTELLIGENT KEY

ECU	Reference
BCM	BCS-125, "Reference Value"
	BCS-140, "Fail-safe"
	BCS-140, "DTC Inspection Priority Chart"
	BCS-141, "DTC Index"
IPDM E/R	PCS-48, "Reference Value"
	PCS-54, "Fail-Safe"
	PCS-55, "DTC Index"

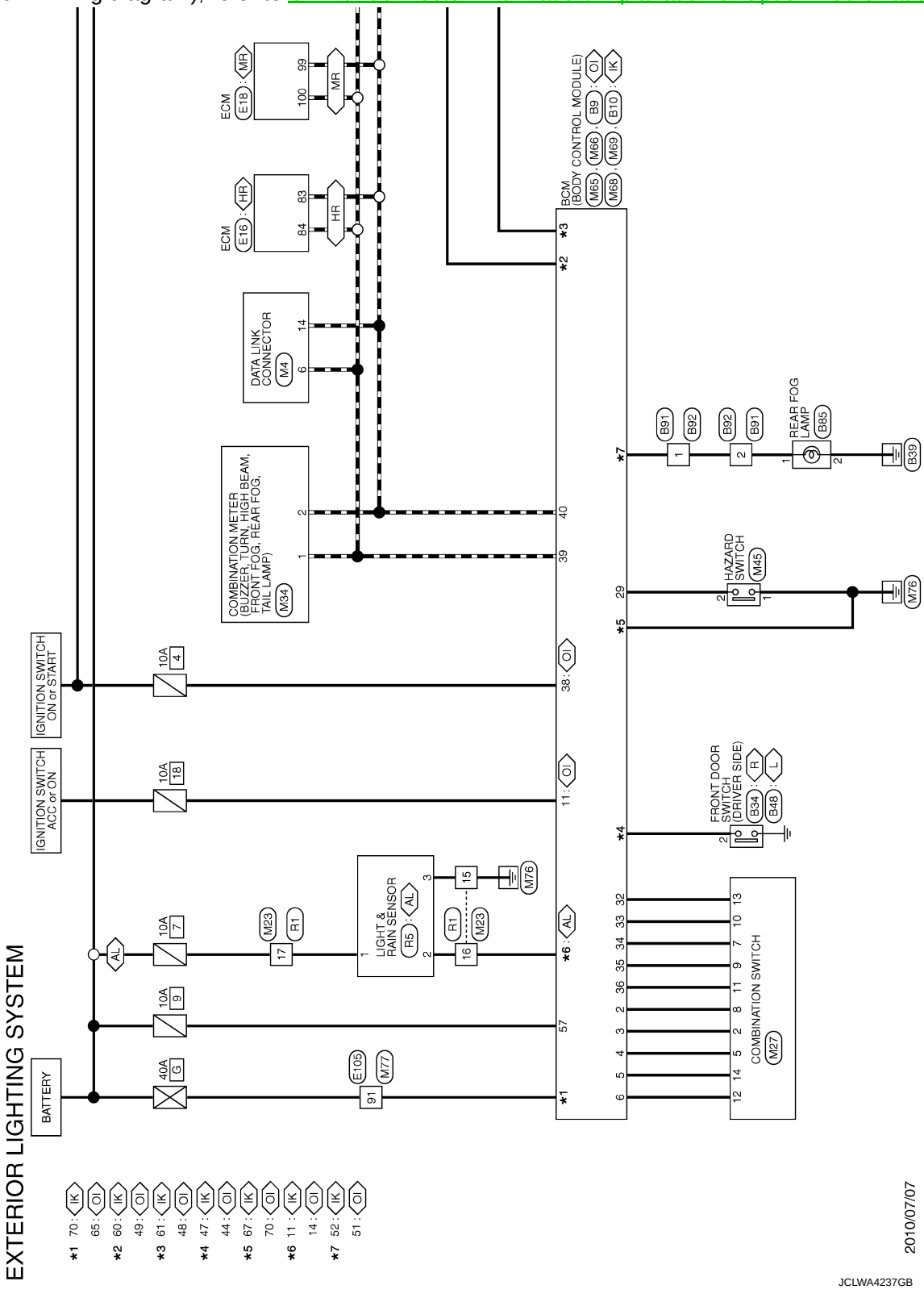
WIRING DIAGRAM

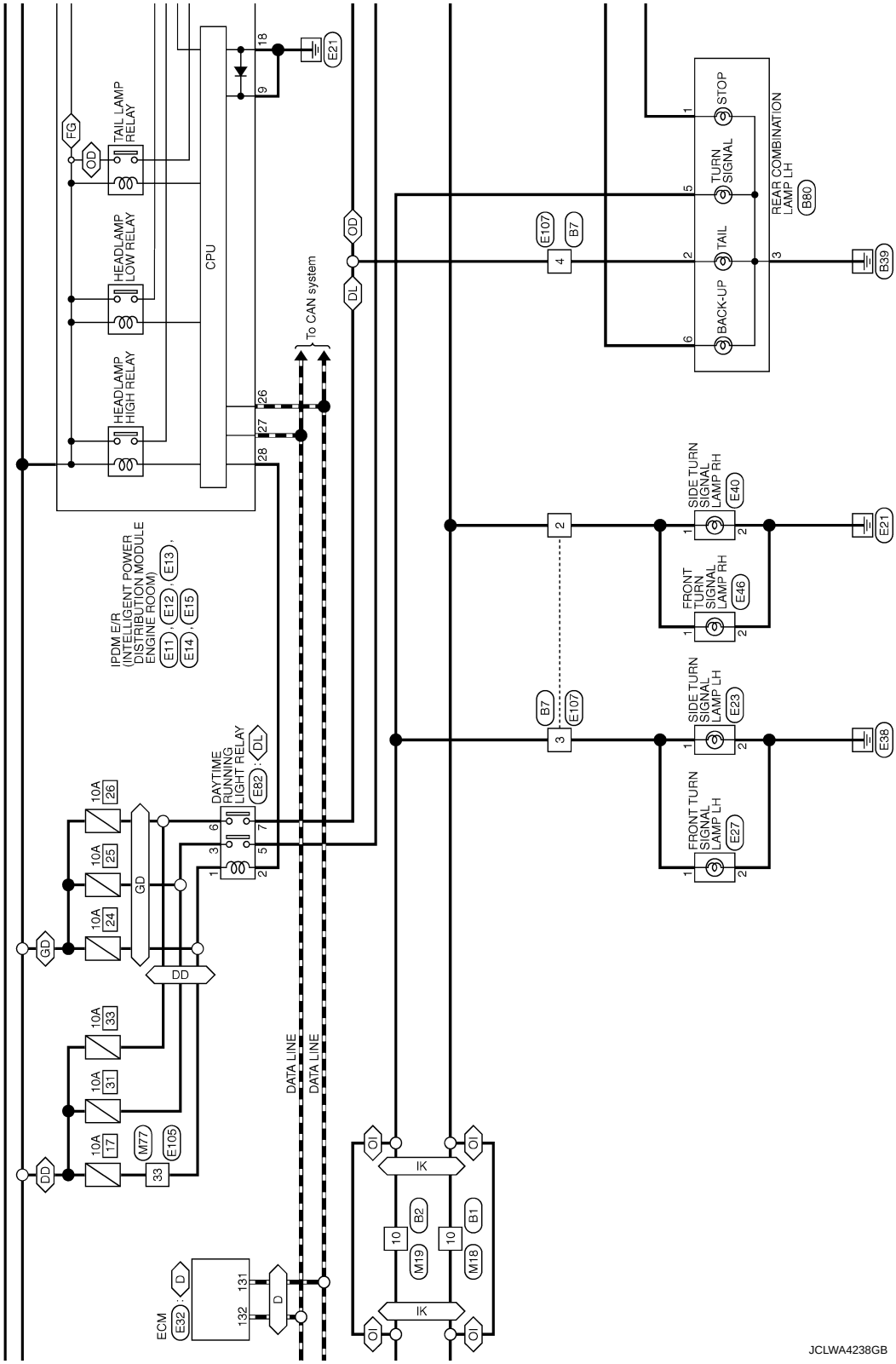
EXTERIOR LIGHTING SYSTEM

Wiring Diagram

INFOID:0000000006707027

For connector terminal arrangemants, harness layouts, and alphabets in a ⬡ (option abbreviation: if not described in wiring diagram), refer to GI-12, "Connector Information/Explanation of Option Abbreviation".




IPDM E/R
(INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E11, E12, E13, E14, E15
CPU
TAIL LAMP RELAY
HEADLAMP LOW RELAY
HEADLAMP HIGH RELAY
DAYTIME RUNNING LIGHT RELAY E82
To CAN system
DATA LINE
DATA LINE
ECM E32
REAR COMBINATION LAMP LH B80
STOP
TURN SIGNAL
TAIL
BACK-UP
SIDE TURN SIGNAL LAMP RH E40
FRONT TURN SIGNAL LAMP RH E46
SIDE TURN SIGNAL LAMP LH E23
FRONT TURN SIGNAL LAMP LH E27
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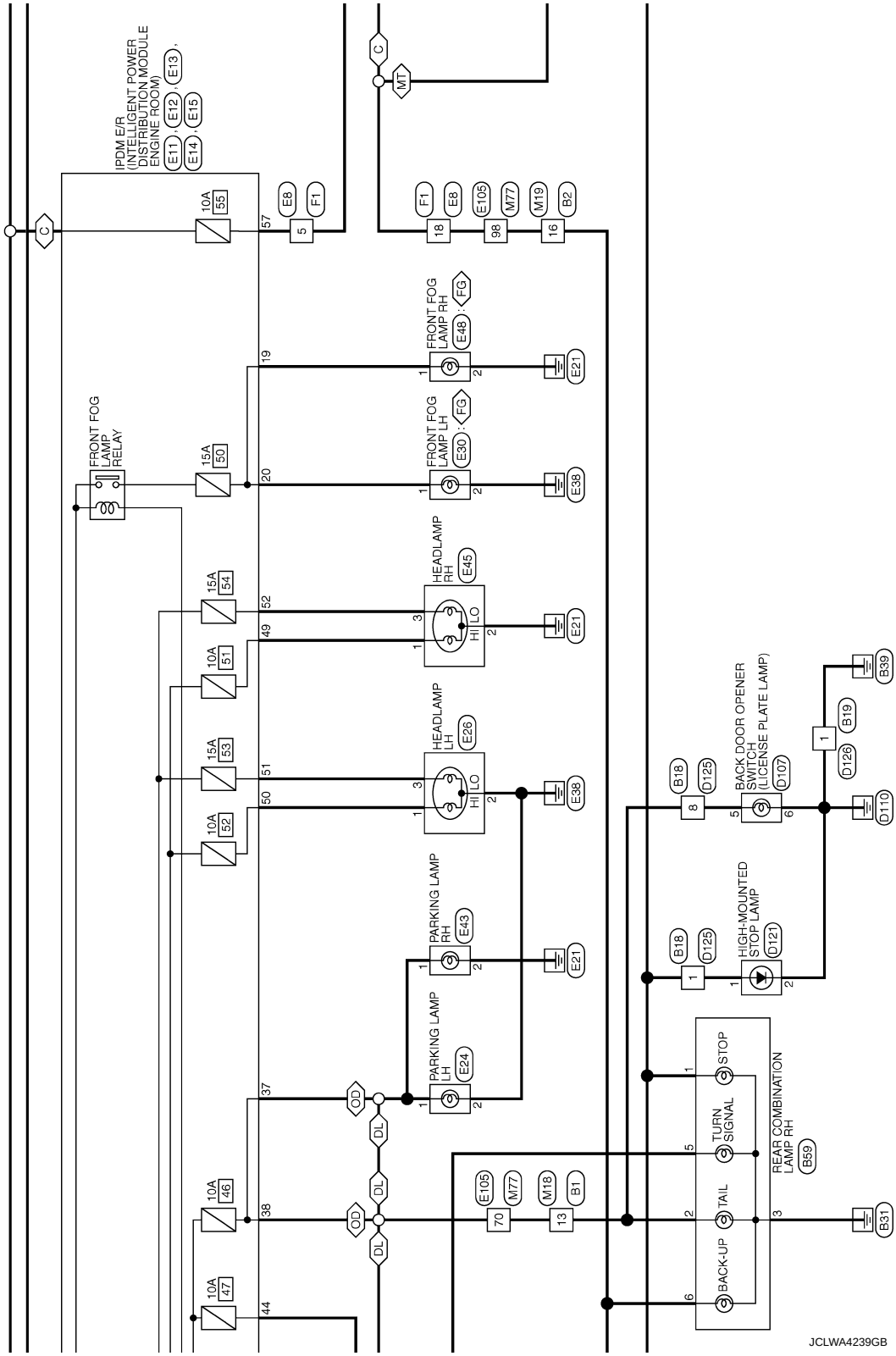
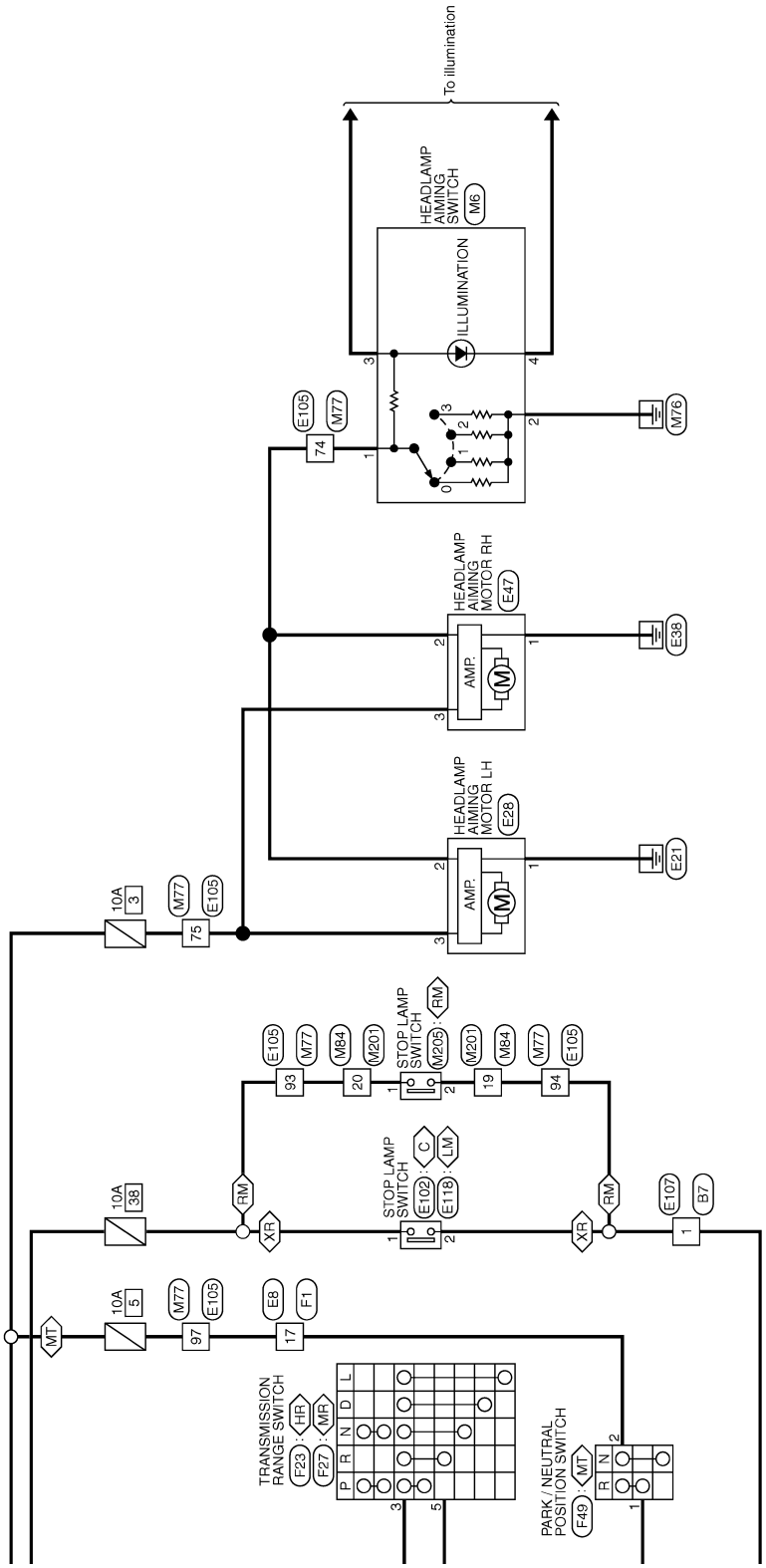

IPDM E/R
(INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E11, E12, E13, E14, E15
FRONT FOG LAMP RELAY
HEADLAMP RH
HEADLAMP LH
PARKING LAMP RH
PARKING LAMP LH
FRONT FOG LAMP RH
FRONT FOG LAMP LH
BACK DOOR OPENER SWITCH (LICENSE PLATE LAMP)
HIGH-MOUNTED STOP LAMP
REAR COMBINATION LAMP RH
STOP
TURN SIGNAL
TAIL
BACK-UP
HI
LO
OD
DL
JCLWA4239GB


To illumination
HEADLAMP AIMING SWITCH
M6
ILLUMINATION
E105
M77
74
M76
HEADLAMP AIMING MOTOR RH
E47
AMP.
E38
HEADLAMP AIMING MOTOR LH
E28
AMP.
E21
10A
3
75
STOP LAMP SWITCH
RM
93
20
M205
19
94
STOP LAMP SWITCH
C
LM
E102
E118
10A
38
RM
XR
E107
B7
1
10A
5
97
E8
F1
17
MT
TRANSMISSION RANGE SWITCH
HR
MR
F23
F27
PARK / NEUTRAL POSITION SWITCH
MT
F49
JCLWA4240GB

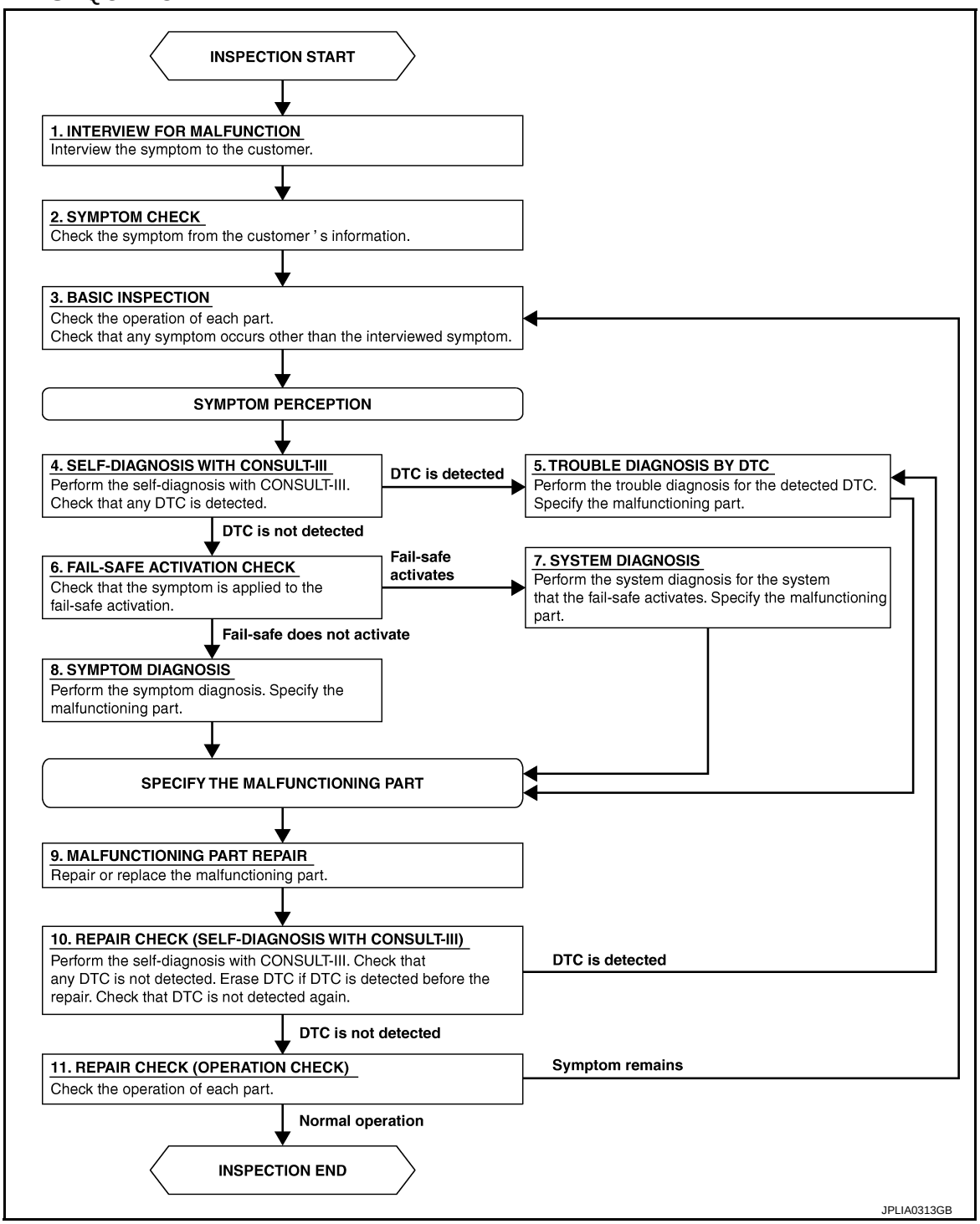
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000006451716

OVERALL SEQUENCE



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

>> GO TO 2.

2.SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3.

3.BASIC INSPECTION

Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.

>> GO TO 4.

4.SELF-DIAGNOSIS WITH CONSULT-III

Perform the self-diagnosis with CONSULT-III. Check that any DTC is detected.

Is any DTC detected?

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

5.TROUBLE DIAGNOSIS BY DTC

Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.

>> GO TO 9.

6.FAIL-SAFE ACTIVATION CHECK

Check that the symptom is applied to the fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7.
NO >> GO TO 8.

7.SYSTEM DIAGNOSIS

Perform the system diagnosis for the system that the fail-safe activates. Specify the malfunctioning part.

>> GO TO 9.

8.SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

9.MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10.

10.REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)

Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5.
NO >> GO TO 11.

11.REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

YES >> INSPECTION END
NO >> GO TO 3.

DTC/CIRCUIT DIAGNOSIS

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:0000000006451718

1.CHECK HEADLAMP (HI) OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the test items, check that the headlamp (HI) is turned ON.

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

NOTE:
ON/OFF is repeated 1 second each.

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.
NO >> Refer to EXL-45, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006451719

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

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

(+)			(–)	Test item		Voltage (Approx.)
IPDM E/R						
Connector		Terminal				
RH	E15	49	Ground	EXTERNAL LAMPS	Hi	Battery voltage
					Off	0 V
LH		50			Hi	Battery voltage
					Off	0 V

Is the inspection result normal?

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

2.CHECK HEADLAMP (HI) OPEN CIRCUIT

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

IPDM E/R			Headlamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E15	49	E45	1	Existed
LH		50	E26		

Is the inspection result normal?

YES >> Replace headlamp bulb.
NO >> Repair or replace harness.

3. CHECK HEADLAMP (HI) FUSE

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

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

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> GO TO 4.

4. CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT

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

IPDM E/R			Ground	Continuity
Connector		Terminal		
RH	E15	49		Not existed
LH		50		

Is the inspection result normal?

YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)
NO >> Repair or replace harness. And then replace the fuse.

HEADLAMP (LO) CIRCUIT

Component Function Check

INFOID:0000000006451720

1.CHECK HEADLAMP (LO) OPERATION

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

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

Is the inspection result normal?

YES >> Headlamp (LO) is normal.
NO >> Refer to EXL-47, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006451721

1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

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

(+)			(–)	Test item		Voltage (Approx.)
IPDM E/R						
Connector		Terminal				
RH	E15	52	Ground	EXTERNAL LAMPS	Lo	Battery voltage
					Off	0 V
LH		51			Lo	Battery voltage
					Off	0 V

Is the inspection result normal?

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

2.CHECK HEADLAMP (LO) OPEN CIRCUIT

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

IPDM E/R			Headlamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E15	52	E45	3	Existed
LH		51	E26		

Is the inspection result normal?

YES >> Replace headlamp bulb.
NO >> Repair or replace harness.

3.CHECK HEADLAMP (LO) FUSE

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

Unit	Lotion	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	#54	15 A
Headlamp LO (LH)		#53	

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> GO TO 4.

4. CHECK HEADLAMP (LO) SHORT CIRCUIT

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

IPDM E/R			Ground	Continuity
Connector		Terminal		
RH	E15	52		Not existed
LH		51		

Is the inspection result normal?

YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)
NO >> Repair or replace harness. And then replace the fuse.

HEADLAMP GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000006451722

1.CHECK HEADLAMP GROUND OPEN CIRCUIT

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

Headlamp		Ground	Continuity
Connector		Terminal		
RH	E45	2	Existed
LH	E26		

Is the inspection result normal?

YES >> Headlamp ground circuit is normal.
NO >> Repair or replace harness.

DAYTIME RUNNING LIGHT RELAY CIRCUIT

Component Function Check

INFOID:0000000006452120

1.CHECK DAYTIME RUNNING LIGHT OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the test item, check that parking lamp, tail lamp and license plate lamp are turned ON.

TAIL : Parking lamp, tail lamp and license plate lamp ON
Off : Parking lamp, tail lamp and license plate lamp OFF

Is the inspection result normal?

YES >> Daytime running light relay circuit is normal.
NO >> Refer to EXL-50, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006452121

1.CHECK DAYTIME RUNNING LIGHT RELAY FUSE

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

Gasoline engine models

Unit	Fuse No.	Capacity
Daytime running light relay	#24	10 A
	#25	
	#26	

Diesel engine models

Unit	Fuse No.	Capacity
Daytime running light relay	#17	10 A
	#31	
	#33	

Is the inspection result normal?

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

2.CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

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

(+)		(–)	Voltage (Approx.)
Daytime running light relay			
Connector	Terminal		
E82	1	Ground	Battery voltage
	3		
	6		

Is the inspection result normal?

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

3.CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-51, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace daytime running light relay.

4.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OUTPUT

CONSULT-III ACTIVE TEST
1. Install daytime running light relay.
2. Turn ignition switch ON.
3. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
4. With operating the test item, check voltage between IPDM E/R harness connector and ground.

(+)		(–)	Test item		Voltage (Approx.)
IPDM E/R					
Connector	Terminal				
E13	28	Ground	EXTERNAL LAMPS	TAIL	0 V
				Off	Battery voltage

Is the inspection result normal?

YES >> Daytime running light relay circuit is OK.
Fixed at 0 V >>GO TO 5.
Fixed at battery voltage >>Replace IPDM E/R.

5.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect IPDM E/R harness connector.
4. Check continuity between IPDM E/R harness connector and daytime running light relay harness connector.

IPDM E/R		Daytime running light relay		Continuity
Connector	Terminal	Connector	Terminal	
E13	28	E82	2	Existed

Is the inspection result normal?

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

6.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL SHORT CIRCUIT

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E13	28		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace harness.

Component Inspection

INFOID:0000000006452122

1.CHECK DAYTIME RUNNING LIGHT RELAY

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

Daytime running light relay		Condition		Continuity
Terminal				
3	5	Voltage	Apply	Existed
			Not Apply	Not existed
6	7		Apply	Existed
			Not Apply	Not existed

Is the inspection result normal?

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

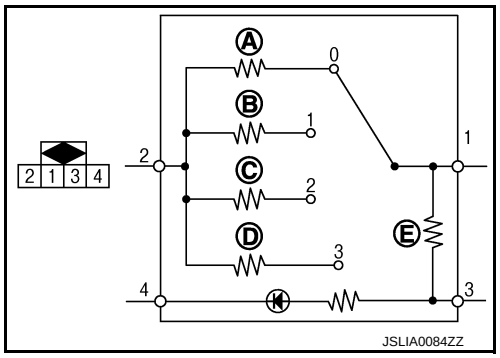
HEADLAMP AIMING SYSTEM (MANUAL)

Component Inspection

INFOID:0000000006451723

1.CHECK HEADLAMP AIMING SWITCH

1. Remove headlamp aiming switch.
2. Check resistance among each headlamp aiming switch terminal.



Headlamp aiming switch		Condition	Resistance (Approx.)
Terminal		Switch position	
1	2	0	A: 160 Ω
		1	B: 300 Ω
		2	C: 392 Ω
		3	D: 499 Ω
	3	—	E: 390 Ω

Is the inspection result normal?

YES >> Headlamp aiming switch is normal.
NO >> Replace the headlamp aiming switch.

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000006452123

1.CHECK FRONT FOG LAMP OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the test items, check that the front fog lamp is turned ON.

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

Is the measurement normal?

YES >> Front fog lamp circuit is normal.
NO >> Refer to EXL-54, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006452124

1.CHECK FRONT FOG LAMP FUSE

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

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

Is the inspection result normal?

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

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

IPDM E/R			Ground	Continuity
Connector		Terminal		
RH	E12	19		Not existed
LH		20		

Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if the fuse is fusing again.)
NO >> Repair or replace harness. And then replace the fuse.

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

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

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect front fog lamp connector.
2. Turn ignition switch ON.
3. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
4. With operating the test items, check the voltage between IPDM E/R harness connector and ground.

(+)			(–)	Test item		Voltage (Approx.)
IPDM E/R						
Connector		Terminal				
RH	E12	19	Ground	EXTERNAL LAMPS	Fog	Battery voltage
					Off	0 V
LH		20			Fog	Battery voltage
					Off	0 V

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace IPDM E/R.

5. CHECK FRONT FOG LAMP OPEN 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	E12	19	E48	1	Existed
LH		20	E30		

Is the inspection result normal?

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

6. CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

Check continuity between front fog lamp harness connector and ground.

Front fog lamp			Ground	Continuity
Connector		Terminal		
RH	E48	2		Existed
LH	E30			

Is the inspection result normal?

YES >> Refer to GI-42, "Intermittent Incident".
NO >> Repair or replace harness.

REAR FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000006451728

1.CHECK REAR FOG LAMP OPERATION

CONSULT-III ACTIVE TEST
1. Select “RR FOG LAMP” of BCM (HEAD LAMP) active test item.
2. 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-56, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006451729

1.CHECK REAR FOG LAMP BULB

Check applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2.CHECK REAR FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Turn ignition switch OFF.
2. Disconnect rear fog lamp connector.
3. Turn ignition switch ON.
4. Select “RR FOG LAMP” of BCM (HEAD LAMP) active test item.
5. With operating the test items, check voltage between rear fog lamp harness connector and ground.

(+)		(–)	Test item		Voltage (Approx.)
Rear fog lamp					
Connector	Terminal				
B85	1	Ground	RR FOG LAMP	On	12 V
				Off	0 V

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 3.

3.CHECK REAR FOG LAMP OPEN CIRCUIT

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	
B9*1 B10*2	51*1 52*2	B85	1	Existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK REAR FOG LAMP SHORT CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
B9*1 B10*2	51*1 52*2		Not existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

YES >> Check bulb socket for internal short circuit, and if check result is normal, replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).

NO >> Repair or replace harness.

5. CHECK REAR FOG LAMP GROUND OPEN CIRCUIT

Check continuity between rear fog lamp harness connector and ground.

Rear fog lamp		Ground	Continuity
Connector	Terminal		
B85	2		Existed

Is the inspection result normal?

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

NO >> Repair or replace harness.

PARKING LAMP CIRCUIT
WITHOUT DAYTIME RUNNING LIGHT SYSTEM
WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000006452125

1.CHECK PARKING LAMP OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the test items, check that the parking lamp is turned ON.

TAIL : Parking lamp ON
Off : Parking lamp OFF

Is the inspection result normal?

YES >> Parking lamp circuit is normal.
NO >> Refer to EXL-60, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006452126

1.CHECK PARKING LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Parking lamp	IPDM E/R	#46	10 A

Is the inspection result normal?

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

2.CHECK PARKING LAMP SHORT CIRCUIT

1. Disconnect the following connectors.
- IPDM E/R
- Parking lamp
- Rear combination lamp (RH)
- License plate lamp
2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E14	37		Not existed
	38		

Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if fusing is found again.)
NO >> Repair or replace harness. And then replace the fuse.

3.CHECK PARKING LAMP BULB

Check applicable lamp bulb.

Is the inspection result normal?

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

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect parking lamp connector.

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

(+)		(–)	Test item		Voltage (Approx.)
IPDM E/R					
Connector	Terminal				
E14	37	Ground	EXTERNAL LAMPS	TAIL	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace IPDM E/R.

5.CHECK PARKING LAMP OPEN CIRCUIT

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

IPDM E/R			Parking lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E14	37	E43	1	Existed
LH			E24		

Is the inspection result normal?

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

6.CHECK PARKING LAMP GROUND OPEN CIRCUIT

Check continuity between parking lamp harness connector and ground.

Parking lamp			Ground	Continuity
Connector		Terminal		
RH	E43	2		Existed
LH	E24			

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000006452127

1.CHECK PARKING LAMP OPERATION

CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON
Off : Parking lamp OFF

Is the inspection result normal?

YES >> Parking lamp circuit is normal.
NO >> Refer to EXL-60, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006452128

1.CHECK PARKING LAMP BULB

Check applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2.CHECK PARKING LAMP OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect parking lamp connector.
4. Check continuity between daytime running light relay harness connector and parking lamp harness connector.

Daytime running light relay			Parking lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E82	5	E43	1	Existed
LH			E24		

Is the inspection result normal?

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

3.CHECK PARKING LAMP SHORT CIRCUIT

1. Disconnect the following connectors.
- Rear combination lamp (RH)
- License plate lamp
2. Check continuity between daytime running light relay harness connector and ground.

Daytime running light relay		Ground	Continuity
Connector	Terminal		
E82	5		Not existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK PARKING LAMP GROUND OPEN CIRCUIT

Check continuity between parking lamp harness connector and ground.

Parking lamp			Ground	Continuity
Connector		Terminal		
RH	E43	2		Existed
LH	E24			

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

TAIL LAMP CIRCUIT

WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000006452129

1.CHECK TAIL LAMP OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the test items, check that the tail lamp is turned ON.

TAIL : Tail Lamp ON
Off : Tail lamp OFF

Is the inspection result normal?

YES >> Tail lamp circuit is normal.
NO >> Refer to EXL-61, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006452130

1.CHECK TAIL LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2.CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES-1 (When tail lamp (RH) does not turn ON.)>>GO TO 6.
YES-2 (When tail lamp (LH) does not turn ON.)>>GO TO 3.
NO >> Check parking lamp circuit. Refer to EXL-58, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".

3.CHECK TAIL LAMP (LH) FUSE

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

Unit	Location	Fuse No.	Capacity
Tail lamp (LH)	IPDM E/R	#47	10 A

Is the inspection result normal?

YES >> GO TO 4.
NO >> GO TO 5.

4.CHECK TAIL LAMP (LH) OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST
1. Disconnect rear combination lamp (LH) connector.
2. Turn ignition switch ON.
3. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
4. With operating the test items, check voltage between IPDM E/R harness connector and ground.

(+)		(–)	Test item		Voltage (Approx.)
IPDM E/R					
Connector	Terminal				
E14	44	Ground	EXTERNAL LAMPS	TAIL	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> GO TO 6.
NO >> Replace IPDM E/R.

5.CHECK TAIL LAMP (LH) SHORT CIRCUIT

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E14	44		Not existed

Is the inspection result normal?

YES >> Replace fuse. (Replace IPDM E/R if fusing is found again.)
NO >> Repair or replace harness. And then replace the fuse.

6.CHECK TAIL LAMP OPEN CIRCUIT

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

IPDM E/R			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E14	38	B59	2	Existed
LH		44	B80		

Is the inspection result normal?

YES >> GO TO 7.
NO >> Repair or replace harness.

7.CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

Rear combination lamp			Ground	Continuity
Connector		Terminal		
RH	B59	3		Existed
LH	B80			

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000006478922

1.CHECK TAIL LAMP OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the test items, check that the tail lamp is turned ON.

TAIL : Tail Lamp ON
Off : Tail lamp OFF

Is the inspection result normal?

YES >> Tail lamp circuit is normal.
NO >> Refer to EXL-63, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006478923

1.CHECK TAIL LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2.CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES-1 (When tail lamp (RH) does not turn ON.)>>GO TO 4.
YES-2 (When tail lamp (LH) does not turn ON.)>>GO TO 3.
NO >> Check parking lamp circuit. Refer to EXL-59, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".

3.CHECK TAIL LAMP (LH) SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect rear combination lamp (LH) connector.
4. Check continuity between daytime running light relay harness connector and ground.

Daytime running light relay		Ground	Continuity
Connector	Terminal		
E82	7		Not existed

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4.CHECK TAIL LAMP OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect rear combination lamp connector.
4. Check continuity between daytime running light relay harness connector and rear combination lamp harness connector.

Daytime running light relay			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E82	5	B59	2	Existed
LH		7	B80		

Is the inspection result normal?

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

5.CHECK TAIL LAMP GROUND OPEN CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

Rear combination lamp			Ground	Continuity
Connector		Terminal		
RH	B59	3		Existed
LH	B80			

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

LICENSE PLATE LAMP CIRCUIT
WITHOUT DAYTIME RUNNING LIGHT SYSTEM
WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000006452133

1. CHECK TAIL LAMP (RH) OPERATION

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check tail lamp circuit. Refer to EXL-61, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".

2. CHECK LICENSE PLATE LAMP OPERATION

CONSULT-III ACTIVE TEST
1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the lighting switch, check that the license plate lamp is turned ON.

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

Is the inspection result normal?

YES >> License plate lamp circuit is normal.
NO >> Refer to EXL-65, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006452134

1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2. CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

IPDM E/R		Back door opener switch		Continuity
Connector	Terminal	Connector	Terminal	
E14	38	D107	5	Existed

Is the inspection result normal?

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

3. CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

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

Back door opener switch		Ground	Continuity
Connector	Terminal		
D107	6		Existed

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000006478924

1. CHECK TAIL LAMP (RH) OPERATION

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check tail lamp circuit. Refer to EXL-62, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".

2. CHECK LICENSE PLATE LAMP OPERATION

CONSULT-III ACTIVE TEST

1. Select “EXTERNAL LAMPS” of IPDM E/R active test item.
2. With operating the lighting switch, check that the license plate lamp is turned ON.

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

Is the inspection result normal?

YES >> License plate lamp circuit is normal.
NO >> Refer to EXL-66, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006478925

1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2. CHECK LICENSE PLATE LAMP OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Remove daytime running light relay.
3. Disconnect back door opener switch connector.
4. Check continuity between daytime running light relay harness connector and back door opener switch harness connector.

Daytime running light relay		Back door opener switch		Continuity
Connector	Terminal	Connector	Terminal	
E82	5	D107	5	Existed

Is the inspection result normal?

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

3. CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

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

Back door opener switch		Ground	Continuity
Connector	Terminal		
D107	6		Existed

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

LIGHT & RAIN SENSOR

Component Function Check

INFOID:0000000006452196

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-67, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006452197

1.CHECK LIGHT & RAIN SENSOR FUSE

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

Unit	Fuse No.	Capacity
Light & rain sensor	#7	10 A

Is the inspection result normal?

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

2.CHECK LIGHT & RAIN SENSOR POWER SUPPLY

1. Disconnect light & rain sensor connector.
2. Check voltage between light & rain sensor harness connector and ground.

(+)		(–)	Voltage (Approx.)
Light & rain sensor			
Connector	Terminal		
R5	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
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		Ground	Continuity
Connector	Terminal		
R5	3		Existed

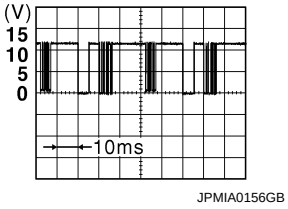
Is the inspection result normal?

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 signal between BCM harness connector and ground with oscilloscope.

(+)		(–)	Condition	Signal (Reference value)
BCM				
Connector	Terminal			
M65*1 M68*2	14*1 11*2	Ground	Ignition switch ON	 JPMIA0156GB Approx. 8.7V

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

YES >> Replace light & rain sensor.
NO >> GO TO 5.

5. CHECK LIGHT & RAIN SENSOR SIGNAL CIRCUIT FOR 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	
M65*1 M68*2	14*1 11*2	R5	2	Existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

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

6. CHECK LIGHT & RAIN SENSOR SIGNAL CIRCUIT FOR SHORT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M65*1 M68*2	14*1 11*2		Not existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

YES >> Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).
NO >> Repair or replace harness.

TURN SIGNAL LAMP CIRCUIT

Component Function Check

INFOID:0000000006451732

1.CHECK TURN SIGNAL LAMP

CONSULT-III ACTIVE TEST
1. Select “FLASHER” of BCM (FLASHER) active test item.
2. With operating the test items, check that the turn signal lamps is turned ON.

LH : Turn signal lamps (LH) ON
RH : Turn signal lamps (RH) ON
Off : Turn signal lamps OFF

Is the inspection result normal?

YES >> Turn signal lamp circuit is normal.
NO >> Refer to EXL-69, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006451733

1.CHECK TURN SIGNAL LAMP BULB

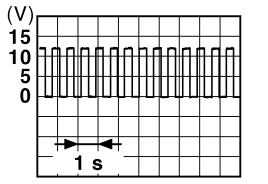
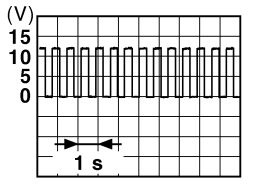
Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

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

(+) BCM Connector	(+) BCM Terminal	(–)	Condition		Voltage (Approx.)
B9*1 M69*2	49*1 60*2	Ground	Turn signal switch	LH	 PKID0926E
				OFF	0 V
	48*1 61*2			RH	 PKID0926E
				OFF	0 V

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

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

3. CHECK TURN SIGNAL LAMP OPEN CIRCUIT

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

Front turn signal lamp

BCM			Front turn signal lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	B9*1 M69*2	48*1 61*2	E46	1	Existed
LH		49*1 60*2	E27		

Side turn signal lamp

BCM			Side turn signal lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	B9*1 M69*2	48*1 61*2	E40	1	Existed
LH		49*1 60*2	E23		

Rear turn signal lamp

BCM			Rear combination lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	B9*1 M69*2	48*1 61*2	B59	5	Existed
LH		49*1 60*2	B80		

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

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

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between BCM harness connector and ground.

BCM			Ground	Continuity
Connector		Terminal		
RH	B9*1 M69*2	48*1 61*2	Ground	Not existed
LH		49*1 60*2		

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

YES >> Check each bulb socket for internal short circuit, and if check result is normal, replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).
NO >> Repair or replace harness.

5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check continuity between BCM harness connector and front turn signal lamp, side turn signal lamp or rear combination lamp and ground.

Front turn signal lamp

Front turn signal lamp			Ground	Continuity
Connector		Terminal		
RH	E46	2		Existed
LH	E27			

Side turn signal lamp

Side turn signal lamp			Ground	Continuity
Connector		Terminal		
RH	E40	2		Existed
LH	E23			

Rear turn signal lamp

Rear combination lamp			Ground	Continuity
Connector		Terminal		
RH	B59	3		Existed
LH	B80			

Is the inspection result normal?

YES >> Check corresponding bulb socket and harness. Repair or replace if necessary.
NO >> Repair or replace harness.

HAZARD SWITCH

Component Function Check

INFOID:0000000006451734

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR
1. Turn the ignition switch ON.
2. Select “HAZARD SW” of BCM (FLASHER) data monitor item.
3. With operating the hazard switch, check the monitor status.

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

Is the inspection result normal?

YES >> Hazard switch circuit is normal.
NO >> Refer to EXL-72, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000006451735

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

(+)		(–)	Voltage (Approx.)
Hazard switch			
Connector	Terminal		
M45	2	Ground	12 V

Is the inspection result normal?

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

2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

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	M65*1 M68*2	29	Existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

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

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch		Ground	Continuity
Connector	Terminal		
M45	2		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key) or BCS-161, "Removal and Installation" (without Intelligent Key).
NO >> Repair or replace harness.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard switch		Ground	Continuity
Connector	Terminal		
M45	1		Existed

Is the inspection result normal?

YES >> Replace hazard switch.
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Symptom Table

INFOID:0000000006451740

CAUTION:
Perform the self-diagnosis with CONSULT-III 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	• Fuse • Halogen bulb • Harness between IPDM E/R and headlamp • Harness between headlamp and ground • IPDM E/R	Headlamp (HI) circuit Refer to EXL-45, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-78, "Diagnosis Procedure".	
High beam indicator lamp is not turned ON. [Headlamp (HI) is turned ON.]		Combination meter	• Combination meter Data monitor "HI-BEAM IND" • BCM (HEADLAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	• Fuse • Halogen bulb • Harness between IPDM E/R and headlamp • Harness between headlamp and ground • IPDM E/R	Headlamp (LO) circuit Refer to EXL-47, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-79, "Diagnosis Procedure".	
Headlamp is not turned OFF.	When ignition switch is turned ON.		
	When ignition switch is turned OFF.	IPDM E/R	—
Headlamp HI and LO are not turned ON.		• Harness between headlamp and ground • Halogen bulb	Headlamp ground circuit Refer to EXL-49, "Diagnosis Procedure".
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between front fog lamp relay and front fog lamp	Front fog lamp circuit Refer to EXL-54, "Component Function Check".
	Both side	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-82, "Diagnosis Procedure".	
Front fog lamp is not turned OFF.			
Parking lamp is not turned ON.		• Parking lamp bulb • Harness between IPDM E/R and parking lamp • IPDM E/R	Parking lamp circuit Refer to EXL-58, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".
Tail lamp is not turned ON.		• Tail lamp bulb • Harness between IPDM E/R and rear combination lamp • IPDM E/R	Tail lamp circuit Refer to EXL-61, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".
License plate lamp is not turned ON.		• License plate lamp bulb • Harness between IPDM E/R and license plate lamp	License plate lamp circuit Refer to EXL-65, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".

Symptom		Possible cause	Inspection item
• Parking lamp, tail lamp and license plate lamp are not turned ON. • Parking lamp, tail lamp and license plate lamp are not turned OFF. (Each illumination is turned ON/OFF.)		**Symptom diagnosis** “PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON” Refer to EXL-80, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".	
Turn signal lamp does not blink.	Indicator lamp is normal. (Applicable side performs the high flasher activation.)	• Harness between BCM and each turn signal lamp • Turn signal lamp bulb	Turn signal lamp circuit Refer to EXL-69, "Component Function Check".
	Indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-92, "Symptom Table".
Turn signal indicator lamp does not blink. (Turn signal indicator lamp is normal.)	One side	Combination meter	—
	Both sides (Always)	• Turn signal indicator lamp signal - BCM • Combination meter	• Combination meter Data monitor “TURN IND” • BCM (FLASHER) Active test “FLASHER”
	Both sides (Only when activating hazard warning lamp with the ignition switch OFF.)	• Combination meter power supply and ground circuit • Combination meter	Combination meter Power supply and ground circuit Refer to MWI-51, "COMBINATION METER : Diagnosis Procedure".
• Hazard warning lamp does not activate. • Hazard warning lamp continues activating. (Turn signal is normal.)		• Hazard switch • Harness between hazard switch and BCM • BCM	Hazard switch Refer to EXL-72, "Component Function Check".
Rear fog lamp is not turned ON.	Rear fog lamp indicator lamp is normal.	• Harness between BCM and rear fog lamp • Rear fog lamp bulb • BCM	Rear fog lamp circuit Refer to EXL-56, "Component Function Check".
	Rear fog lamp indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-92, "Symptom Table".
Rear fog lamp indicator lamp is not turn ON. (Rear fog lamp turns ON)		• Rear fog lamp status signal • Combination meter • BCM	• Combination meter Data monitor “RR FOG IND” • BCM (HEAD LAMP) Active test “RR FOG LAMP”

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Symptom Table

INFOID:0000000006479243

CAUTION:
Perform the self-diagnosis with CONSULT-III 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	• Fuse • Halogen bulb • Harness between IPDM E/R and headlamp • Harness between headlamp and ground • IPDM E/R	Headlamp (HI) circuit Refer to EXL-45, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-78, "Diagnosis Procedure".	
High beam indicator lamp is not turned ON. [Headlamp (HI) is turned ON.]		Combination meter	• Combination meter Data monitor "HI-BEAM IND" • BCM (HEADLAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	• Fuse • Halogen bulb • Harness between IPDM E/R and headlamp • Harness between headlamp and ground • IPDM E/R	Headlamp (LO) circuit Refer to EXL-47, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-79, "Diagnosis Procedure".	
Headlamp is not turned OFF.	When ignition switch is turned ON.		
	When ignition switch is turned OFF.	IPDM E/R	—
Headlamp HI and LO are not turned ON.		• Harness between headlamp and ground • Halogen bulb	Headlamp ground circuit Refer to EXL-49, "Diagnosis Procedure".
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between front fog lamp relay and front fog lamp	Front fog lamp circuit Refer to EXL-54, "Component Function Check".
	Both side	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-82, "Diagnosis Procedure".	
Front fog lamp is not turned OFF.			
Parking lamp is not turned ON.		Daytime running light relay	Daytime running light relay circuit Refer to EXL-50, "Component Function Check".
		• Parking lamp bulb • Harness between parking lamp and daytime running relay • IPDM E/R	Parking lamp circuit Refer to EXL-59, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".
Tail lamp is not turned ON.		Daytime running light relay	Daytime running light relay circuit Refer to EXL-50, "Component Function Check".
		• Tail lamp bulb • Harness between daytime running relay and rear combination lamp	Tail lamp circuit Refer to EXL-62, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".
License plate lamp is not turned ON.		Daytime running light relay	Daytime running light relay circuit Refer to EXL-50, "Component Function Check".
		• License plate lamp bulb • Harness between daytime running relay and license plate lamp	License plate lamp circuit Refer to EXL-66, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".

Symptom		Possible cause	Inspection item
• Parking lamp, tail lamp, lamp and the license plate lamp are not turned ON. • Parking lamp, tail lamp, lamp and license plate lamp are not turned OFF.	Each illumination is turned ON/OFF	• Fuse • Harness between IPDM E/R and the daytime running light relay • Daytime running light relay • IPDM E/R	Daytime running light relay circuit Refer to EXL-50, "Component Function Check".
	Each illumination is not turned ON/OFF	**Symptom diagnosis** "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-80, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".	
Turn signal lamp does not blink.	Indicator lamp is normal. (Applicable side performs the high flasher activation.)	• Harness between BCM and each turn signal lamp • Turn signal lamp bulb	Turn signal lamp circuit Refer to EXL-69, "Component Function Check".
	Indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-92, "Symptom Table".
Turn signal indicator lamp does not blink. (Turn signal indicator lamp is normal.)	One side	Combination meter	—
	Both sides (Always)	• Turn signal indicator lamp signal - BCM • Combination meter	• Combination meter Data monitor "TURN IND" • BCM (FLASHER) Active test "FLASHER"
	Both sides (Only when activating hazard warning lamp with the ignition switch OFF.)	• Combination meter power supply and ground circuit • Combination meter	Combination meter Power supply and ground circuit Refer to MWI-51, "COMBINATION METER : Diagnosis Procedure".
• Hazard warning lamp does not activate. • Hazard warning lamp continues activating. (Turn signal is normal.)		• Hazard switch • Harness between hazard switch and BCM • BCM	Hazard switch Refer to EXL-72, "Component Function Check".
Rear fog lamp is not turned ON.	Rear fog lamp indicator lamp is normal.	• Harness between BCM and rear fog lamp • Rear fog lamp bulb • BCM	Rear fog lamp circuit Refer to EXL-56, "Component Function Check".
	Rear fog lamp indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-92, "Symptom Table".
Rear fog lamp indicator lamp is not turn ON. (Rear fog lamp turns ON)		• Rear fog lamp status signal • Combination meter • BCM	• Combination meter Data monitor "RR FOG IND" • BCM (HEAD LAMP) Active test "RR FOG LAMP"

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

INFOID:0000000006451741

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

Diagnosis Procedure

INFOID:0000000006451742

1.COMBINATION SWITCH INSPECTION

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR
1. Select “HL HI REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

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

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-45, "Component Function Check".

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:0000000006451743

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

Diagnosis Procedure

INFOID:0000000006451744

1.CHECK COMBINATION SWITCH

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR
1. Select “HL LO REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	ON
		OFF	OFF

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-47, "Component Function Check".

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Description

INFOID:0000000006451745

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

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006451746

1. COMBINATION SWITCH INSPECTION

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2. CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR
1. Select “TAIL & CLR REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

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

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Description

INFOID:0000000006452140

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

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000006452141

1. COMBINATION SWITCH INSPECTION

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

Is the combination switch normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2. CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR
1. Select “TAIL & CLR REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

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

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).

3. DAYTIME RUNNING LIGHT RELAY CIRCUIT INSPECTION

Check the daytime running light relay circuit. Refer to EXL-50, "Component Function Check".

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000006451747

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

Diagnosis Procedure

INFOID:0000000006451748

1.CHECK FUSE

Check that the following fuse is fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	Fuse and fusible link block	#50	15 A

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the applicable circuit. And then replace the fuse.

2.COMBINATION SWITCH INSPECTION

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

Is the inspection result normal?

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

3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT-III DATA MONITOR

1. Select “FR FOG REQ” of IPDM E/R data monitor item.
2. With operating the front fog lamp switch, check the monitor status.

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

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> Replace BCM. Refer to BCS-93, "Removal and Installation" (with Intelligent Key), BCS-161, "Removal and Installation" (without Intelligent Key).

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

LHD

LHD : Description

INFOID:0000000006451749

PREPARATION BEFORE ADJUSTING

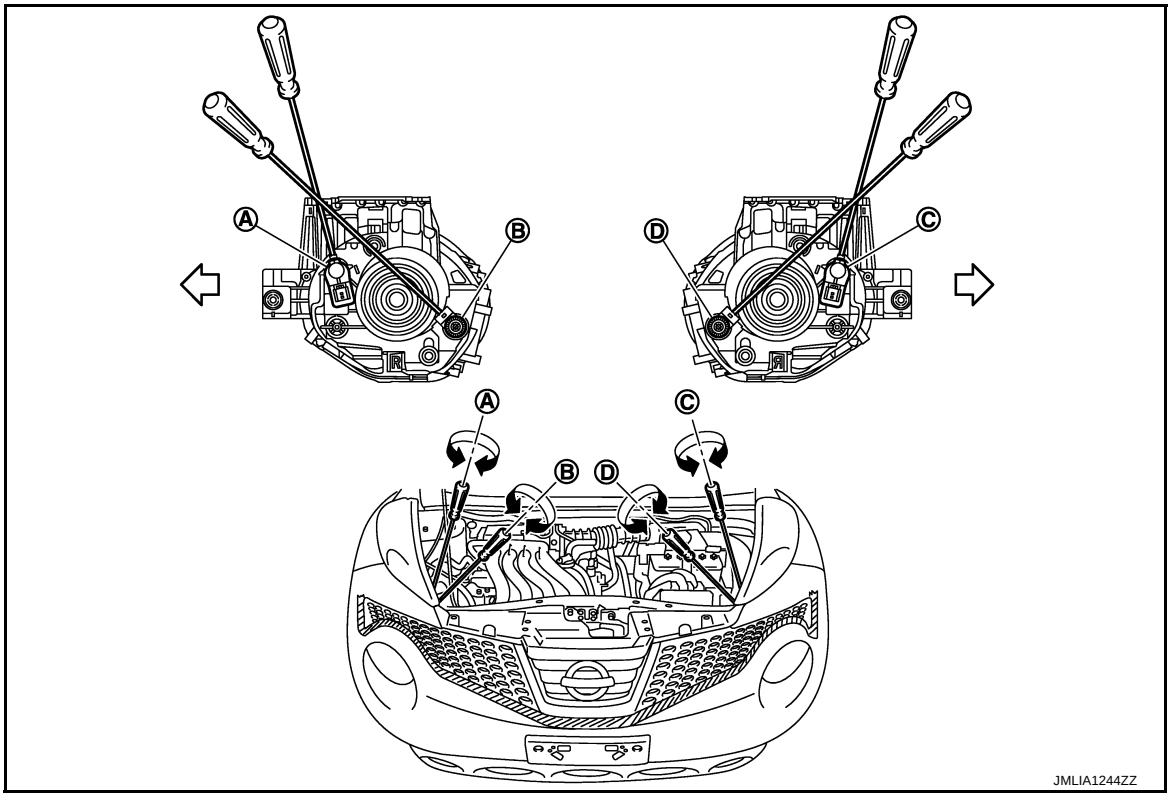
NOTE:

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

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



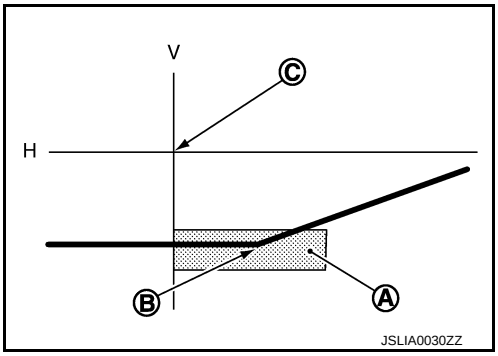
A. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
B. Headlamp RH (UP/DOWN) adjustment screw
C. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
D. Headlamp LH (UP/DOWN) adjustment screw
⇦ : Vehicle center

Adjustment screw		Screw driver rotation	Facing direction
A	Headlamp RH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP
B	Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
C	Headlamp LH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP
D	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE

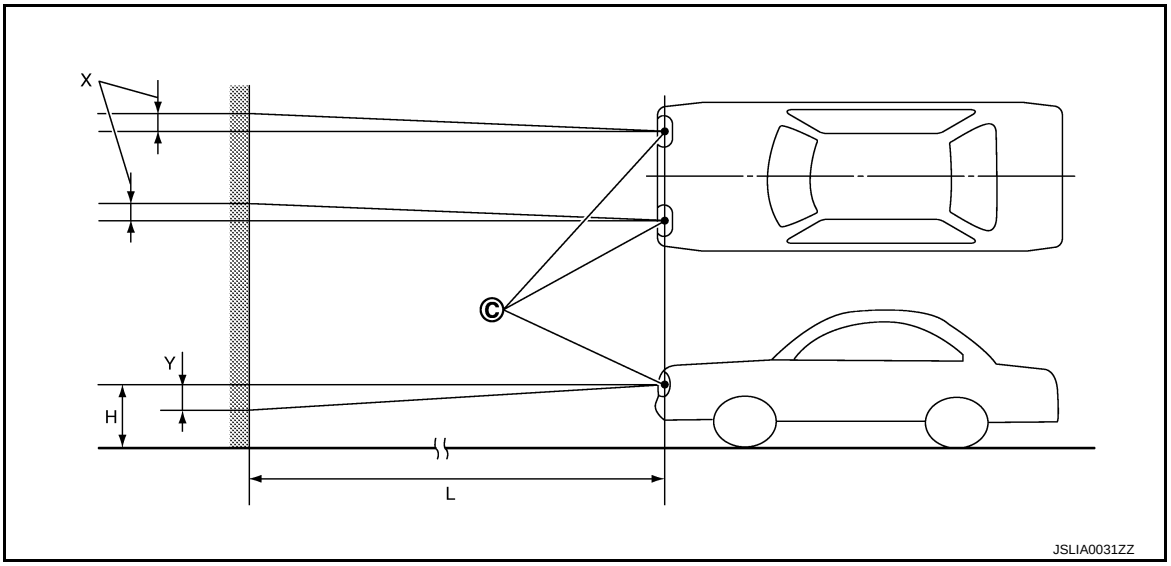
LHD : Aiming Adjustment Procedure

INFOID:0000000006451750

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).
   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.
   CAUTION:
   Do not cover lens surface with tape, etc. because it is made from plastic.
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



A. Aiming adjustment area
B. Elbow point
C. Headlamp center
H. Horizontal center line of headlamp
V. Vertical center line of headlamp



C. 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)

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

RHD : Description

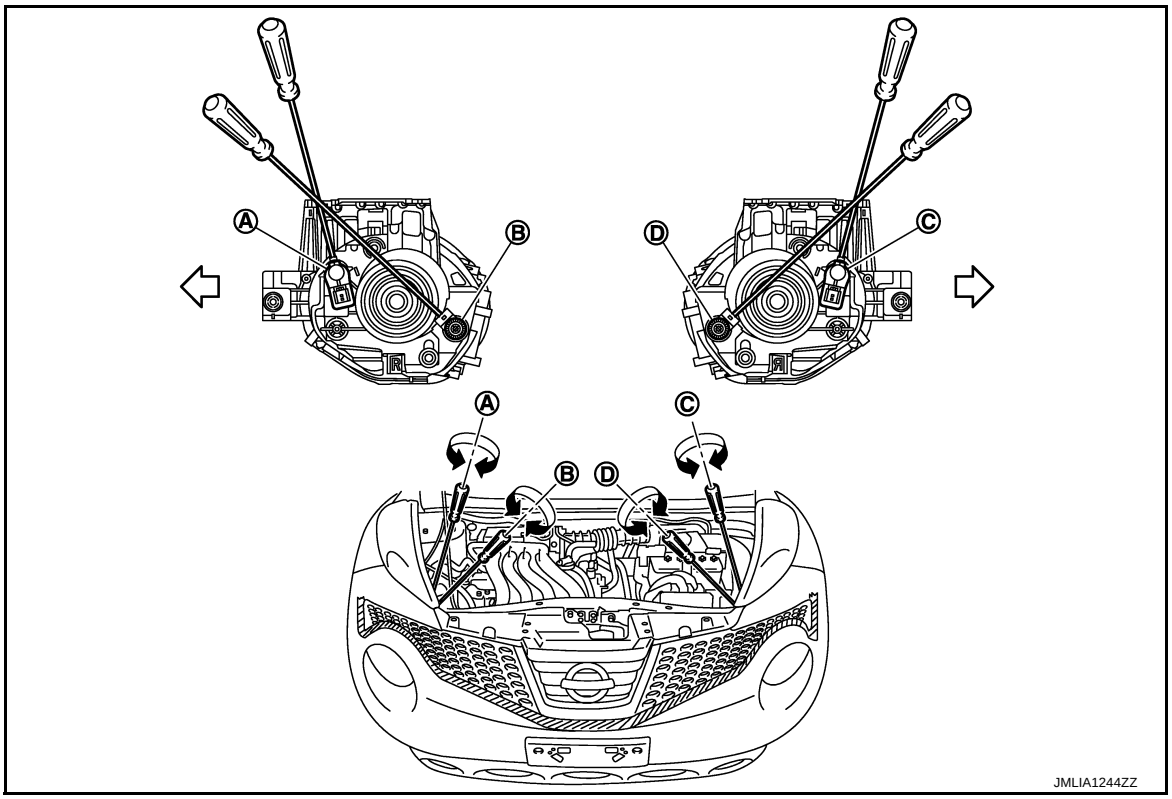
INFOID:0000000006451751

PREPARATION BEFORE ADJUSTING

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

Before performing aiming adjustment, check the following.
- Adjust the tire pressure to the specification.
- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the luggage room.)
  NOTE:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



A. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
B. Headlamp RH (UP/DOWN) adjustment screw
C. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
D. Headlamp LH (UP/DOWN) adjustment screw
⇦ : Vehicle center

Adjustment screw		Screw driver rotation	Facing direction
A	Headlamp RH (UP/DOWN)	Clockwise	DOWN
		Counterclockwise	UP
B	Headlamp RH (INSIDE/OUTSIDE)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE
C	Headlamp LH (INSIDE/OUTSIDE)	Clockwise	DOWN
		Counterclockwise	UP
D	Headlamp LH (UP/DOWN)	Clockwise	INSIDE
		Counterclockwise	OUTSIDE

RHD : Aiming Adjustment Procedure

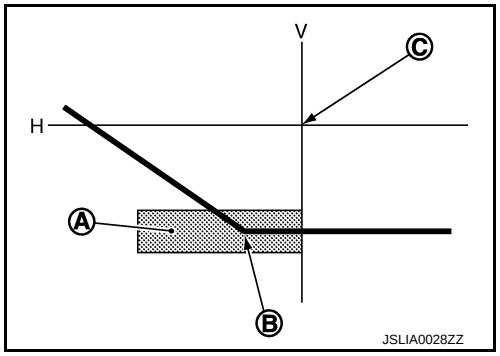
INFOID:0000000006451752

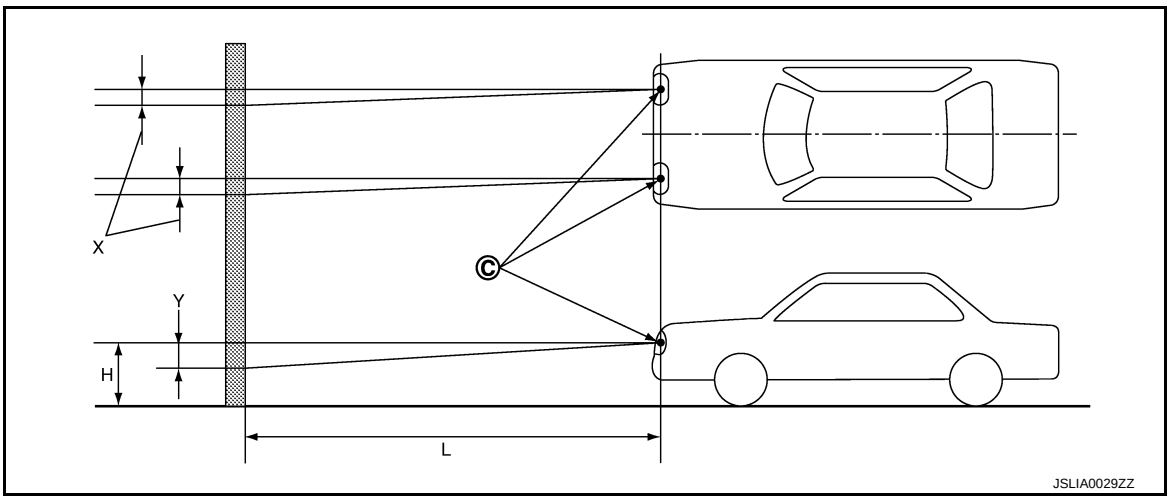
1. Place the screen.
   NOTE:
   • Stop the vehicle at the perpendicular angle to the wall.
   • Set the screen so that it is perpendicular to a level load surface.
2. Face the vehicle squarely toward the screen and make the distance between the headlamp center and the screen 10 m (32.8 ft).
3. Start the engine and illuminate the headlamp (LO).
   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.
   CAUTION:

Do not cover lens surface with tape, etc. because it is made from plastic.

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

A. Aiming adjustment area
B. Elbow point
C. Headlamp center
H. Horizontal center line of headlamp
V. Vertical center line of headlamp





C. 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)

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

Description

INFOID:0000000006451753

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:
  Do not remove the temporary tire, jack and on-vehicle tool.
- Wipe out dirt on the headlamp.
  CAUTION:
  Never use organic solvent (thinner, gasoline etc.)
- Ride alone on the driver seat.

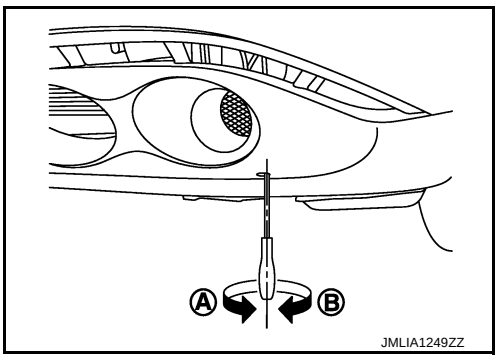
AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

  A: DOWN

  B: UP

- For the position and direction of the adjusting screw, refer to the figure.
  NOTE:
  A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.

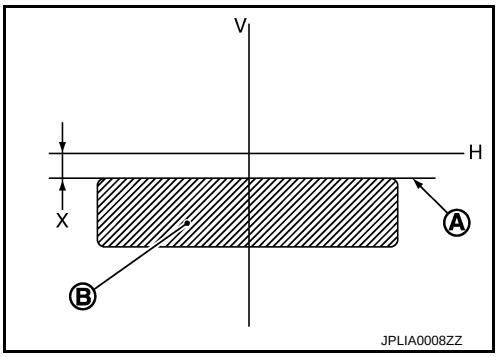


Aiming Adjustment Procedure

INFOID:0000000006451754

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. Illuminate the front fog lamp.
   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 200 mm (7.87 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



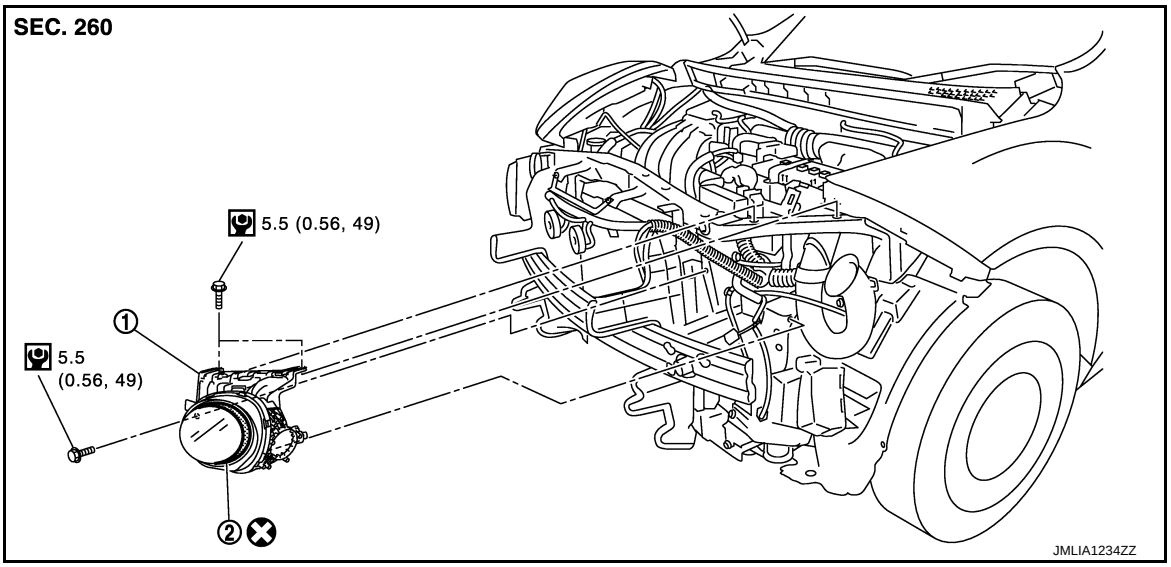
REMOVAL AND INSTALLATION

HEADLAMP

Exploded View

INFOID:0000000006466834

REMOVAL

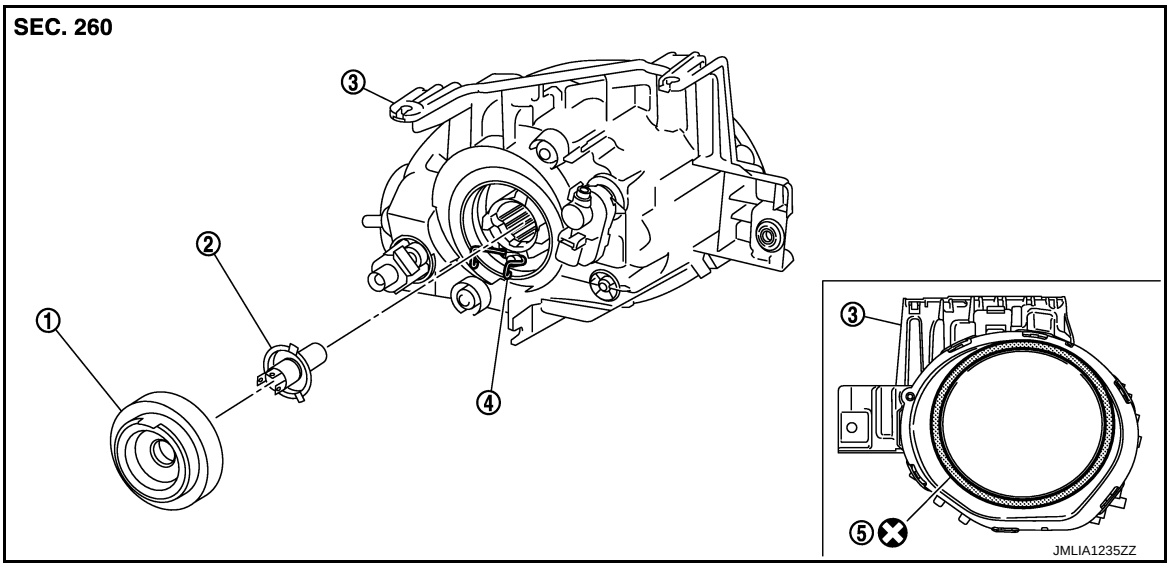


1. Headlamp assembly
2. EPT sealer [2.8 mm (0.110 in)]

: Do not reuse

: N·m (kg-m, in-lb)

DISASSEMBLY



1. Back cover
2. Halogen bulb
3. Headlamp housing assembly
4. Retaining spring
5. EPT sealer [2.8 mm (0.110 in)]

: Do not reuse

Removal and Installation

INFOID:0000000006466835

CAUTION:

Disconnect the battery negative terminal or the fuse.

REMOVAL

1. Remove front bumper fascia. Refer to EXT-13, "Removal and Installation".
2. Remove headlamp mounting bolts.
3. Pull out the headlamp assembly forward the vehicle, and then disconnect the connector before removing the headlamp assembly.

INSTALLATION

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

CAUTION:

After installation, perform aiming adjustment. Refer toEXL-83, "LHD : Description".

Replacement

INFOID:0000000006466836

CAUTION:

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

HEADLAMP BULB

1. Disconnect headlamp bulb connector.
2. Remove back cover.
3. Remove retaining spring lock, and then remove bulb from the headlamp housing assembly.

Disassembly and Assembly

INFOID:0000000006466837

DISASSEMBLY

1. Remove back cover.
2. Remove retaining spring lock, and then remove bulb from the headlamp housing assembly.

ASSEMBLY

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

CAUTION:

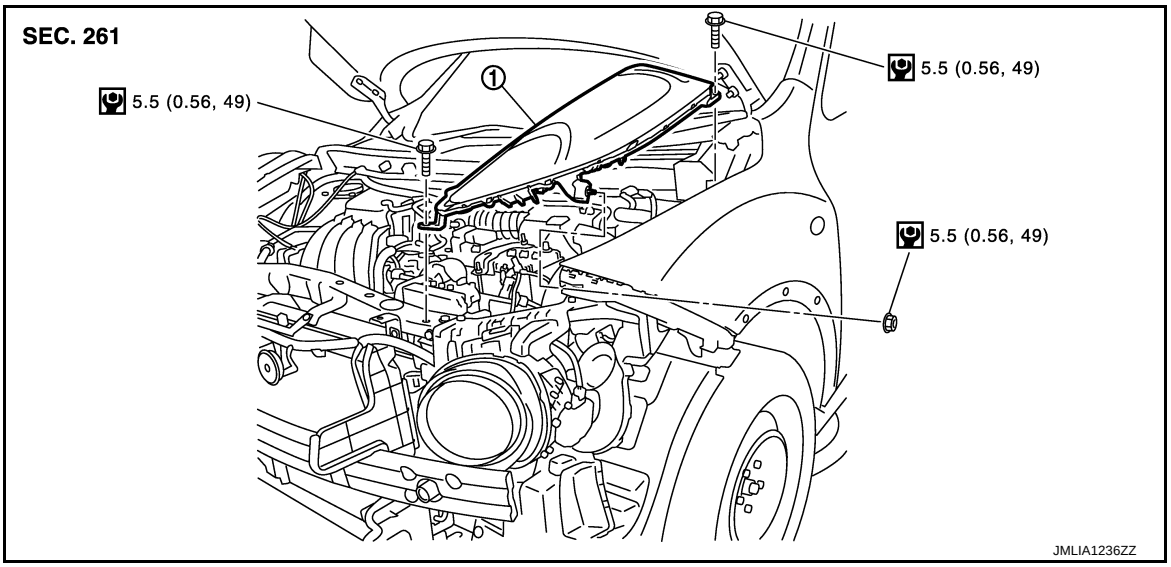
After installing the bulb, install the resin cap and the bulb socket securely for watertightness.

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000006466838

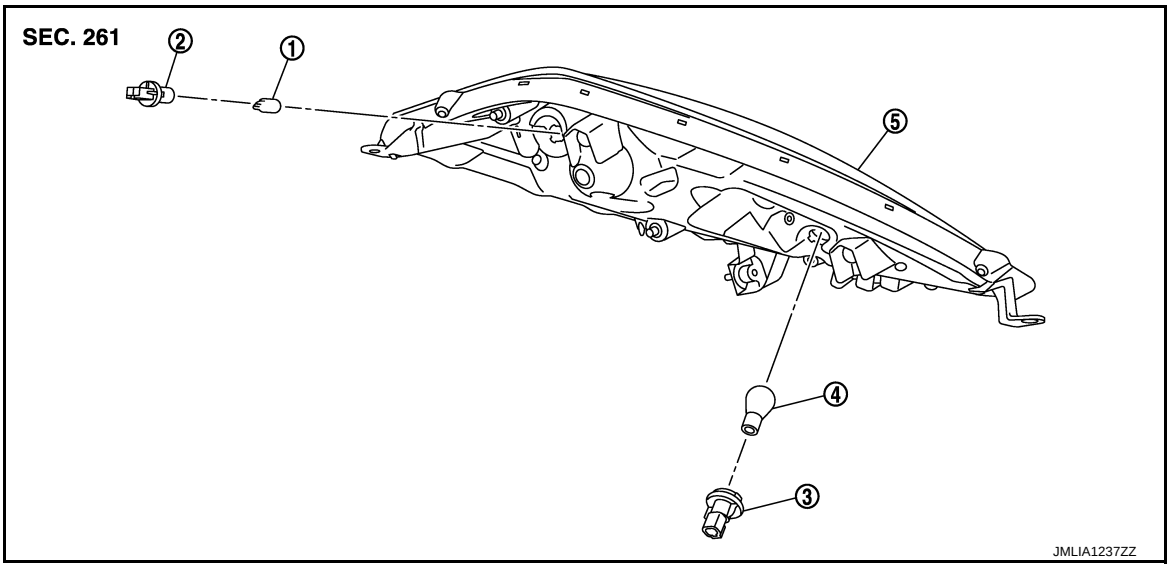
REMOVAL



1. Front combination lamp

: N·m (kg-m, in-lb)

DISASSEMBLY



1. Parking lamp bulb
2. Parking lamp bulb socket
3. Front turn signal lamp bulb socket
4. Front turn signal lamp bulb
5. Front combination lamp housing

Removal and Installation

INFOID:0000000006466839

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

REMOVAL

1. Remove front bumper fascia. Refer to EXT-13, "Removal and Installation".

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

INSTALLATION

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

CAUTION:

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

Replacement

INFOID:0000000006466840

CAUTION:

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

PARKING LAMP BULB

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

FRONT TURN SIGNAL LAMP BULB

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

Disassembly and Assembly

INFOID:0000000006466841

DISASSEMBLY

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

ASSEMBLY

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

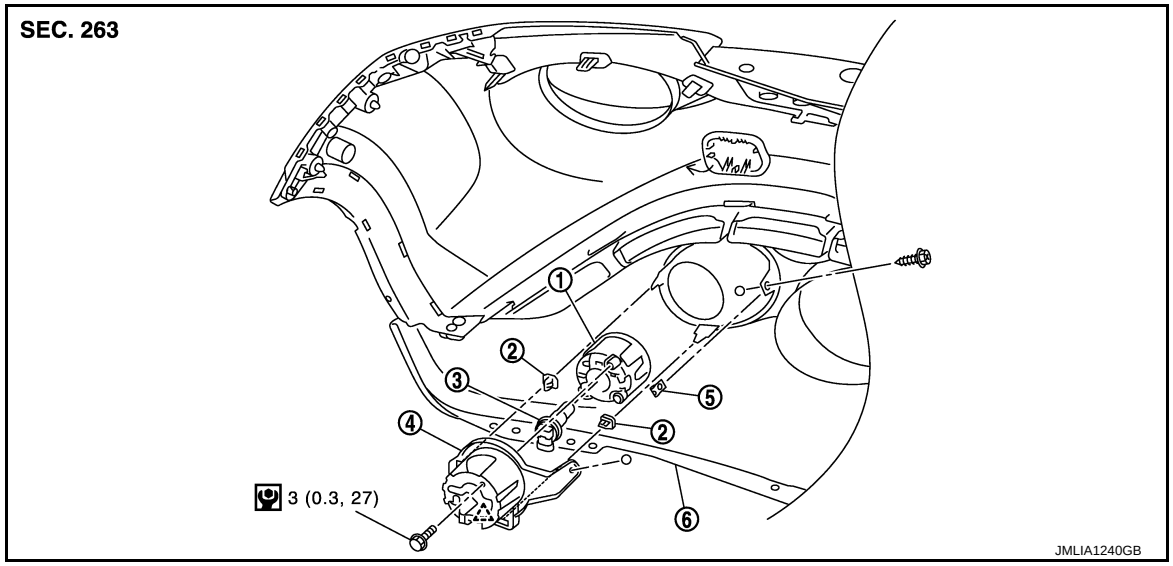
CAUTION:

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

FRONT FOG LAMP

Exploded View

INFOID:0000000006483048



1. Front fog lamp assembly
2. Metal clip
3. Front fog lamp bulb
4. Front fog lamp bracket
5. U nut
6. Front bumper fascia lower

: Pawl

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000006483049

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

REMOVAL

1. Remove front fender protector. Keep the service area. Refer to EXT-22, "Removal and Installation".
2. Disconnect front fog lamp harness connector.
3. Remove front fog lamp bracket.
4. Remove front fog lamp mounting bolt, and then remove front fog lamp from front fog lamp bracket.

INSTALLATION

Note the following item, and then installation is the reverse order of removal.

NOTE:
After installation, perform aiming adjustment. Refer to EXL-88, "Description"

Replacement

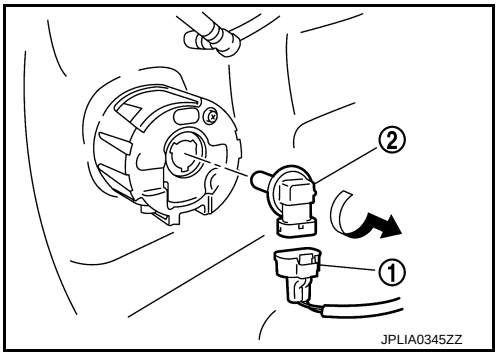
INFOID:0000000006483050

CAUTION:
- **Disconnect the battery negative terminal or remove the fuse.**
- **Never touch the glass of bulb directly by hand. Keep grease and other oily matters awy 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. Keep the service area. Refer to EXT-22, "Removal and Installation".

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



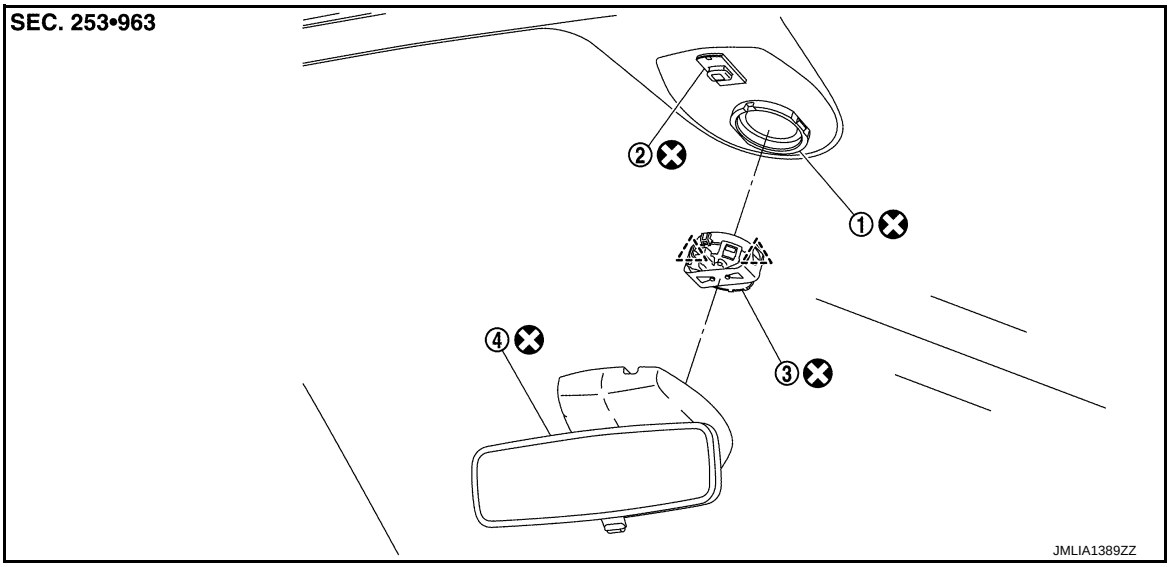
LIGHT & RAIN SENSOR

Exploded View

INFOID:0000000006658845

CAUTION:
When the light & rain sensor is removed from windshield, the light & rain sensor cannot be re-used.

REMOVAL



1. Light & rain sensor bracket
2. Mirror base
3. Light & rain sensor
4. Inside mirror assembly

△ : Pawl

⊗ : Do not reuse

Removal and Installation

INFOID:0000000006658846

REMOVAL

1. Remove inside mirror assembly. Refer to MIR-41, "Removal and Installation".
2. Disconnect light & rain sensor connector.
3. Disengage both sides of metal spring clips, and remove the light & rain sensor from the windshield.

INSTALLATION

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

CAUTION:

- **Surface of windshield should be cleaned.**
- **Never touch gel/adhesive of new part.**
- **Lock the metal spring clips and install the light & rain sensor securely.**

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000006466844

REMOVAL

Remove light & turn signal switch. Refer to BCS-94, "Removal and Installation".

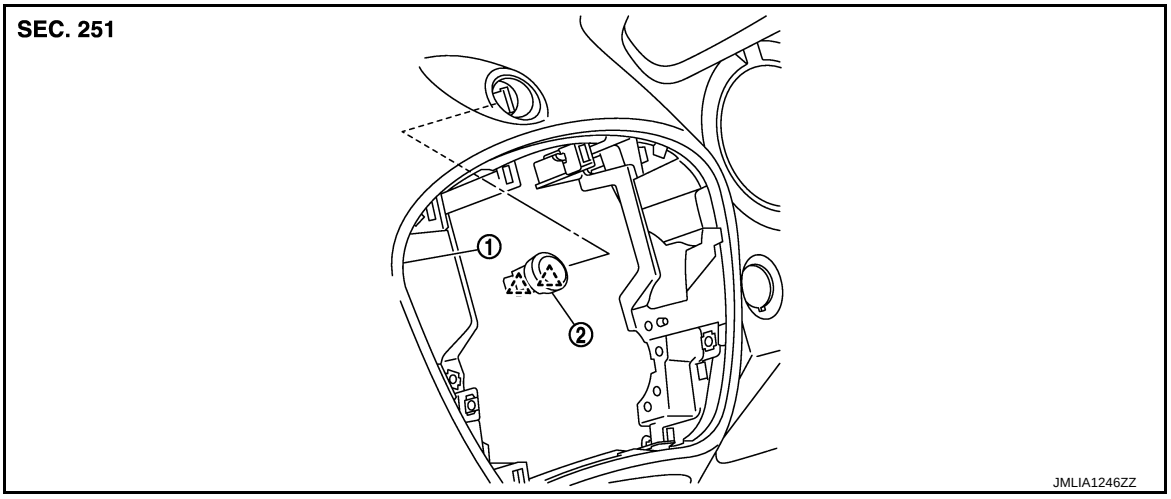
INSTALLATION

Install in the reverse order of removal.

HAZARD SWITCH

Exploded View

INFOID:0000000006466845



1. Instrument panel assembly
2. Hazard switch

: Pawl

Removal and Installation

INFOID:0000000006466846

REMOVAL

1. Remove Audio unit. Refer to AV-38, "Removal and Installation".
2. Disengage fixing pawls, and then remove hazard switch from instrument panel inside to outside.

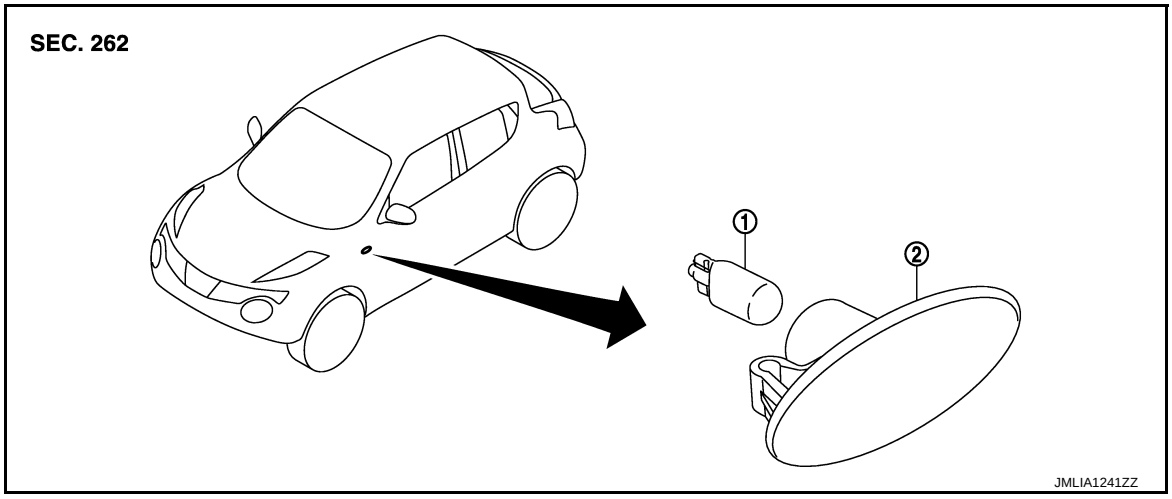
INSTALLATION

Install in the reverse order of removal.

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:0000000006466847



1. Side turn signal lamp bulb
2. Side turn signal lamp housing

Removal and Installation

INFOID:0000000006466848

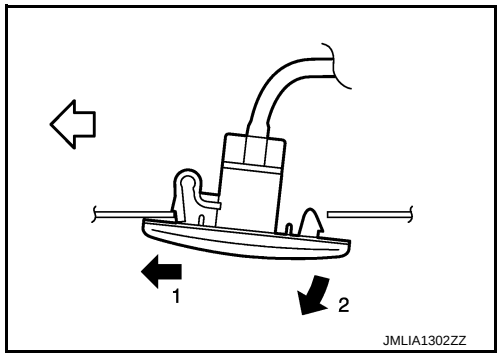
CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

1. Remove the side turn signal lamp in numerical order shown in the figure.
2. Rotate the bulb socket counterclockwise and unlock it.

NOTE:
Support side turn signal lamp harness with tape so that it won't fall into the front fender.

⇦ : Vehicle front (side turn signal lamp LH)
: Vehicle rear (side turn signal lamp RH)



INSTALLATION

1. Rotate the bulb socket clockwise and lock it.
2. Fix the pawl-side behind the side turn signal lamp housing first, then push the resin clip-side.

Replacement

INFOID:0000000006466849

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

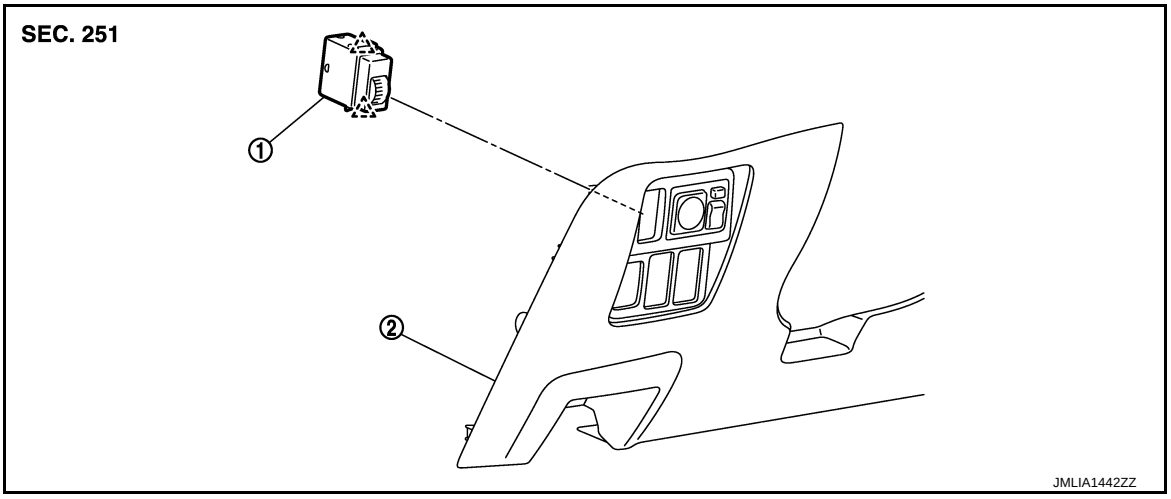
SIDE TURN SIGNAL LAMP BULB

1. Remove side turn signal lamp. Refer to EXL-98, "Removal and Installation".
2. Remove bulb from the bulb socket.

HEADLAMP AIMING SWITCH

Exploded View

INFOID:0000000006466850



1. Headlamp aiming switch
2. Instrument lower panel assembly LH

: Pawl

Removal and Installation

INFOID:0000000006466851

REMOVAL

1. Remove instrment lower panel (LH/RH). Refer to IP-13, "Removal and Installation".
2. Remove headlamp aiming switch fixing clips, and then remove headlamp aiming switch from instrument lower panel (LH/RH).

INSTALLATION

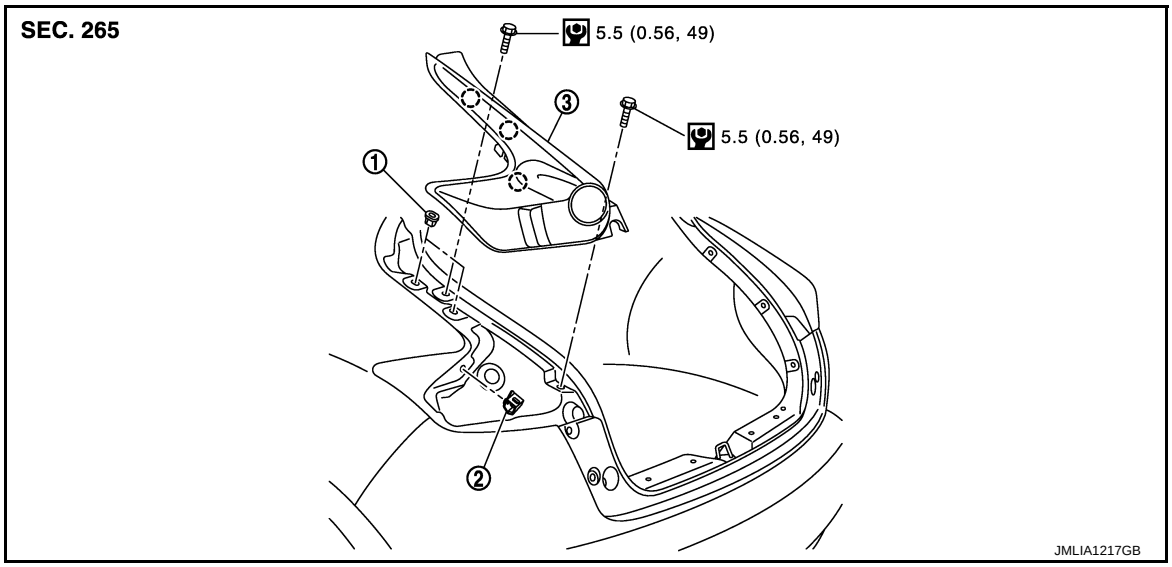
Install in the reverse order of removal.

REAR COMBINATION LAMP

Exploded View

INFOID:0000000006466852

REMOVAL

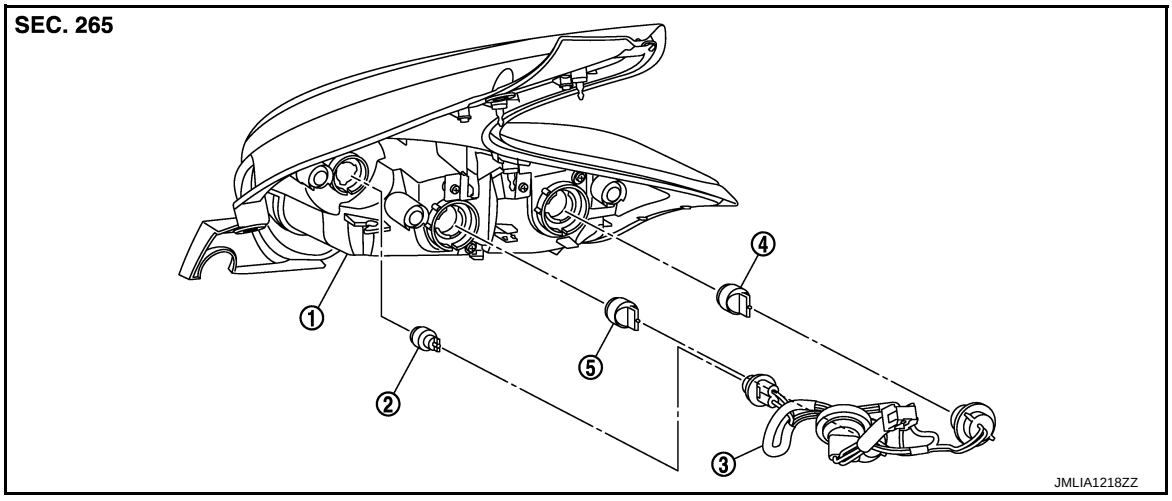


1. Grommet
2. Grommet
3. Rear combination lamp

: Clip

: N·m (kg-m, in-lb)

DISASSEMBLY



1. Rear combination lamp housing assembly
2. Back-up lamp bulb
3. Harness connector
4. Rear turn signall lamp bulb
5. Stop/tail lamp bulb

Removal and Installation

INFOID:0000000006466853

CAUTION:
- **Disconnect the battery negative terminal or the fuse.**
- **When removing, always use a remover tool that is made of plastic.**

REMOVAL

1. Full open back door.

2. Remove luggage side lower finisher. Refer to INT-31, "LUGGAGE SIDE LOWER FINISHER : Removal and Installation".
3. Remove rear combination lamp mounting bolts.
4. Insert a remover tool into the rear combination lamp rear fender to disengage the clips.
5. Pull up rear combination lamp, and then remove rear combination lamp.
6. Disconnect rear combination lamp connector.

INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:0000000006466854

CAUTION:

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

STOP/TAIL LAMP BULB

1. Remove rear combination lamp assembly. Refer to EXL-100, "Removal and Installation".
2. Rotate stop/tail lamp bulb socket counterclockwise, and then remove stop/tail lamp bulb socket.
3. Remove stop/tail lamp bulb from stop/tail lamp bulb socket.

REAR TURN SIGNAL LAMP BULB

1. Remove rear combination lamp assembly. Refer to EXL-100, "Removal and Installation".
2. Rotate rear turn signal lamp bulb socket counterclockwise, and then remove rear turn signal lamp bulb socket.
3. Remove rear turn signal lamp bulb from rear turn signal lamp bulb socket.

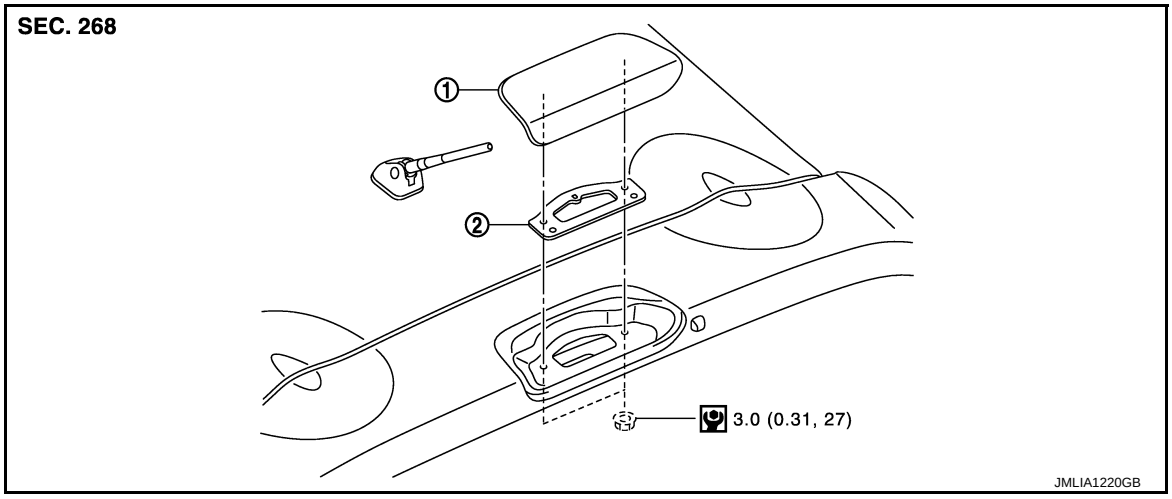
BACK-UP LAMP BULB

1. Remove rear combination lamp assembly. Refer to EXL-100, "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

Exploded View

INFOID:0000000006466855



1. High-mounted stop lamp
2. Seal packing

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000006466856

CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

1. Remove blind seal from back door inside.
   CAUTION:
   Be careful not to damage the blind seal, so that it can be reused.
2. Remove high-mounted stop lamp mounting nuts and connector.
3. Pull high-mounted stop lamp toward vehicle upside, and then remove high-mounted stop lamp.

INSTALLATION

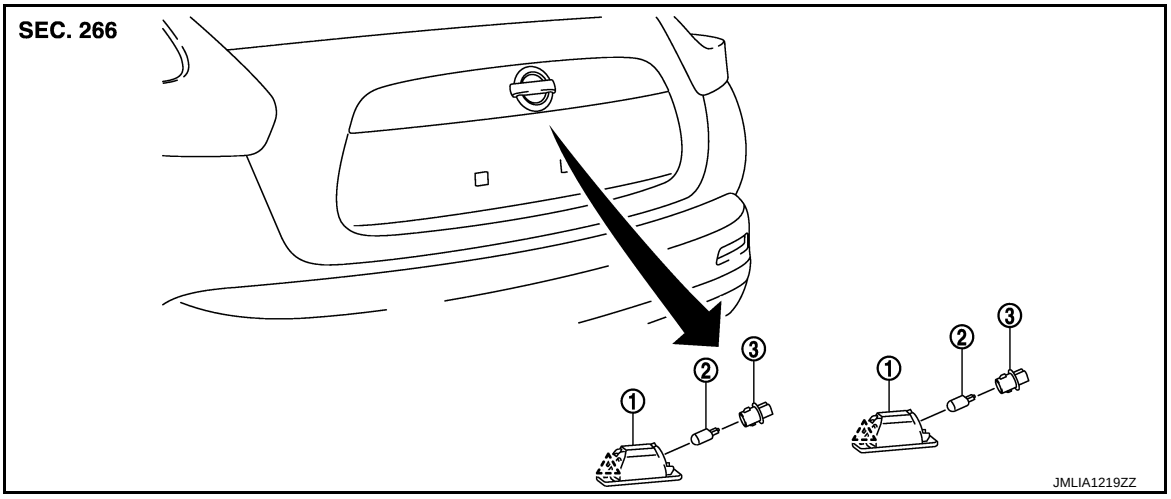
Note the following item and then, install in the reverse order of removal.

CAUTION:
Seal packing cannot be reused.

LICENSE PLATE LAMP

Exploded View

INFOID:0000000006466857



1. License plate lamp housing assembly
2. Blub
3. License plate lamp blub socket

: Pawl

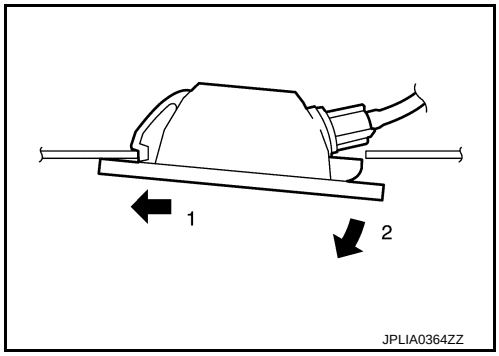
Removal and Installation

INFOID:0000000006466858

CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

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



INSTALLATION

Install in the reverse order of removal.

Replacement

INFOID:0000000006466859

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

LICENSE PLATE LAMP BULB

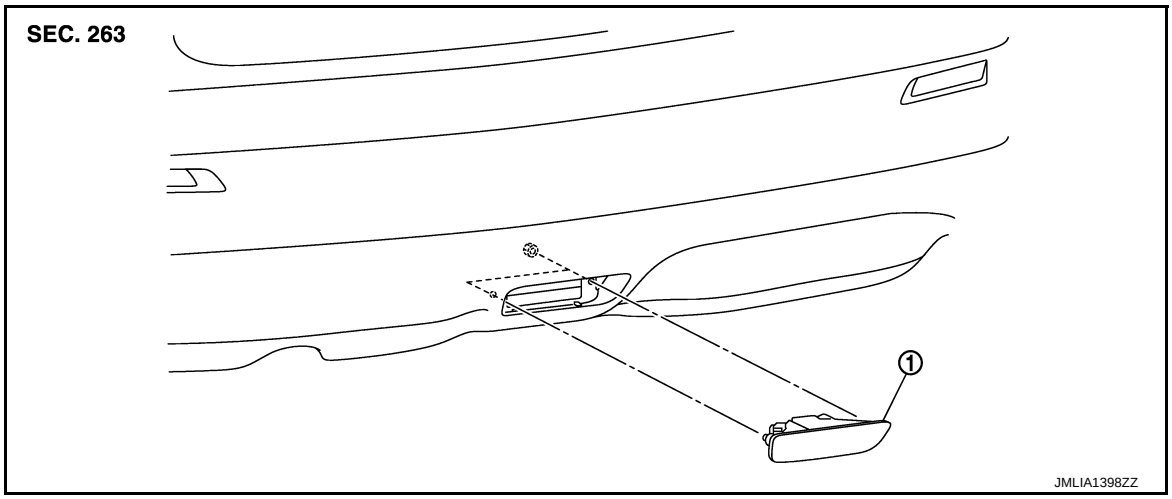
1. Remove license plate lamp.
2. Rotate the bulb socket counterclockwise and unlock it.
3. Remove the bulb from the socket.

REAR FOG LAMP

Exploded View

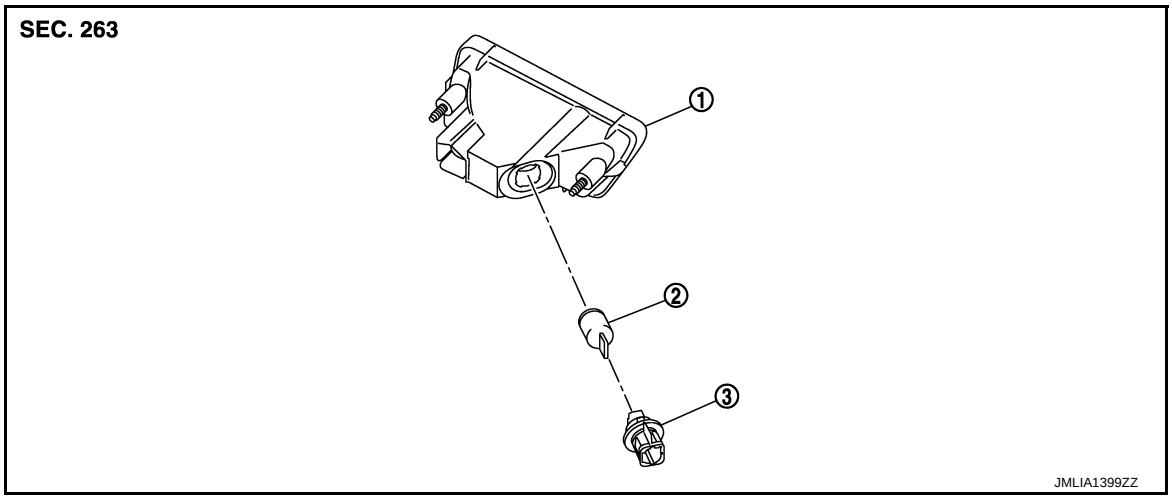
INFOID:0000000006466759

REMOVAL



1. Rear fog lamp

DISASSEMBLY



1. Rear fog lamp housing
2. Rear fog lamp bulb
3. Rear fog lamp bulb socket

Removal and Installation

INFOID:0000000006482932

CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

1. Insert any appropriate tool into the gap between the rear fog lamp housing. And pull off the rear fog lamp from the vehicle.
2. Disconnect the rear fog lamp connector.

INSTALLATION

Installation is the reverse order of removal.

Replacement

INFOID:0000000006482933

CAUTION:
Disconnect battery negative terminal or remove the fuse.

REAR FOG LAMP BULB

1. Remove rear fog lamp.
2. Rotate the bulb socket counterclockwise and unlock it.
3. Remove bulb from its socket.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000006451782

Item		Type	Wattage (W)
Headlamp (HI/LO)		H4	60/55
Front combination lamp	Front turn signal lamp	PY21W (Amber)	21
	Parking lamp	W5W	5
Front fog lamp		H8	35
Side turn signal lamp		WY5W (Amber)	5
Rear combination lamp	Stop lamp/Tail lamp	W21/5W	21/5
	Rear turn signal lamp	W21W	21
	Back-up lamp	W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	—
Rear fog lamp		W21W	21