SECTION EXL
EXTERIOR LIGHTING SYSTEM

CONTENTS

HALOGEN TYPE

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009754460

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

WARNING:

Always observe the following items for preventing accidental activation.

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

Always observe the following items for preventing accidental activation.

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

Precautions for Removing of Battery Terminal

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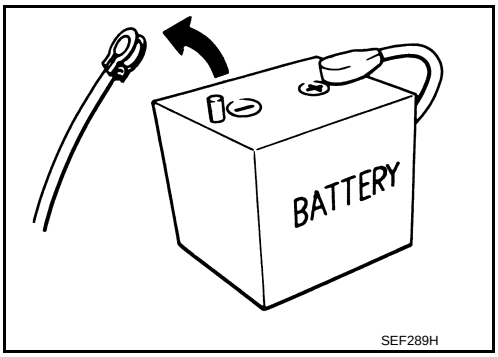

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  NOTE:
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  NOTE:
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  NOTE:
  The removal of 12V battery may cause a DTC detection error.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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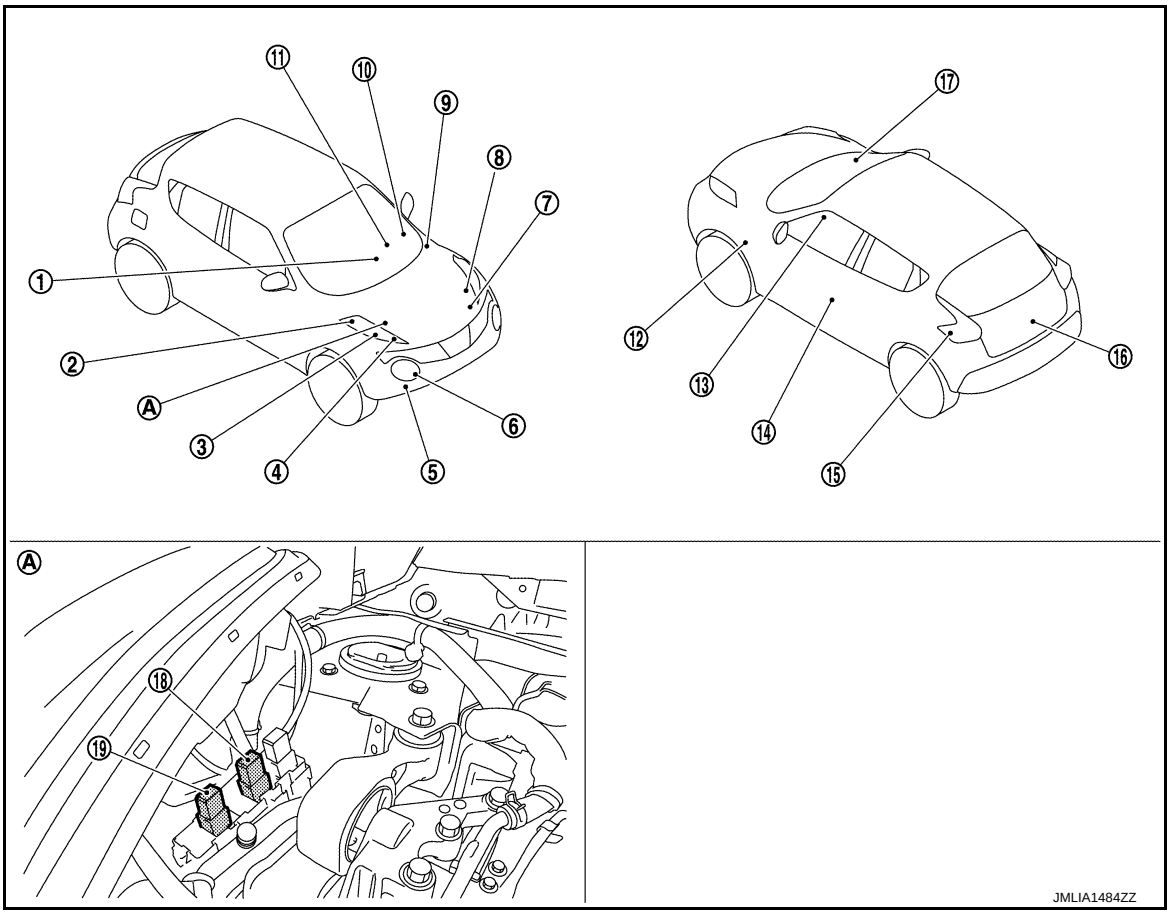


1. Hazard switch
2. Parking lamp
3. Front side marker lamp
4. Front turn signal lamp
5. • Front fog lamp*1
   • Daytime running light*2
6. Headlamp
7. ECM
   Refer to EC-14, "ENGINE CONTROL SYSTEM : Component Parts Location".
8. IPDM E/R
   Refer to PCS-5, "Component Parts Location".
9. BCM
   Refer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

A. Engine room (RH)

*1: With front fog lamp models

*2: For NISMO models with daytime running light system

*3: With auto light system

*4: Except for NISMO models with daytime running light system

Component Description

INFOID:0000000009754462

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 and high beam indicator lamp ON according to the request from BCM (via CAN communication).
Optical sensor*	Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
Combination switch (Lighting & turn signal switch)	Refer to BCS-9, "COMBINATION SWITCH READING SYSTEM : System Description".
Door switch	Refer to DLK-13, "Component Description".
Hazard switch	Inputs the hazard switch signal to BCM.

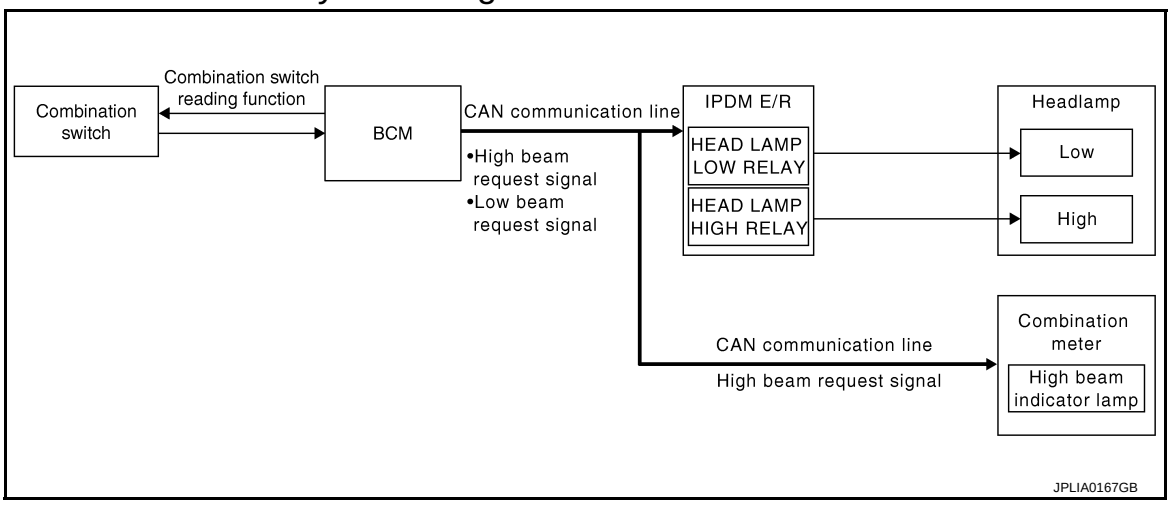
*: With auto light system

SYSTEM

HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Diagram

INFOID:0000000009754463



HEADLAMP SYSTEM : System Description

INFOID:0000000009754464

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.

*: Only for models with Intelligent Key system

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.

*: Only for models with Intelligent Key system

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. Refer to EXL-16, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

HEADLAMP SYSTEM : Fail-safe

INFOID:0000000009754465

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.

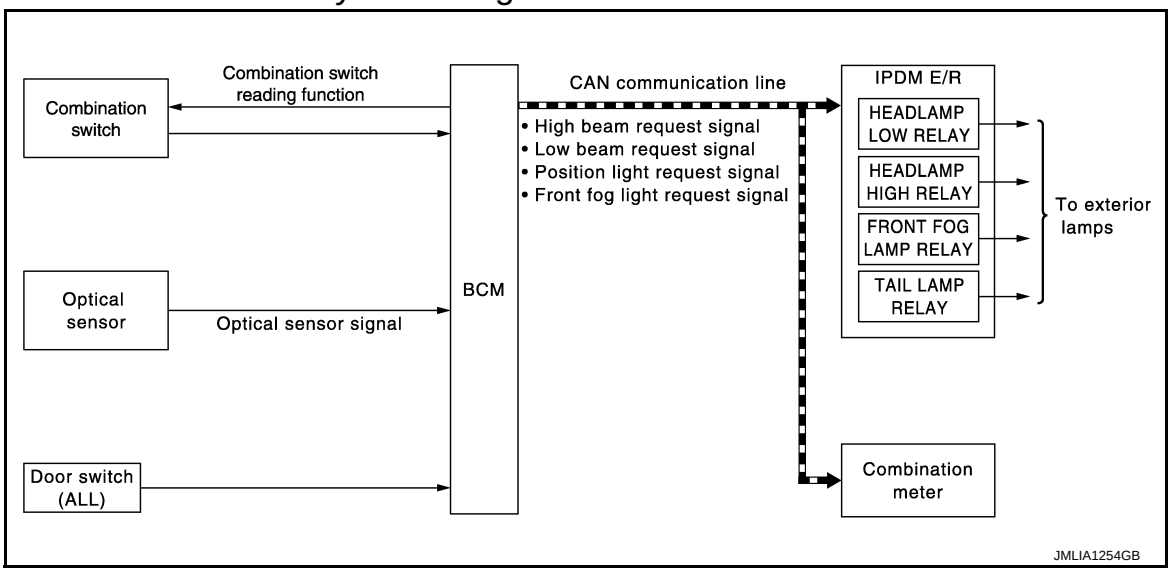
If No CAN Communication Is Available With BCM

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

AUTO LIGHT SYSTEM : System Diagram

INFOID:0000000009754466



AUTO LIGHT SYSTEM : System Description

INFOID:0000000009754467

OUTLINE

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

Control by BCM
- Combination switch reading function

- Headlamp control function
- Auto light function
- Delay timer function
- Wiper linked auto lighting function

Control by IPDM E/R
- Relay control function

• Auto light system has the auto light function (with twilight lighting function), wiper linked auto lighting function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness.
- Wiper linked auto lighting function automatically turns ON/OFF the exterior lamps* and each illumination when the light switch is in the AUTO position, according to a front wiper operation.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF, depending on the vehicle condition with the auto light function after a certain period of time.

*: Headlamp (LO/HI), parking lamp, tail lamp, front fog lamp and side marker lamp (Headlamp HI and front fog lamp depend on the combination switch condition.)

NOTE:
The settings of the twilight lighting function and the wiper linked auto lighting function can be changed with CONSULT. Refer to EXL-16, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

AUTO LIGHT FUNCTION (WITH TWILIGHT LIGHTING FUNCTION)

Description
- BCM detects the combination switch condition with the combination switch reading function.
- BCM supplies voltage to the optical sensor when the ignition switch is turned ON or ACC.
- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM filters outside brightness based on the optical sensor signal and judges outside brightness.
- BCM detects change status of outside brightness according to outside brightness from the optical sensor signal and filtered outside brightness. Based on the change status, BCM judges ON/OFF condition of the exterior lamp.
- BCM transmits each request signal to IPDM E/R via CAN communication, according to ON/OFF condition by the auto light function.

NOTE:
As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed with CONSULT. Refer to EXL-16, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

WIPER LINKED AUTO LIGHTING FUNCTION

BCM turns the exterior lamps ON when detecting 4 operations of the front wiper work the light switch in AUTO position.

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

DELAY TIMER FUNCTION

BCM turns the exterior lamps OFF depending on the vehicle condition with the auto light function when the ignition switch is turned OFF.
- Turns the exterior lamps OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamps OFF a certain period of time* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamps OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to EXL-16, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

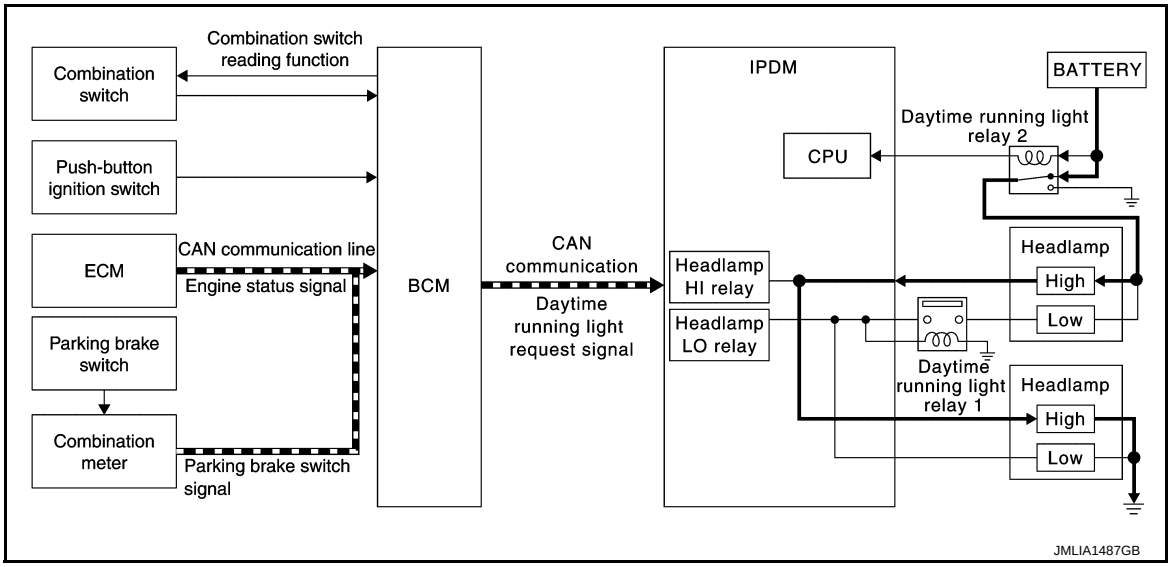
NOTE:
When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

DAYTIME RUNNING LIGHT SYSTEM

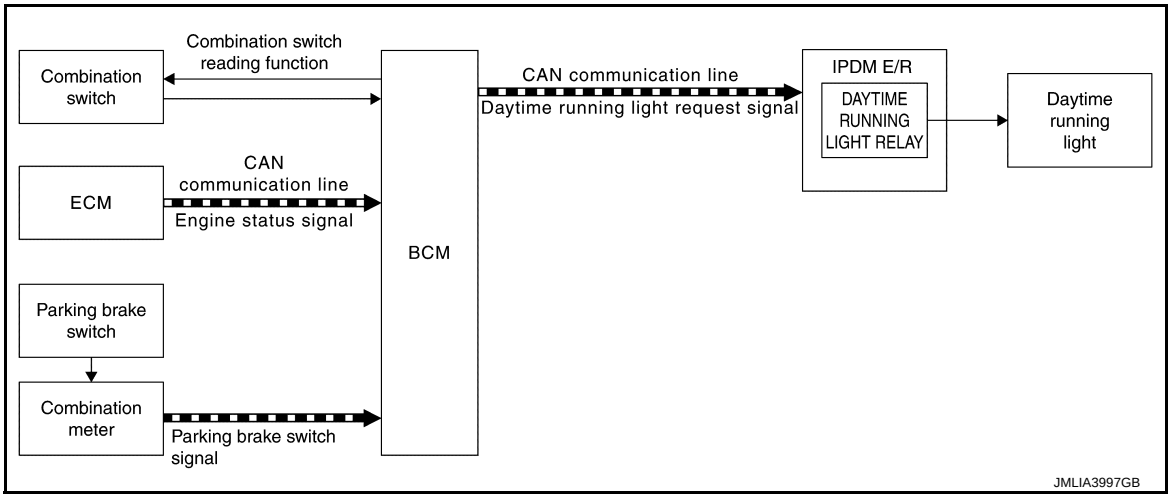
DAYTIME RUNNING LIGHT SYSTEM : System Diagram

INFOID:0000000009754468

EXCEPT FOR NISMO MODELS



FOR NISMO MODELS



DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:0000000009754469

EXCEPT FOR NISMO MODELS

Outline

- Turns the headlamp high ON (high beam at approximately half illumination) as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

Daytime Running Light Operation

- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects the engine condition according to push-button ignition switch*1
- BCM detects the engine condition by the engine status signal received from ECM using CAN communication*2.
- BCM detects the parking brake condition by the parking brake switch signal received from combination meter using CAN communication.
- BCM transmits the daytime running light request signal to IPDM E/R using CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- Engine running

- Lighting switch OFF or 1ST
- Parking brake switch OFF

• IPDM E/R controls the daytime running light relay-2 (ground-side) to turn ON according to the daytime running light request signal.
• Power is supplied from the daytime running light relay 2 through headlamp high (RH) and IPDM E/R to headlamp high (LH). And high beam headlamps are illuminated (approximately half illumination) as the daytime running light.

*1: Only for models with Intelligent Key system

*2: Only for models without Intelligent Key system

NOTE:

• Daytime running light relay 1 is turned ON when headlamp is low.
• Daytime running light relay 1 is OFF to cut voltage of headlamp low circuit when daytime running light is ON.

FOR NISMO MODELS

Outline

• Daytime running light system is turned on daytime running light.
• Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and relay control function of IPDM E/R.

Daytime Running Light Operation

• BCM detects the combination switch condition by the combination switch reading function.
• BCM detects the engine condition by the engine status signal received from ECM with CAN communication.
• BCM detects the parking brake condition by the parking brake switch signal received from combination meter with CAN communication.
• BCM detects ENGINE RUNNING condition by engine status signal and RELEASE condition by parking brake switch signal. And then, BCM transmits the daytime running light request signal to IPDM E/R with CAN communication according to any of the daytime running light ON condition.

Daytime running light ON condition

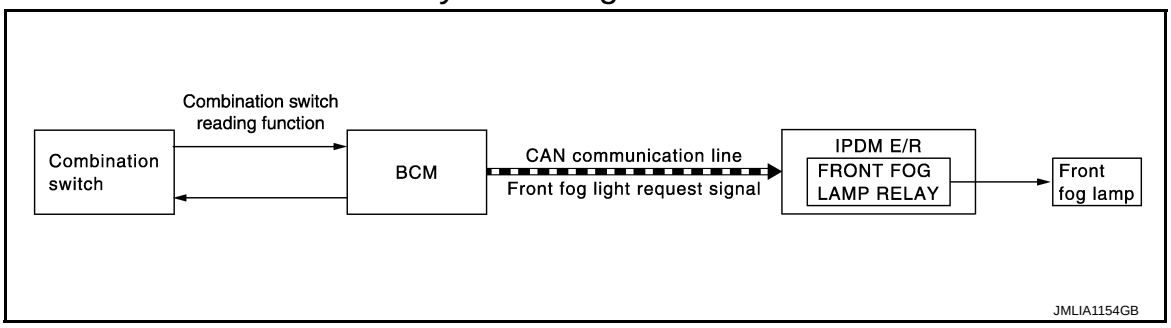
- Lighting switch OFF
- Lighting switch AUTO and auto light judgement OFF

• IPDM E/R turns the integrated daytime running light relay ON, and turns the daytime running light ON according to the daytime running light request signal.

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Diagram

INFOID:0000000009754470



FRONT FOG LAMP SYSTEM : System Description

INFOID:0000000009754471

OUTLINE

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

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

- Front fog lamp switch ON and any of the following. (except for the high beam ON)

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)

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.

FRONT FOG LAMP SYSTEM : Fail-safe

INFOID:0000000009754472

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.

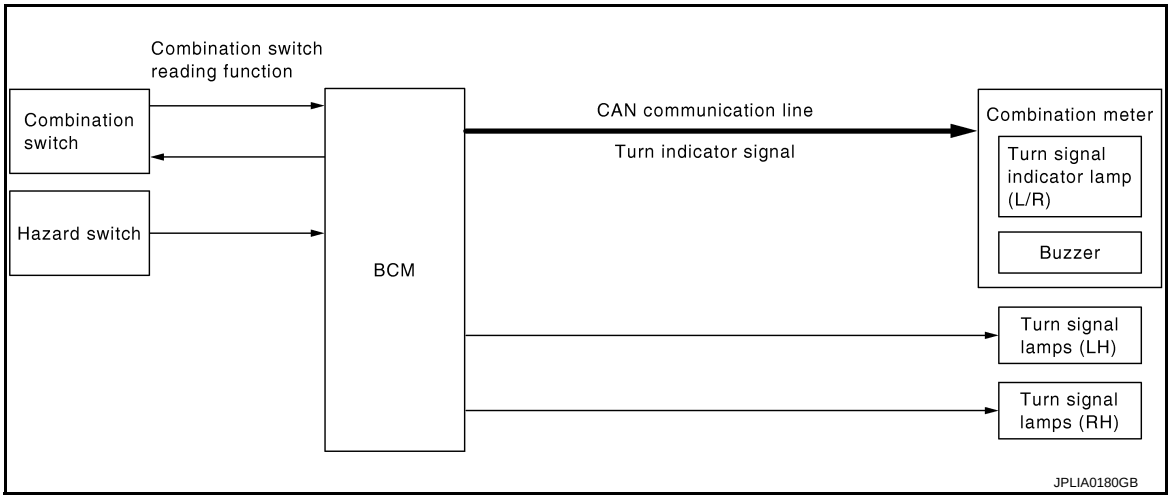
If No CAN Communication Is Available With BCM

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

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram

INFOID:0000000009754473



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:0000000009754474

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL 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.

HIGH FLASHER OPERATION

- BCM detects the turn signal lamp circuit status from the current value.

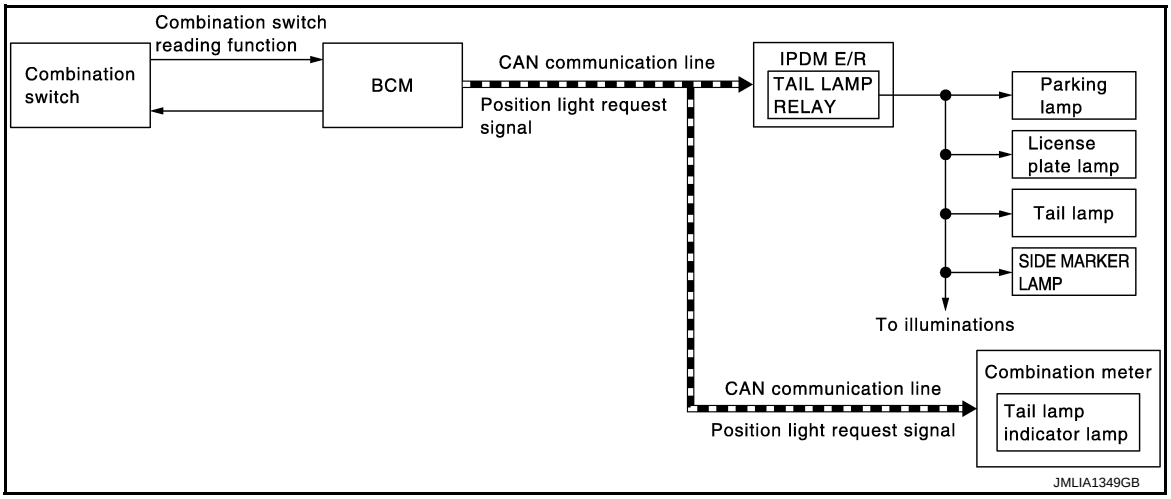
- BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Diagram

INFOID:0000000009754475



PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description

INFOID:0000000009754476

OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

*: Only for models with Intelligent Key system

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

INFOID:0000000009754477

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.

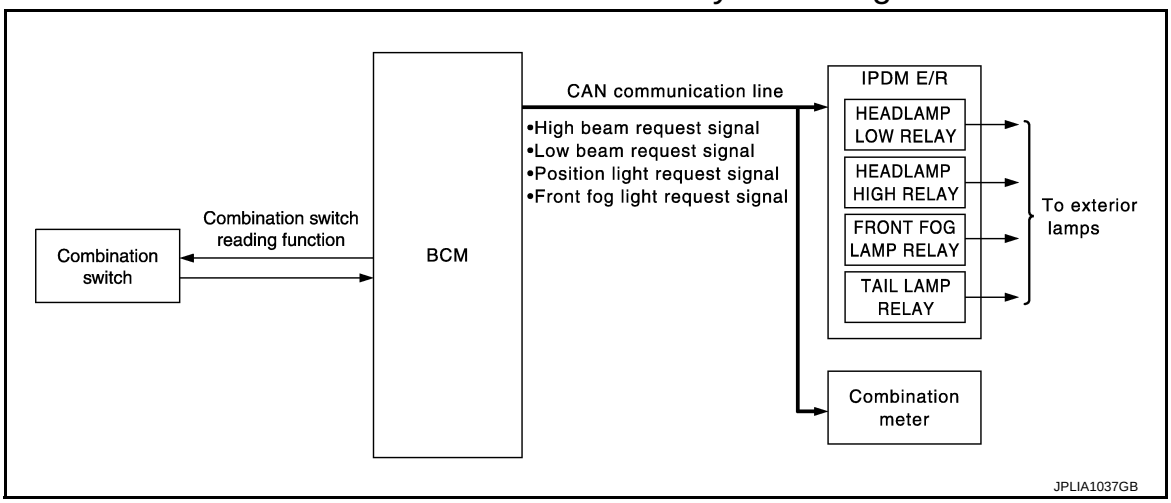
If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
• Parking lamp • License plate lamp • Illumination • Tail lamp • Side marker 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

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Diagram

INFOID:0000000009754478



EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:0000000009754479

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, side marker lamp, license plate lamp and front fog lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010296660

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	• 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	×	×	×
Air conditioning system	AIR CONDITONER		×	×*
• 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	×	×	×
RAP	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

NOTE:

*: 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.

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 position is “LOCK”*.)
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power position is “OFF”.)
	LOCK>ACC		While turning power position from “LOCK”* *to “ACC”
	ACC>ON		While turning power position from “ACC” to “IGN”
	RUN>ACC		While turning power position from “RUN” to “ACC” (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power position from “CRANKING” to “RUN” (From cranking up the engine to run it)
	RUN>URGENT		While turning power position from “RUN“ to “ACC” (Emergency stop operation)
	ACC>OFF		While turning power position from “ACC” to “OFF”
	OFF>LOCK		While turning power position from “OFF” to “LOCK”*
	OFF>ACC		While turning power position from “OFF” to “ACC”
	ON>CRANK		While turning power position from “IGN” to “CRANKING”
	OFF>SLEEP		While turning BCM status from normal mode (Power position is “OFF”.) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power position is “LOCK”*.) to low power consumption mode
	LOCK		Power position is “LOCK”*
	OFF		Power position is “OFF” (Ignition switch OFF)
	ACC		Power position is “ACC” (Ignition switch ACC)
	ON		Power position is “IGN” (Ignition switch ON with engine stopped)
	ENGINE RUN		Power position is “RUN” (Ignition switch ON with engine running)
	CRANKING		Power 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.	

NOTE:

*: Power position shifts to “LOCK” from “OFF”, when ignition switch is in the OFF position, selector lever is in the P position (A/T models and CVT models), and any of the following conditions are met.

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

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

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000009754481

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	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	
ILL DELAY SET*1	MODE 1*2	45 sec.	Sets delay timer function timer operation time (All doors closed)
	MODE 2	Without the function	
	MODE 3	30 sec.	
	MODE 4	60 sec.	
	MODE 5	90 sec.	
	MODE 6	120 sec.	
	MODE 7	150 sec.	
	MODE 8	180 sec.	
HEAD LIGHT TIMER	MODE 1	10 sec.	Sets follow me home function activating time
	MODE 2*2	30 sec.	
AUTO LIGHT LOGIC SET*1	MODE 1*2	With twilight ON custom & with wiper INT, LO and HI	
	MODE 2	With twilight ON custom & with wiper LO and HI	
	MODE 3	With twilight ON custom & without	
	MODE 4	Without twilight ON custom & with wiper INT, LO and HI	
	MODE 5	Without twilight ON custom & with wiper LO and HI	
	MODE 6	Without twilight ON custom & without	

*1: For models without auto light system, this item is displayed, but cannot be used.
*2: Factory setting

DATA MONITOR

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

Monitor item [Unit]	Description
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates [Stop/Stall/Crank/Run] condition of engine states
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from combination meter by numerical value [Km/h]

Monitor item [Unit]	Description
TURN SIGNAL R [On/Off]	Each switch status that BCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	
HEAD LAMP SW1 [On/Off]	
HEAD LAMP SW2 [On/Off]	
PASSING SW [On/Off]	
AUTO LIGHT SW [On/Off]	
FR FOG SW* [On/Off]	
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH
DOOR SW- RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch
OPTICAL SENSOR [On/Off/NG]	**NOTE:** This item is displayed, but cannot be monitored
OPTI SEN (DTCT) [V]	The value of outside brightness voltage input from the optical sensor
OPTI SEN (FILT) [V]	The value of outside brightness voltage filtered by BCM

*: For models without front fog lamp, this item is displayed, but cannot be monitored.

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

Test item	Operation	Description
FR FOG LAMP*1	On	• Transmits the front fog lights request signal to IPDM E/R via CAN communication to turn the front fog lamp ON*3 • Transmits the daytime running light request signal to IPDM E/R via CAN communication to turn the daytime running light ON*4
	Off	• Stops the front fog light request signal transmission*3 • Stops the daytime running light request signal transmission*4
DAYTIME RUNNING LIGHT*2	On	Transmits the daytime running light request signal via CAN communication to IPDM E/R
	Off	Stop the daytime running light request signal transmission
ILL DIM SIGNAL	On	**NOTE:** This item is indicated, but can not tested
	Off	

*1: Except for NISMO models without front fog lamp, this item is displayed, but cannot be tested.
*2: For NISMO models with daytime running light system, this item is displayed, but cannot be tested.
*3: Except for NISMO models with daytime running light system.
*4: For NISMO models with daytime running light system.

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000009754482

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 request switch or the Intelligent Key.
	Unlk Only	With unlocking only	
	Lock&Unlk*	With locking/unlocking	
	Off	Without the function	

*: Factory setting

DATA MONITOR

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

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

Monitor item [Unit]	Description
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key
RKE-PANIC [On/Off]	Indicates [On/Off] condition of PANIC button of Intelligent Key

ACTIVE TEST

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

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000010296662

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	• 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		×	×
Air conditioning system	AIR CONDITONER		×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NATS	IMMU	×		×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door open	TRUNK		×	
Theft warning alarm	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	×
Signal buffer system	SIGNAL BUFFER		×	×
Panic alarm	PANIC ALARM			×
TPMS	AIR PRESSUE MONITOR	×	×	×

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:0000000009754484

WORK SUPPORT

Service item	Setting item	Setting	
BATTERY SAVER SET	On*	With the exterior lamp battery saver function	
	Off	Without the exterior lamp battery saver function	
ILL DELAY SET	MODE 1	**NOTE:** This item is displayed but is not operated	
	MODE 2		
	MODE 3		
	MODE 4		
	MODE 5		
	MODE 6		
	MODE 7		
	MODE 8		
HEAD LIGHT TIMER	MODE 1	10 sec.	Sets follow me home function activating time
	MODE 2*	30 sec.	
AUTO LIGHT LOGIC SET	MODE 1	**NOTE:** This item is displayed but is not operated	
	MODE 2		
	MODE 3		
	MODE 4		
	MODE 5		
	MODE 6		

*: Factory setting

DATA MONITOR

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

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Indicated [On/Off] condition of ignition switch in ON position
ACC ON SW [On/Off]	Indicates [On/Off] condition of ignition switch in ACC position
VEHICLE SPEED [km/h]	Display the vehicle speed signal received from combination meter by numerical value [Km/h]
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* [On/Off]	
AUTO LIGHT SW [On/Off]	**NOTE:** This item is indicated, but can not monitored
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)

Monitor item [Unit]	Description
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
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]	Indicated [On/Off] condition of key switch
KEYLESS LOCK [On/Off]	Indicated [On/Off] condition of lock signal from key fob
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
OPTI SEN (DTCT) [V]	**NOTE:** This item is indicated, but can not monitored
OPTI SEN (FILT) [V]	**NOTE:** This item is indicated, but can not monitored
LIG SEN COND [On/Off/NG]	**NOTE:** This item is indicated, but can not monitored

*: For models without front fog lamp, this item is displayed but is not 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
DAYTIME RUNNING LIGHT*2	On	Transmits the daytime running light request signal via CAN communication to IPDM E/R
	Off	Stop the daytime running light request signal transmission
ILL DIM SIGNAL	On	**NOTE:** This item is indicated, but can not tested
	Off	

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

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

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:0000000009754485

DATA MONITOR

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

Monitor item [Unit]	Description
IGN ON SW [On/Off]	Indicates [On/Off] condition of ignition switch in ON position
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 turn the right side turn signal lamps ON.
	LH	Outputs the voltage to turn the left side turn signal lamps ON.
	Off	Stops the voltage to turn the turn signal lamps OFF.

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

Diagnosis Description

INFOID:0000000010296663

AUTO ACTIVE TEST

Description

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

- Rear window defogger
- Front wiper motor
- Parking lamp
- License plate lamp
- Tail lamp
- Side marker lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

CAUTION:

Wiper arm interferes with hood 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. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

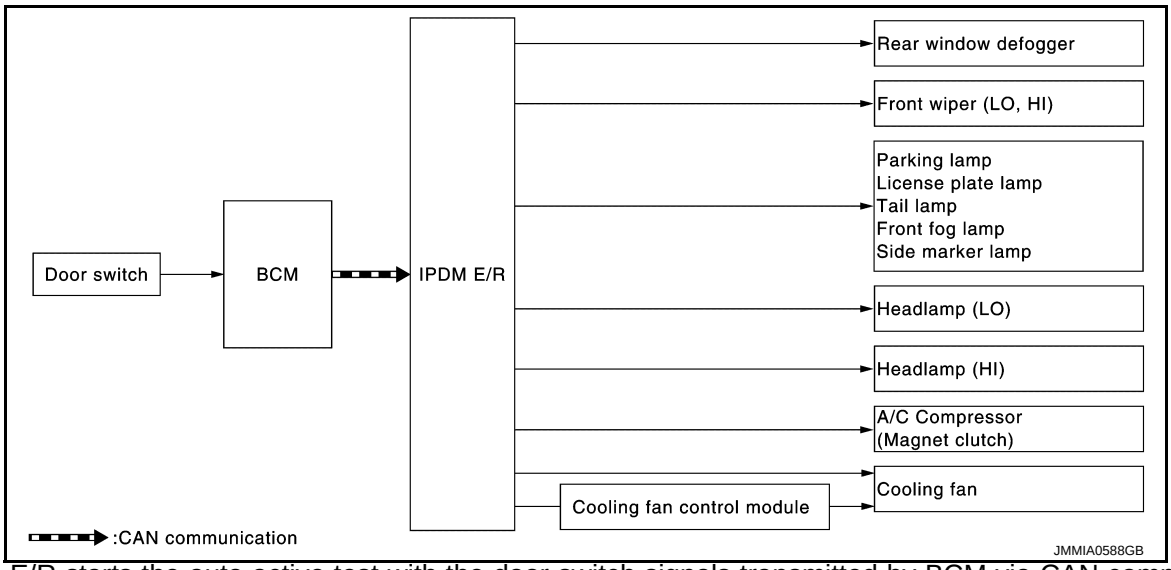
- When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-81, "Component Function Check".

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Rear window defogger	10 seconds
2	Front wiper motor	LO for 5 seconds → HI for 5 seconds
3	• Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp	10 seconds
4	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6	Cooling fan	50% duty for 5 seconds → 100% duty for 5 seconds

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
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 • Side marker 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
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 relay • Harness or connector between IPDM E/R and cooling fan control module. • Harness or connector between cooling fan control module and cooling fan motor • Cooling fan motor • Cooling fan relay • Cooling fan control module • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000010296664

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT

Refer to PCS-24, "DTC Index".

DATA MONITOR

NOTE:

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

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

Monitor Item [Unit]	MAIN SIGNALS	Description
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]		**NOTE:** This item is indicated, but not monitored.
S/L STATE [LOCK/UNLK/UNKWN]		**NOTE:** This item is indicated, but not monitored.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. **NOTE:** This item is monitored only for the except for NISMO models.
OIL P SW [Open/Close]		**NOTE:** This item is indicated, but not monitored.
HOOD SW [Off/On]		**NOTE:** This item is indicated, but not monitored.
HL WASHER REQ [Off/On]		**NOTE:** This item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder request signal received from BCM via CAN communication.

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	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.
HEAD LAMP WASHER	On	**NOTE:** This item is indicated, but cannot be tested.

Test item	Operation	Description
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:0000000010296665

AUTO ACTIVE TEST

Description

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

- Rear window defogger
- Front wiper motor
- Parking lamp
- License plate lamp
- Tail lamp
- Side marker lamp
- Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

CAUTION:

Wiper arm interferes with hood 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. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

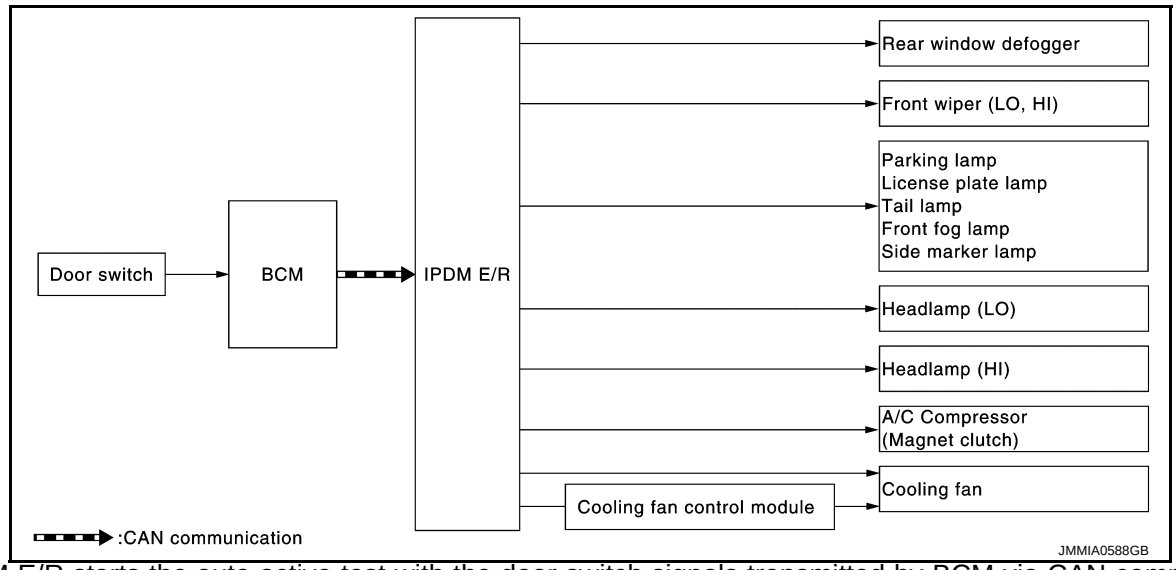
- When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-220, "Component Function Check".

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Rear window defogger	10 seconds
2	Front wiper motor	LO for 5 seconds → HI for 5 seconds
3	• Parking lamp • License plate lamp • Tail lamp • Side marker lamp • Front fog lamp	10 seconds
4	Headlamp	LO for 10 seconds →HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6	Cooling fan	50% duty for 5 seconds → 100% duty for 5 seconds

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
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 • Side marker 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
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 relay • Harness or connector between IPDM E/R and cooling fan control module. • Harness or connector between cooling fan control module and cooling fan motor • Cooling fan motor • Cooling fan relay • Cooling fan control module • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:0000000010296666

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT

Refer to PCS-53, "DTC Index".

DATA MONITOR

NOTE:

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

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

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

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	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.
HEAD LAMP WASHER	On	**NOTE:** This item is indicated, but cannot be tested.
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000009754490

WITH INTELLIGENT KEY

ECU	Reference
BCM	BCS-36, "Reference Value"
	BCS-57, "Fail-safe"
	BCS-58, "DTC Inspection Priority Chart"
	BCS-59, "DTC Index"
IPDM E/R	PCS-17, "Reference Value"
	PCS-23, "Fail-safe"
	PCS-24, "DTC Index"

WITHOUT INTELLIGENT KEY

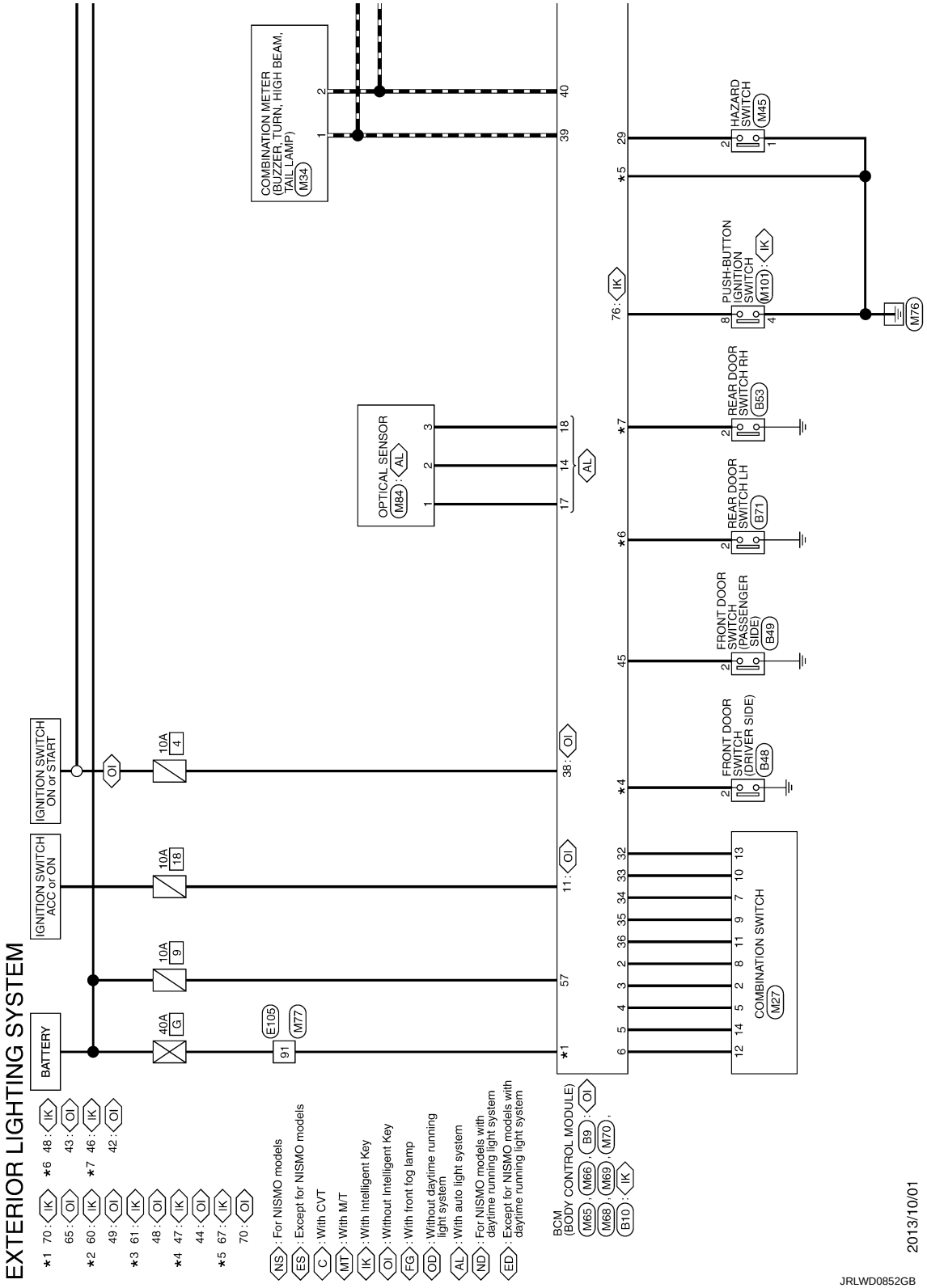
ECU	Reference
BCM	BCS-118, "Reference Value"
	BCS-131, "Fail-safe"
	BCS-132, "DTC Inspection Priority Chart"
	BCS-132, "DTC Index"
IPDM E/R	PCS-17, "Reference Value"
	PCS-23, "Fail-safe"
	PCS-24, "DTC Index"

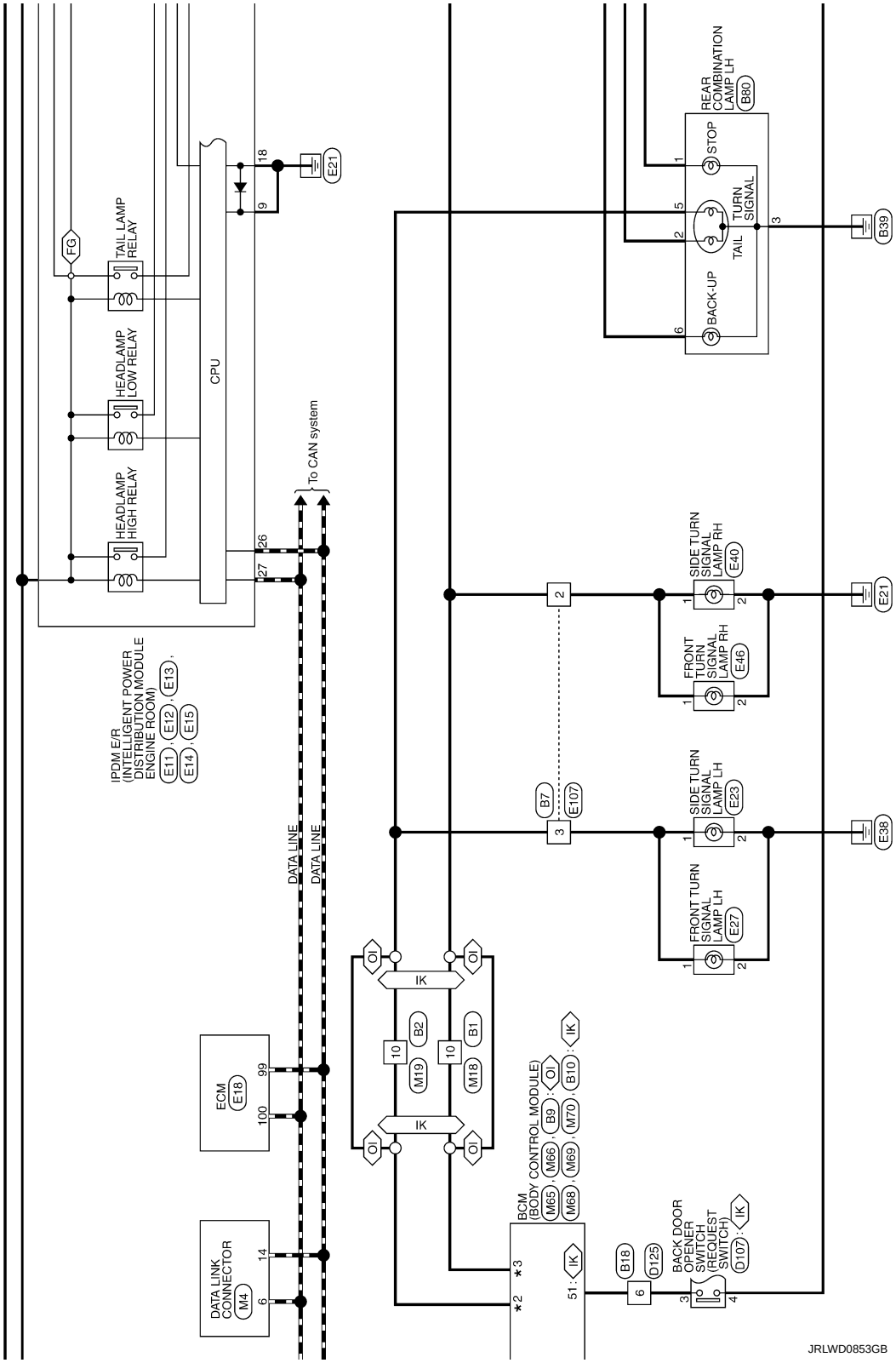
WIRING DIAGRAM

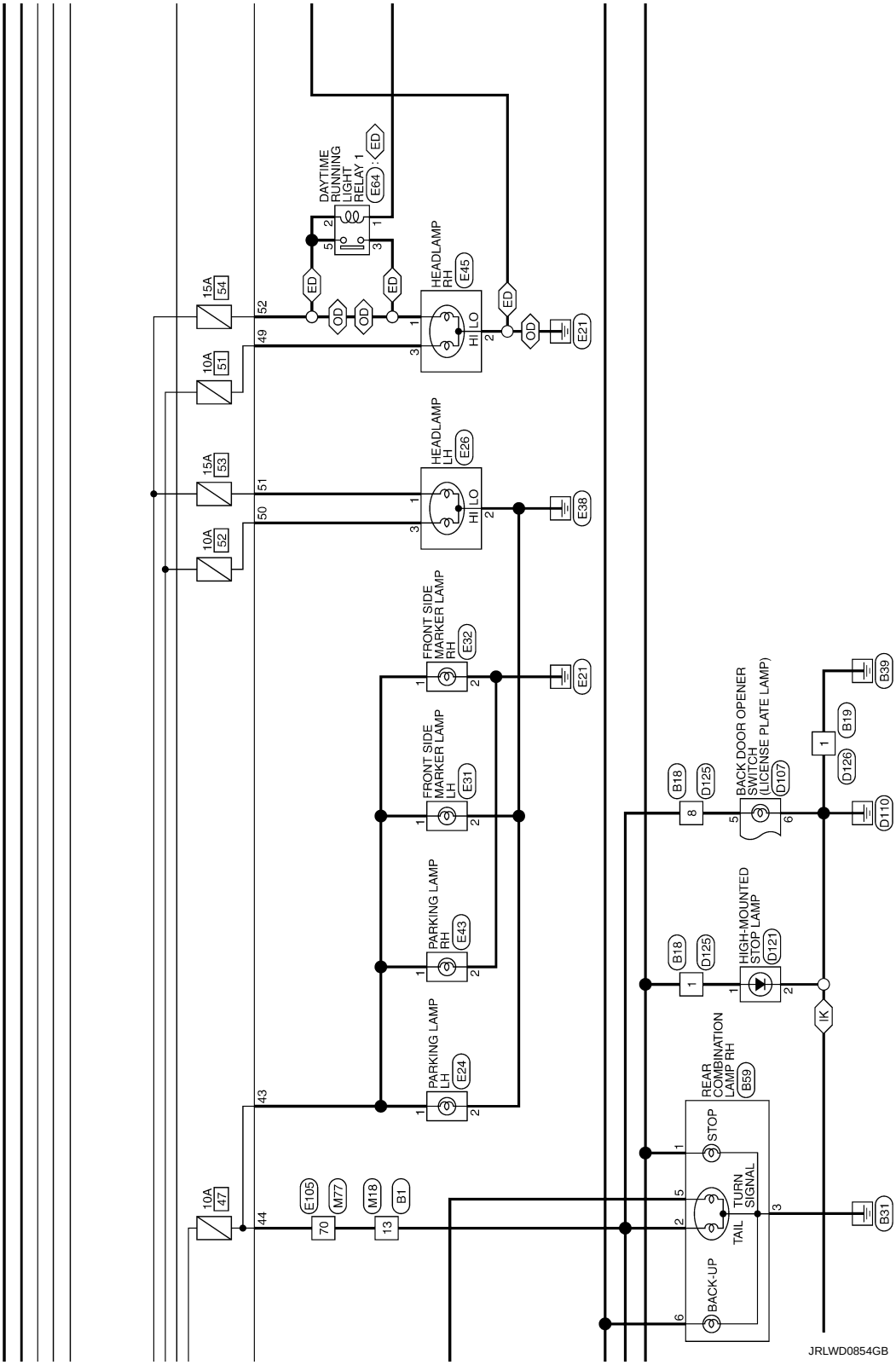
EXTERIOR LIGHTING SYSTEM

Wiring Diagram

INFOID:0000000009754491




REAR COMBINATION LAMP LH B80
STOP
TAIL
TURN SIGNAL
BACK-UP
B39
SIDE TURN SIGNAL LAMP RH E40
FRONT TURN SIGNAL LAMP RH E46
E21
SIDE TURN SIGNAL LAMP LH E23
FRONT TURN SIGNAL LAMP LH E27
E38
B7
E107
TAIL LAMP RELAY
HEADLAMP LOW RELAY
HEADLAMP HIGH RELAY
FG
CPU
18
9
26
27
E21
To CAN system
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
E11, E12, E13, E14, E15
DATA LINE
DATA LINE
ECM E18
99
100
DATA LINK CONNECTOR M4
14
6
OI
IK
B2
B1
10
M19
M18
BCM (BODY CONTROL MODULE)
M65, M66, M68, M69
B9, M70
B10
51
B18
6
D125
BACK DOOR OPENER SWITCH (REQUEST SWITCH) D107
JRLWD0853GB


DAYTIME RUNNING LIGHT RELAY 1
E64
ED
HEADLAMP RH
E45
HEADLAMP LH
E26
FRONT SIDE MARKER LAMP RH
E32
FRONT SIDE MARKER LAMP LH
E31
PARKING LAMP RH
E43
PARKING LAMP LH
E24
BACK DOOR OPENER SWITCH (LICENSE PLATE LAMP)
D107
HIGH-MOUNTED STOP LAMP
D121
REAR COMBINATION LAMP RH
B59
STOP
TURN SIGNAL
TAIL
BACK-UP
15A 54
10A 51
15A 53
10A 52
10A 47
E21
E38
B39
B19
D126
D110
B18
D125
IK
E105
M77
M18
B1
B31
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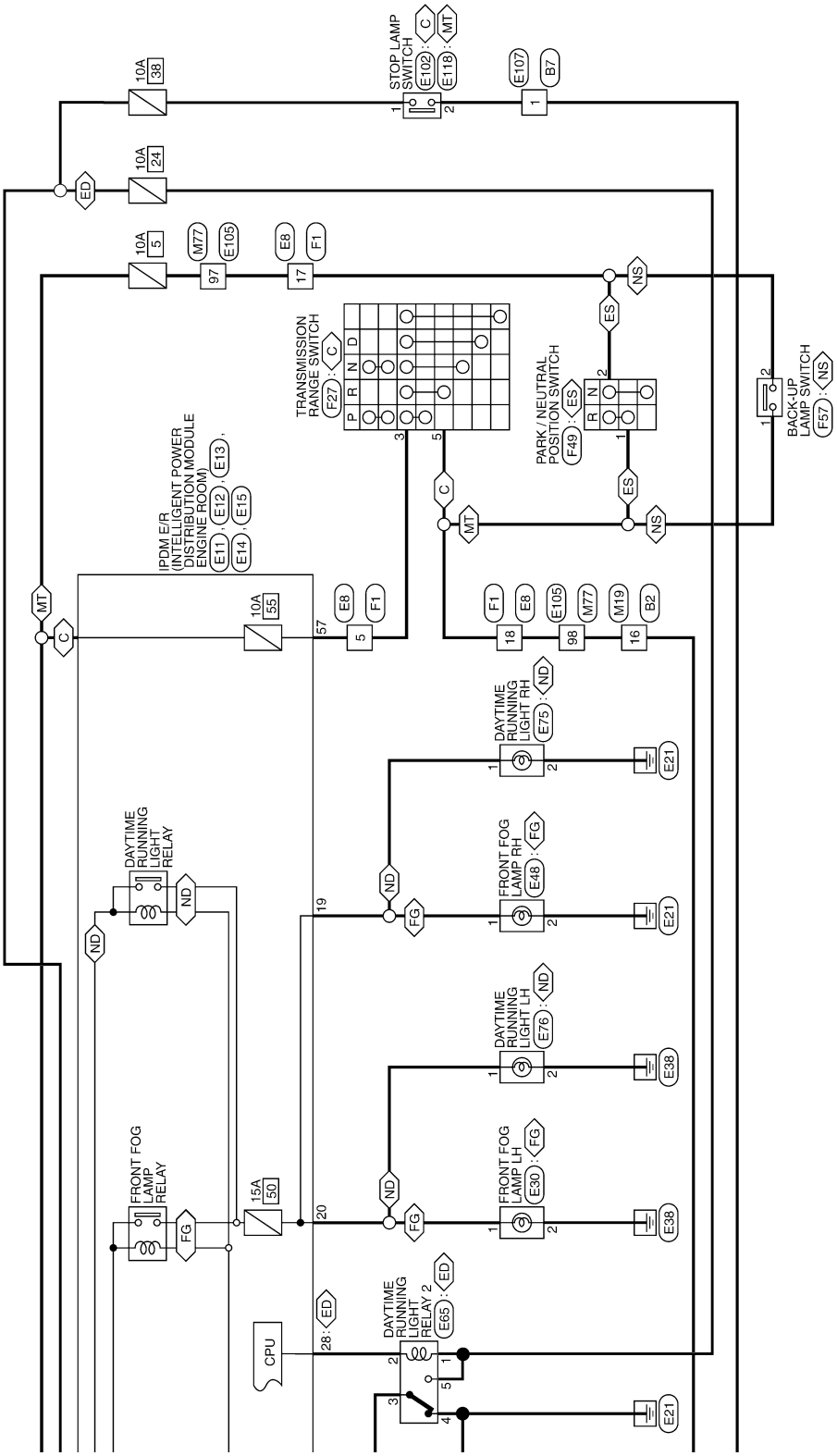

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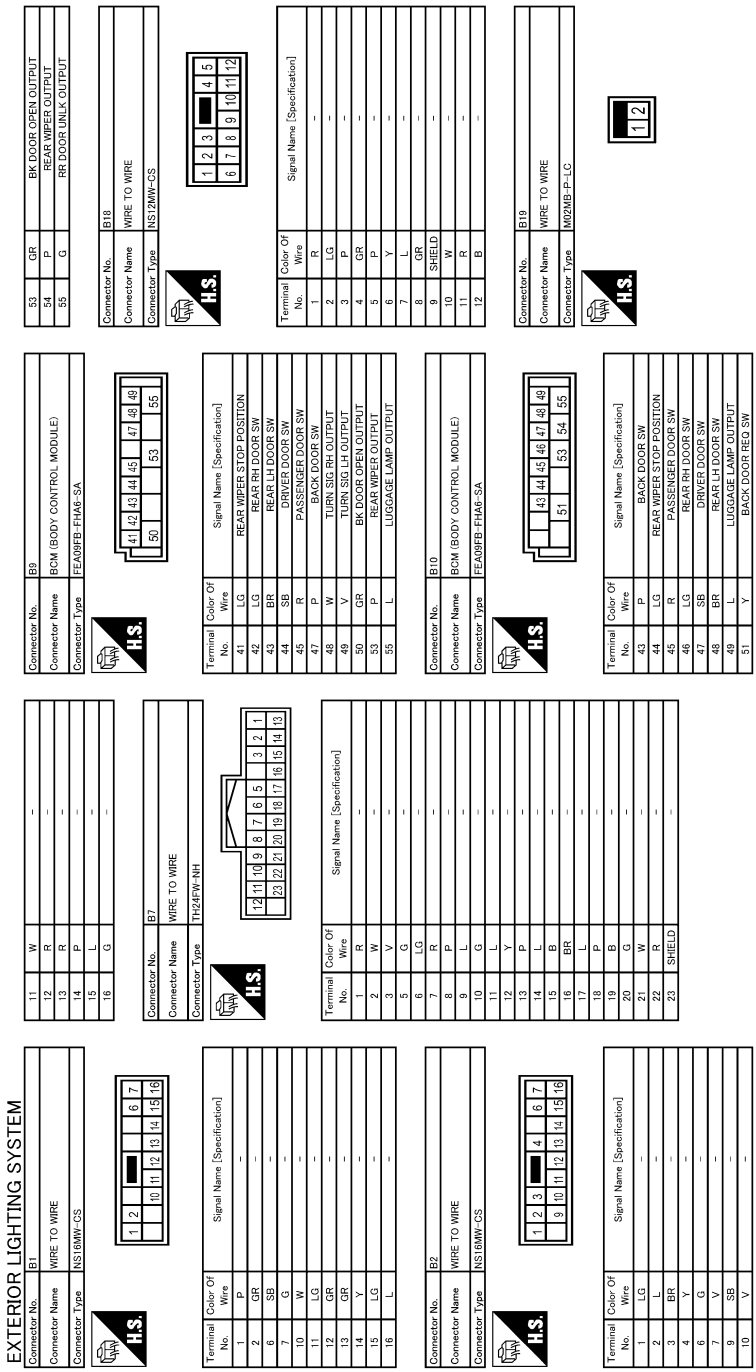

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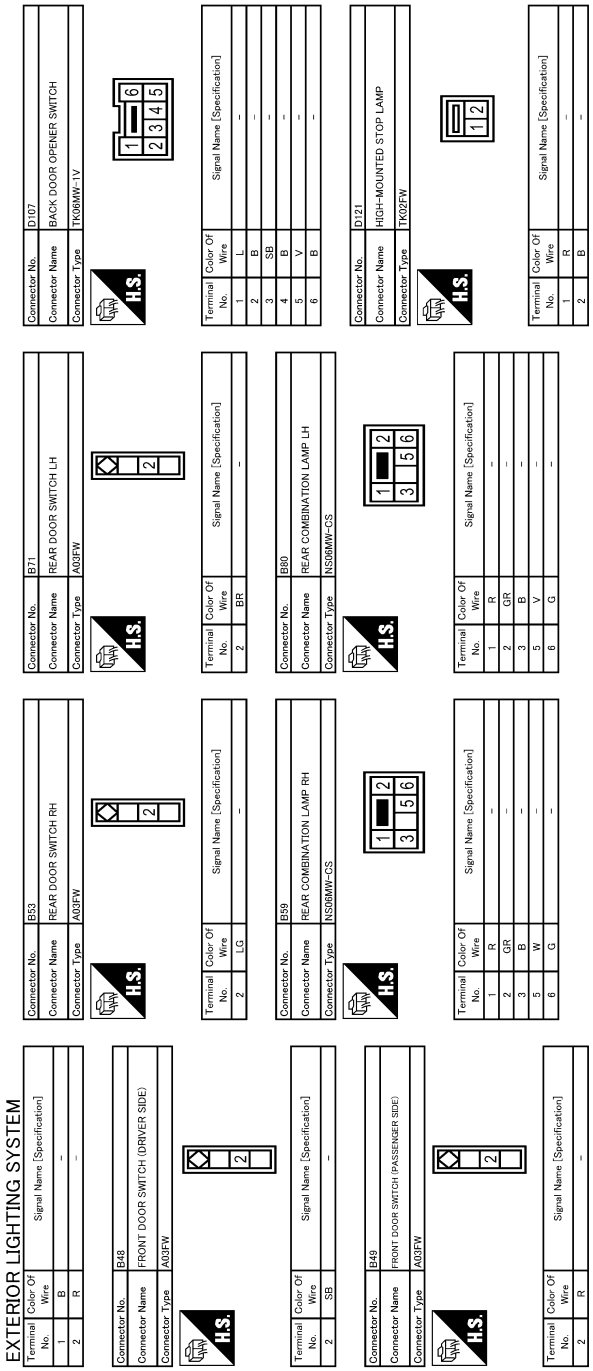

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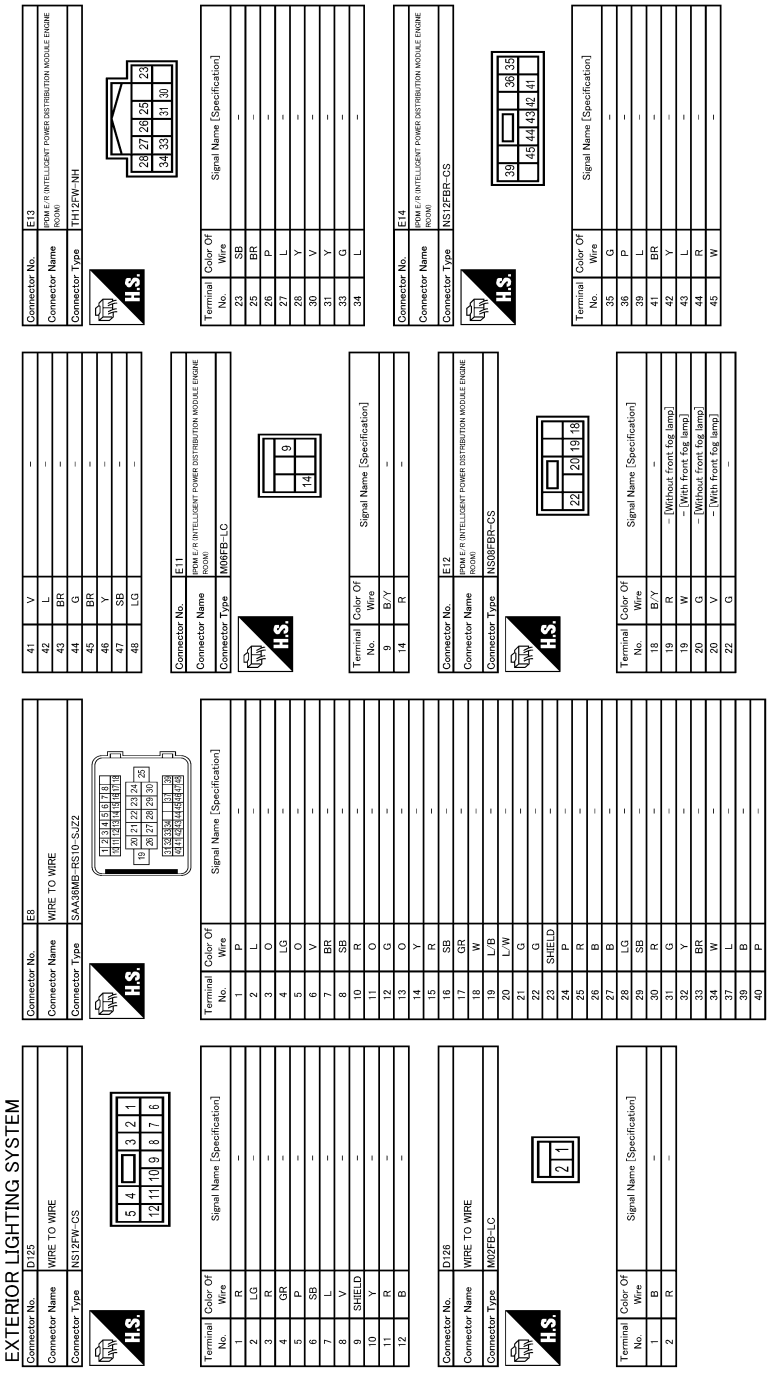

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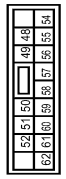
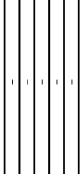
EXTERIOR LIGHTING SYSTEM

Connector No.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS16FW-CS



Terminal No.	Color Of Wire	Signal Name [Specification]
48	BR	–
49	Y	–
50	G	–
51	L	–
52	P	–
54	P	–
55	G	–
56	SB	–
57	O	–
58	LG	–
59	V	–
60	SB	–
61	LG	–
62	O	–

Connector No.	E18
Connector Name	ECM
Connector Type	RH24FGY-RZ8-R-RH



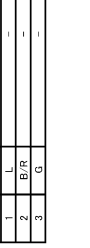
Terminal No.	Color Of Wire	Signal Name [Specification]
99	P	CAN COMMUNICATION LINE (CAN-L)
100	L	CAN COMMUNICATION LINE (CAN-H)
101	V	SENSOR POWER SUPPLY
102	R	ACCELERATOR PEDAL POSITION SENSOR 1
103	BR	PNP SIGNAL
104	R	DATA LINK CONNECTOR

105	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
106	Y	POWER SUPPLY FOR ECM (BACKUP)
108	GR	CLUTCH PEDAL POSITION SWITCH
109	O	IGNITION SWITCH
110	P	ASCD STEERING SWITCH
111	B	SENSOR GROUND
112	BR	ECM RELAY (SELF SHUT-OFF)
115	SB	STOP LAMP SWITCH
116	G	BRAKE PEDAL POSITION SWITCH
117	Y	FUEL PUMP RELAY
118	O	SENSOR POWER SUPPLY
119	BR	ACCELERATOR PEDAL POSITION SENSOR 2
120	Y	SENSOR GROUND
121	O	POWER SUPPLY FOR ECM
122	GR	THROTTLE CONTROL MOTOR POWER SUPPLY
123	B/Y	ECM GROUND
124	B/Y	ECM GROUND
125	L	A/F SENSOR 1 HEATER
126	W	HEATED OXYGEN SENSOR 2 HEATER
127	B/Y	ECM GROUND

Connector No.	E23
Connector Name	SIDE TURN SIGNAL LAMP LH
Connector Type	STL02FW

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

Connector No.	E24
Connector Name	PARKING LAMP LH
Connector Type	T02FB

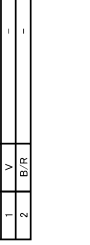


Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	B	–

Connector No.	E26
Connector Name	HEADLAMP LH
Connector Type	U03FB

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	B/R	–
3	G	–

Connector No.	E27
Connector Name	FRONT TURN SIGNAL LAMP LH
Connector Type	Z02FGY



Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	B/R	–

Connector No.	E30
Connector Name	FRONT FOG LAMP LH
Connector Type	FHZ02FB

Terminal No.	Color Of Wire	Signal Name [Specification]
1	V	–
2	B/R	–

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EXTERIOR LIGHTING SYSTEM

Connector No.	E31
Connector Name	FRONT SIDE MARKER LAMP LH
Connector Type	T02FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
2	B/R	–

Connector No.	E32
Connector Name	FRONT SIDE MARKER LAMP RH
Connector Type	T02FB

H.S.

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

Connector No.	E40
Connector Name	SIDE TURN SIGNAL LAMP RH
Connector Type	STL02FW

H.S.

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

Connector No.	E43
Connector Name	PARKING LAMP RH
Connector Type	T02FB

H.S.

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

Connector No.	E45
Connector Name	HEADLAMP RH
Connector Type	U03FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	– [For NISMO with daytime running light system]
1	P	– [Without daytime running light system]
1	SB	– [Except for NISMO with daytime running light system]
2	B	– [For NISMO with daytime running light system]
2	B	– [Without daytime running light system]
2	W	– [Except for NISMO with daytime running light system]
3	Y	–

Connector No.	E46
Connector Name	FRONT TURN SIGNAL LAMP RH
Connector Type	Z02FGY

H.S.

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

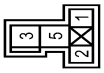
Connector No.	E48
Connector Name	FRONT FOG LAMP RH
Connector Type	FH202FB

H.S.

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

Connector No.	E64
Connector Name	DAYTIME RUNNING LIGHT RELAY 1
Connector Type	MS02FL-M2-LC

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	–
2	P	–
3	SB	–
5	P	–

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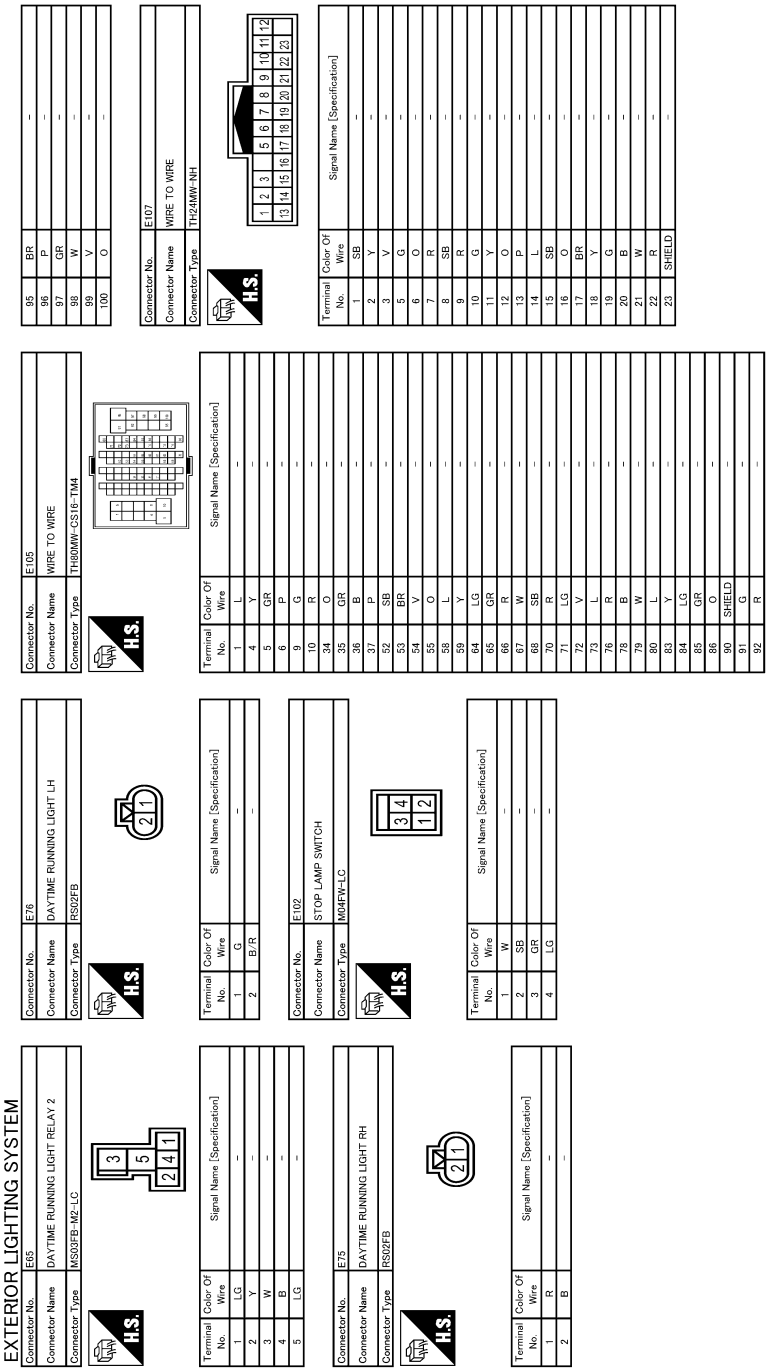

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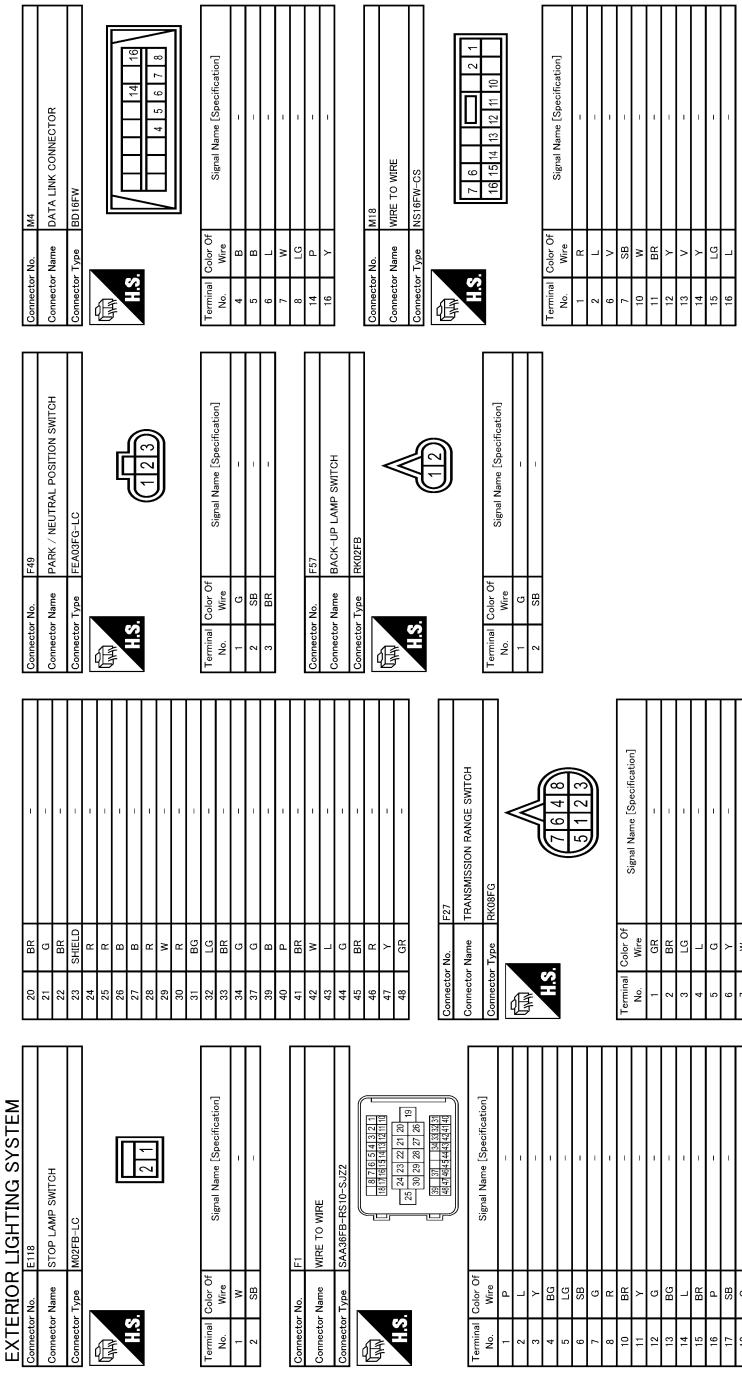

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EXTERIOR LIGHTING SYSTEM

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS

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

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	LG	WASHER (RR) [Without front fog lamp]
1	O	WASHER (RR) [With front fog lamp]
2	GR	OUTPUT 4
3	R	WASHER (FR) [With front fog lamp]
3	W	WASHER (FR) [Without front fog lamp]
4	SB	IGN [Without front fog lamp]
4	W	IGN [With front fog lamp]
5	BR	OUTPUT 3
6	B	GND
7	V	OUTPUT 3
8	L	OUTPUT 5
9	R	INPUT 2
10	Y	INPUT 4
11	P	INPUT 1
12	W	OUTPUT 1
13	LG	INPUT 5
14	G	OUTPUT 2

Connector No.	M34
Connector Name	COMBINATION METER
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-H
2	P	CAN-L
4	V	VEHICLE SPEED SIGNAL (2-PULSE) [With front fog lamp]
4	Y	VEHICLE SPEED SIGNAL (8-PULSE) [Without front fog lamp]
5	G	PADDLE SHIFTER UP SWITCH SIGNAL
6	BR	FUEL LEVEL SENSOR SIGNAL
7	R	AIR BAG SIGNAL
8	P	– [Without front fog lamp]
8	Y	– [With front fog lamp]
9	O	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE) [Without front fog lamp]
9	W	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE) [With front fog lamp]
10	SB	PARKING BRAKE SWITCH SIGNAL
11	G	BRAKE FLUID LEVEL SWITCH SIGNAL
13	B	ILLUMINATION CONTROL SIGNAL [With front fog lamp]
13	GR	ILLUMINATION CONTROL SIGNAL [Without front fog lamp]
14	R	MANUAL MODE SHIFT UP SIGNAL [Without front fog lamp]
14	V	MANUAL MODE SHIFT UP SIGNAL [With front fog lamp]
15	L	ACC POWER SUPPLY
16	O	MANUAL MODE SHIFT DOWN SIGNAL [With front fog lamp]
16	W	MANUAL MODE SHIFT DOWN SIGNAL [Without front fog lamp]
17	G	WASHER LEVEL SWITCH SIGNAL [Without front fog lamp]
17	W	WASHER LEVEL SWITCH SIGNAL [With front fog lamp]
18	R	SECURITY SIGNAL
19	GR	AMBIENT SENSOR SIGNAL
20	LG	AMBIENT SENSOR GROUND [With front fog lamp]
20	R	AMBIENT SENSOR GROUND [Without front fog lamp]
21	B	GROUND
22	B	GROUND
23	B	GROUND
24	L	FUEL LEVEL SENSOR GROUND
25	B	VDC GROUND
26	V	PADDLE SHIFTER DOWN SWITCH SIGNAL
27	LG	BATTERY POWER SUPPLY
28	GR	IGNITION SIGNAL
29	LG	PASSENGER SEAT BELT WARNING SIGNAL [With front fog lamp]
29	V	PASSENGER SEAT BELT WARNING SIGNAL [Without front fog lamp]
31	P	A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL
36	LG	MANUAL MODE SIGNAL [With front fog lamp]
36	Y	MANUAL MODE SIGNAL [Without front fog lamp]
37	G	NON-MANUAL MODE SIGNAL [Without front fog lamp]
37	Y	NON-MANUAL MODE SIGNAL [With front fog lamp]
38	P	ALTERNATOR SIGNAL

Connector No.	M45
Connector Name	HAZARD SWITCH
Connector Type	TK04FW

Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	–
2	SB	–
3	V	–
4	B	– [With front fog lamp]
4	GR	– [Without front fog lamp]

Connector No.	M65
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FW-NH

Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	BR	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	W	COMBI SW INPUT 1
7	L	KEY CYL UNLOCK SW
8	R	KEY CYL LOCK SW
9	R	STOP LAMP SW
10	W	REAR WINDOW DEF SW
11	L	IGN SW ACC
12	Y	DOOR LK & UNLK SW LOCK
13	BR	DOOR LK & UNLK SW UNLOCK
15	W	–
18	V	RECEIVER GND
19	BR	RECEIVER PWR SPLY
20	G	RECEIVER COMM
21	P	NATS ANT AMP
23	R	SECURITY IND LAMP CONT
24	SB	DONGLE LINK
25	LG	NATS ANT AMP
26	B	THERMO CONT AMP
27	W	A/C SW
28	O	BLOWER FAN SW
29	L	HAZARD SW
30	L	BK DOOR OPENER SW
31	G	FR DEFROST SW
32	LG	COMBI SW OUTPUT 5
33	Y	COMBI SW OUTPUT 4
34	V	COMBI SW OUTPUT 3
35	R	COMBI SW OUTPUT 2
36	P	COMBI SW OUTPUT 1
37	GR	KEY SW
38	R	IGN SW ON
39	L	CAN-H
40	P	CAN-L

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EXTERIOR LIGHTING SYSTEM

Connector No.	M66
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FW-FHA6-SA

H.S.

56	57	58		60			63
65	66	67	68	69			70

Terminal No.	Color Of Wire	Signal Name [Specification]
56	W	DR DOOR UNLK OUTPUT
57	L	BAT (FUSE)
58	LG	INT ROOM LAMP PWR SPLY
60	BR	INT ROOM LAMP CONT
63	SB	A/C IND OUTPUT
65	Y	BAT (F/L)
66	P	PW PWR SPLY (BAT)
67	L	PW PWR SPLY (IGN)
68	SB	PASS. RR DOOR UNLK OUTPUT
69	V	ALL DOOR LOCK OUTPUT
70	B	GND

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH

H.S.

1	2	3	4	5	6	7	8	9	10		12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27	28		29	30	31	32	33	34	35

Terminal No.	Color Of Wire	Signal Name [Specification]
2	L	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	BR	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	W	COMBI SW INPUT 1
7	L	KEY CYL UNLOCK SW
8	R	KEY CYL LOCK SW
9	R	STOP LAMP SW 1
10	W	_
12	GR	DOOR LK & UNLK SW LOCK (Without front fog lamp)
12	Y	DOOR LK & UNLK SW LOCK (With front fog lamp)
13	BR	DOOR LK & UNLK SW UNLOCK
14	P	OPTICAL SENS
15	W	RR DEFOGGER SW
17	R	OPTICAL SENS PWR SPLY
18	V	RECEIVER GND
21	P	NATS ANT AMP
23	R	SECURITY IND LAMP CONT
24	SB	DONGLE LINK
25	LG	NATS ANT AMP
26	B	THERMO AMP
27	W	A/C SW (With front fog lamp)
27	Y	A/C SW (Without front fog lamp)
28	LG	BLOWER FAN SW (Without front fog lamp)
28	O	BLOWER FAN SW (With front fog lamp)
29	L	HAZARD SW (With front fog lamp)
29	SB	HAZARD SW (Without front fog lamp)
30	L	BK DOOR OPENER SW
31	GR	DR DOOR UNLK SENS
32	LG	COMBI SW OUTPUT 5
33	Y	COMBI SW OUTPUT 4
34	V	COMBI SW OUTPUT 3
35	R	COMBI SW OUTPUT 2
36	P	COMBI SW OUTPUT 1
37	G	DETENT SW
38	SB	RECEIVER COMM
39	L	CAN-H
40	P	CAN-L

Connector No.	M69
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	FEA09FW-FHA6-SA

H.S.

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

Terminal No.	Color Of Wire	Signal Name [Specification]
56	LG	INT ROOM LAMP PWR SPLY (With front fog lamp)
56	P	INT ROOM LAMP PWR SPLY (Without front fog lamp)
57	L	BAT (FUSE)
59	SB	PASS DOOR UNLK OUTPUT
60	V	TURN SIG LH OUTPUT
61	W	TURN SIG RH OUTPUT
63	BR	INT ROOM LAMP CONT
64	R	REVERSE SW
65	V	ALL DOOR LOCK OUTPUT
66	W	DR DOOR UNLK OUTPUT
67	B	GND
68	L	PW PWR SPLY (IGN)
69	P	PW PWR SPLY (BAT)
70	Y	BAT (F/L)

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FW-NH

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color Of Wire	Signal Name [Specification]
75	LG	DR DOOR REQ SW
76	LG	PASS DOOR REQ SW
78	P	DRIVER DOOR ANT+
79	V	DRIVER DOOR ANT-
80	LG	PASS DOOR ANT+
81	Y	PASS DOOR ANT-
82	W	REAR BMPR ANT+
83	LG	REAR BMPR ANT-
84	BR	ROOM ANT 1+
85	GR	ROOM ANT 1-
86	G	ROOM ANT 2+
87	R	ROOM ANT 2-
88	V	LUGGAGE ROOM ANT+
89	LG	LUGGAGE ROOM ANT-
90	W	PUSH-BTN IGN SW ILL PWR
91	V	ACC / ON IND
92	R	PUSH-BTN IGN SW ILL GND
93	GR	I-KEY WARN BUZZER
96	BR	ACC RELAY CONT
97	SB	STARTER RELAY CONT
98	P	IGN RELAY (RDM E / R) CONT
99	R	IGN RELAY (F / B) CONT
100	P	PUSH SW
101	Y	CLUTCH INTERLOCK SW
102	L	NEUTRAL SW
104	SB	CVT SHIFT SELECT PWR SPLY
105	V	STOP LAMP SW 2
106	Y	BLWR RELAY CONT

Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	–
4	V	–
5	W	–
6	P	–
9	R	–
10	R	–
34	LG	–
35	SB	–
36	B	–
37	P	–
52	R	–
53	L	–
54	SB	–
55	P	–
58	LG	–
59	G	–
64	G	–
65	GR	–
66	Y	–
67	V	–
68	R	–
70	V	–
71	R	–
72	GR	–
73	G	–
76	W	–
78	LG	–
79	V	–
80	LG	–
83	P	–
84	G	–

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EXTERIOR LIGHTING SYSTEM

85	BR	–
86	LG	–
90	SHIELD	–
91	Y	–
92	BR	–
95	R	– [Without Intelligent Key]
95	Y	– [With Intelligent Key]
96	L	–
97	GR	–
98	G	–
99	W	–
100	LG	–

6	R	–
7	V	–
8	LG	–

Connector No.	M84
Connector Name	OPTICAL SENSOR
Connector Type	TK03FW

H.S.

1 2 3

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	–
2	SB	–
3	V	–

Connector No.	M101
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Type	TK08FBR

H.S.

3 8 7 6 5 4

Terminal No.	Color Of Wire	Signal Name [Specification]
3	G	–
4	B	–
5	W	–

JRLWD0865GB

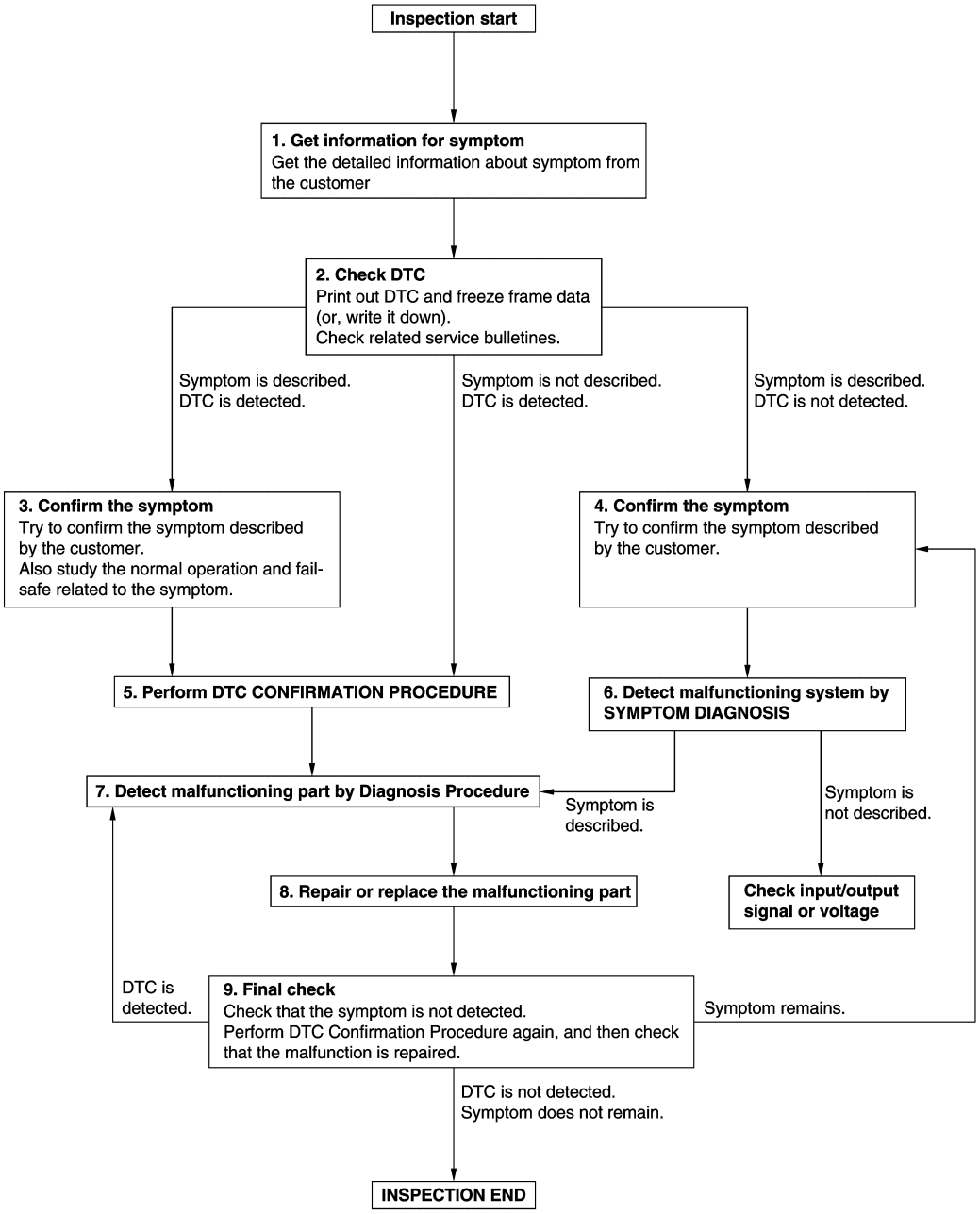
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:0000000009754492

OVERALL SEQUENCE



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DETAILED FLOW

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

1. Check DTC.
2. Perform the following procedure if DTC is detected.

- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.

3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.
Symptom is described, DTC is not detected>>GO TO 4.
Symptom is not described, DTC is detected>>GO TO 5.

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Also study the normal operation and fail-safe related to the symptom.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.
Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

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

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.
NO >> Check according to GI-46, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.
NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

7.DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.
NO >> Check according to GI-46, "Intermittent Incident".

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.
When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.
YES-2 >> Symptom remains: GO TO 4.
NO >> Before returning the vehicle to the customer, always erase DTC.

DTC/CIRCUIT DIAGNOSIS

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:0000000009754493

1.CHECK HEADLAMP (HI) OPERATION

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

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

NOTE:
ON/OFF is repeated 1 second each.

Is the inspection result normal?

YES >> Headlamp (HI) circuit is normal.
NO >> Refer to EXL-52, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754494

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT 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	3	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
WITHOUT DAYTIME RUNNING LIGHT SYSTEM
WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000009754495

1.CHECK HEADLAMP (LO) OPERATION

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

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

Is the inspection result normal?

YES >> Headlamp (LO) is normal.
NO >> Refer to EXL-54, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000009754496

1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT 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	1	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	Location	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.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:0000000009754497

1. CHECK HEADLAMP (LO) OPERATION

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

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

Is the inspection result normal?

YES >> Headlamp (LO) is normal.
NO >> Refer to EXL-55, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000009754498

1. CHECK ILLUMINATION STATUS OF HEADLAMPS

Check illumination status of headlamps.

Which headlamp does not turn ON?

RH >> GO TO 2.
LH >> GO TO 6.

2. CHECK HEADLAMP LO (RH) OUTPUT VOLTAGE

CONSULT ACTIVE TEST
1. Turn ignition switch OFF.
2. Remove daytime running light relay 1.
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				
E15	52	Ground	EXTERNAL LAMPS	Lo	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 8.

3.CHECK HEADLAMP LO (RH) OPEN CIRCUIT -1

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

IPDM E/R		Daytime running light relay 1		Continuity
Connector	Terminal	Connector	Terminal	
E15	52	E64	2	Existed
			5	

4. Check continuity between daytime running light relay 1 harness connector and ground.

Daytime running light relay 1		Ground	Continuity
Terminal	Connector		
E64	1		Existed

Is the inspection result normal?

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

4.CHECK HEADLAMP LO (RH) OPEN CIRCUIT-2

1. Disconnect headlamp connector.
2. Check continuity between daytime running light relay 1 harness connector and headlamp harness connector.

Daytime running light relay 1		Headlamp RH		Continuity
Connector	Terminal	Connector	Terminal	
E64	3	E45	1	Existed

Is the inspection result normal?

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

5.CHECK DAYTIME RUNNING LIGHT RELAY 1

Check daytime running light relay 1. Refer to EXL-58, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Inspection".

Is the inspection result normal?

YES >> Replace headlamp bulb RH.
NO >> Replace daytime running light relay 1.

6.CHECK HEADLAMP LO (LH) OUTPUT VOLTAGE

CONSULT ACTIVE TEST
1. Turn ignition switch OFF.
2. Disconnect headlamp LH 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				
E15	51	Ground	EXTERNAL LAMPS	Lo	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> GO TO 7.
NO >> GO TO 12.

7. CHECK HEADLAMP LO (LH) OPEN CIRCUIT

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

IPDM E/R		Headlamp LH		Continuity
Connector	Terminal	Connector	Terminal	
E15	51	E26	1	Existed

Is the inspection result normal?

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

8. CHECK HEADLAMP LO (RH) FUSE

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

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

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> GO TO 9.

9. CHECK HEADLAMP LO (RH) SHORT CIRCUIT- 1

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

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

Is the inspection result normal?

YES >> GO TO 10.
NO >> Repair or replace harness. And then replace the fuse.

10. CHECK DAYTIME RUNNING LIGHT RELAY 1

Check daytime running light relay 1. Refer to EXL-58, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Inspection".

Is the inspection result normal?

YES >> GO TO 11.
NO >> Replace daytime running light relay 1.

11. CHECK HEADLAMP LO (RH) SHORT CIRCUIT-2

1. Disconnect headlamp RH connector.
2. Check continuity between Daytime running light relay 1 harness connector and ground.

Daytime running light relay 1		Ground	Continuity
Connector	Terminal		
E64	3		Not existed

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.

12.CHECK HEADLAMP LO (LH) FUSE

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

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

Is the inspection result normal?

YES >> Replace IPDM E/R.
NO >> GO TO 13.

13.CHECK HEADLAMP LO (LH) 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		
E15	51		Not existed

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.

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Inspection

INFOID:0000000009754499

1.CHECK DAYTIME RUNNING LIGHT RELAY 1

1. Turn the ignition switch OFF.
2. Remove daytime running light relay 1.
3. Check continuity between daytime running light relay 1 terminals.

Daytime running light relay 1		Continuity
Terminal		
3	1	Not existed
5		

4. Apply battery voltage to daytime running light relay 1 between terminals 1 and 2.
5. Check continuity between daytime running light relay 1 terminals.

Daytime running light relay 1		Condition		Continuity
Terminal				
3	5	Voltage	Apply	Existed
			Not Apply	Not existed

Is the inspection result normal?

YES >> Daytime running light relay 1 is normal.
NO >> Replace Daytime running light relay- 1.

HEADLAMP GROUND CIRCUIT

WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000009754500

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.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:0000000009754501

1.CHECK ILLUMINATION STATUS OF HEADLAMPS

Check illumination status of headlamps.

Which headlamp does not turn ON?

RH >> GO TO 2.
LH >> GO TO 4.

2.CHECK HEADLAMP LO (RH) GROUND OPEN CIRCUIT-1

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

Daytime running light relay 2		Headlamp RH		Continuity
Connector	Terminal	Connector	Terminal	
E65	3	E45	2	Existed

Is the inspection result normal?

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

3.CHECK HEADLAMP LO (RH) GROUND OPEN CIRCUIT-2

Check continuity between daytime running light relay 2 harness connector and ground.

Daytime running light relay 2		Ground	Continuity
Connector	Terminal		
E65	4		Existed

Is the inspection result normal?

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

4.CHECK HEADLAMP LO (LH) GROUND OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect headlamp LH connector.

3. Check continuity between headlamp LH harness connector and ground.

Headlamp LH		Ground	Continuity
Connector	Terminal		
E26	2		Existed

Is the inspection result normal?

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

DAYTIME RUNNING LIGHT RELAY CIRCUIT

Component Function Check

INFOID:0000000009754502

1.CHECK DAYTIME RUNNING LIGHT OPERATION

CONSULT ACTIVE TEST
1. Select “DAYTIME RUNNING LIGHT” of BCM (HEADLAMP) active test item.
2. With operating the test items, check that daytime running light operation.

On : Daytime running light ON
Off : Daytime running light OFF

Is the inspection result normal?

YES >> Daytime running light relay circuit is normal.
NO >> Refer to EXL-61, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754503

1.CHECK DAYTIME RUNNING LIGHT RELAY 2 FUSE

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

Unit	Fuse No.	Capacity
Daytime running light relay 2	#24	10 A

Is the inspection result normal?

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

2.CHECK DAYTIME RUNNING LIGHT RELAY 2 POWER SUPPLY

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

(+)		(–)	Voltage (Approx.)
Daytime running light relay 2			
Connector	Terminal		
E65	1	Ground	Battery voltage
	5		

Is the inspection result normal?

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

3.CHECK DAYTIME RUNNING LIGHT RELAY 2

Check daytime running light relay 2. Refer to EXL-62, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Replace daytime running light relay 2.

4.CHECK DAYTIME RUNNING LIGHT RELAY 2 CONTROL SIGNAL OUTPUT

CONSULT ACTIVE TEST
1. Install daytime running light relay 2.
2. Turn ignition switch ON.
3. Select “DAYTIME RUNNING LIGHT” of BCM (HEADLAMP) 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	DAYTIME RUNNING LIGHT	On	0 V
				Off	Battery voltage

Is the inspection result normal?

YES >> Daytime running light relay 2 circuit is OK.
NO-1 (Fixed at 0 V)>>GO TO 5.
NO-2 (Fixed at battery voltage) >>Replace IPDM E/R.

5.CHECK DAYTIME RUNNING LIGHT RELAY 2 CONTROL SIGNAL OPEN CIRCUIT

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

IPDM E/R		Daytime running light relay 2		Continuity
Connector	Terminal	Connector	Terminal	
E13	28	E65	2	Existed

Is the inspection result normal?

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

6.CHECK DAYTIME RUNNING LIGHT RELAY 2 CONTROL SIGNAL SHORT CIRCUIT

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

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:0000000009754504

1.CHECK DAYTIME RUNNING LIGHT RELAY 2

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

Daytime running light relay-2		Condition		Continuity
Terminal				
5	3	Voltage	Apply	Existed
			Not Apply	Not existed
4			Apply	Not existed
			Not Apply	Existed

Is the inspection result normal?

YES >> Daytime running light relay 2 is normal.
NO >> Replace daytime running light relay 2.

DAYTIME RUNNING LIGHT CIRCUIT

Component Function Check

INFOID:0000000009754505

1.CHECK DAYTIME RUNNING LIGHT OPERATION

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

Fog : Daytime running light ON
Off : Daytime running light OFF

Is the measurement normal?

YES >> Daytime running light circuit is normal.
NO >> Refer to EXL-63, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754506

1.CHECK DAYTIME RUNNING LIGHT FUSE

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

Unit	Location	Fuse No.	Capacity
Daytime running light	IPDM E/R	#50	15 A

Is the inspection result normal?

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

2.CHECK DAYTIME RUNNING LIGHT SHORT CIRCUIT

1. Disconnect daytime running light 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 DAYTIME RUNNING LIGHT OUTPUT VOLTAGE

CONSULT ACTIVE TEST
1. Disconnect daytime running light 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 4.
NO >> Replace IPDM E/R.

4. CHECK DAYTIME RUNNING LIGHT OPEN CIRCUIT

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

IPDM E/R			Daytime running light		Continuity
Connector		Terminal	Connector	Terminal	
RH	E12	19	E75	1	Existed
LH		20	E76		

Is the inspection result normal?

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

5. CHECK DAYTIME RUNNING LIGHT GROUND CIRCUIT OPEN CIRCUIT

Check continuity between daytime running light harness connector and ground.

Daytime running light			Ground	Continuity
Connector		Terminal		
RH	E75	2		Existed
LH	E76			

Is the inspection result normal?

YES >> Replace daytime running light. Refer to EXL-100, "Removal and Installation".
NO >> Repair or replace harness.

PARKING LAMP CIRCUIT

Component Function Check

INFOID:0000000009754507

1.CHECK PARKING LAMP OPERATION

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

TAIL : Parking lamp ON
Off : Parking lamp OFF

Is the inspection result normal?

YES >> Parking lamp circuit is normal.
NO >> Refer to EXL-65, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754508

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 • Front side marker lamp • Tail lamp • License plate lamp	IPDM E/R	#47	10 A

Is the inspection result normal?

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

2.CHECK PARKING LAMP SHORT CIRCUIT

1. Disconnect the following connectors.
- IPDM E/R
- Parking lamp
- Front side marker lamp
- Rear combination lamp
- Back door opener switch
2. Check continuity between IPDM E/R harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E14	43		Not existed
	44		

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 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	43	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	43	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.

FRONT SIDE MARKER LAMP CIRCUIT

Component Function Check

INFOID:0000000009754509

1.CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check parking lamp circuit. Refer to EXL-65, "Component Function Check".

2.CHECK FRONT SIDE MARKER LAMP OPERATION

CONSULT ACTIVE TEST

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

TAIL : Front side marker lamp ON
Off : Front side marker lamp OFF

Is the inspection result normal?

YES >> Front side marker lamp circuit is normal.
NO >> Refer to EXL-67, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754510

1.CHECK FRONT SIDE MARKER LAMP BULB

Check applicable lamp bulb.

Is the inspection result normal?

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

2.CHECK FRONT SIDE MARKER LAMP OPEN CIRCUIT

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

IPDM E/R			Front side marker lamp		Continuity
Connector		Terminal	Connector	Terminal	
RH	E14	43	E32	1	Existed
LH			E31		

Is the inspection result normal?

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

3.CHECK FRONT SIDE MARKER LAMP GROUND OPEN CIRCUIT

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

Front side marker lamp			Ground	Continuity
Connector		Terminal		
RH	E32	2		Existed
LH	E31			

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

Component Function Check

INFOID:0000000009754511

1.CHECK PARKING LAMP AND FRONT SIDE MARKER LAMP OPERATION

Check that the parking lamp and front side marker lamp are turned ON.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check parking lamp circuit. Refer to EXL-65, "Component Function Check".

2.CHECK TAIL LAMP OPERATION

CONSULT ACTIVE TEST

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

TAIL : Tail Lamp ON
Off : Tail lamp OFF

Is the inspection result normal?

YES >> Tail lamp circuit is normal.
NO >> Refer to EXL-68, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754512

1.CHECK TAIL LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

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

2.CHECK TAIL LAMP OUTPUT VOLTAGE

CONSULT ACTIVE TEST

1. Disconnect rear combination 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	44	Ground	EXTERNAL LAMPS	TAIL	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> Replace IPDM E/R.

3.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	44	B59	2	Existed
LH			B80		

Is the inspection result normal?

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

4. 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

Component Function Check

INFOID:0000000009754513

1.CHECK TAIL LAMP OPERATION

Check that the tail lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.
NO >> Check tail lamp circuit. Refer to EXL-68, "Component Function Check".

2.CHECK LICENSE PLATE LAMP OPERATION

CONSULT ACTIVE TEST

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

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

Is the inspection result normal?

YES >> License plate lamp circuit is normal.
NO >> Refer to EXL-70, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754514

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	44	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.

OPTICAL SENSOR

Component Function Check

INFOID:0000000009754515

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT DATA MONITOR
1. Turn ignition switch ON.
2. Select “OPTISEN (DTCT)” of BCM (HEADLAMP) data monitor item.
3. Turn lighting switch AUTO.
4. With the optical sensor illuminating, check the monitor status.

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

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

Is the inspection result normal?

YES >> Optical sensor is normal.
NO >> Refer to EXL-71, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754516

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(+)		(–)	Voltage (Approx.)
Optical sensor			
Connector	Terminal		
M84	1	Ground	5 V

Is the inspection result normal?

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

2.CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

(+)		(–)	Voltage (Approx.)
Optical sensor			
Connector	Terminal		
M84	3	Ground	0 V

Is the inspection result normal?

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

3.CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

(+)		(–)	Condition		Voltage (Approx.)
Optical sensor					
Connector	Terminal				
M84	2	Ground	Optical sensor	When illuminating	3.1 V or more *
				When shutting off light	0.6 V or less

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

Is the inspection result normal?

YES >> GO TO 7.
NO >> Replace the optical sensor.

4. CHECK OPTICAL SENSOR OPEN CIRCUIT

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M84	1	M65*1 M68*2	17	Existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

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

5. CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optical sensor		Ground	Continuity
Connector	Terminal		
M84	1		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-90, "Removal and Installation" (with Intelligent Key) or BCS-157, "Removal and Installation" (without Intelligent Key).
NO >> Repair or replace harness.

6. CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M84	3	M65*1 M68*2	18	Existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-90, "Removal and Installation" (with Intelligent Key) or BCS-157, "Removal and Installation" (without Intelligent Key).

NO >> Repair or replace harness.

7. CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

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

Optical sensor		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M84	2	M65*1 M68*2	14	Existed

*1: Without Intelligent Key

*2: With Intelligent Key

Is the inspection result normal?

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

8. CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optical sensor		Ground	Continuity
Connector	Terminal		
M84	2		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-90, "Removal and Installation" (with Intelligent Key) or BCS-157, "Removal and Installation" (without Intelligent Key).
NO >> Repair or replace harness.

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000009754517

1.CHECK FRONT FOG LAMP OPERATION

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

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

Is the measurement normal?

YES >> Front fog lamp circuit is normal.
NO >> Refer to EXL-74, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754518

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 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-46, "Intermittent Incident".
NO >> Repair or replace harness.

TURN SIGNAL LAMP CIRCUIT

Component Function Check

INFOID:0000000009754519

1.CHECK TURN SIGNAL LAMP

CONSULT ACTIVE TEST
1. Select “FLASHER” of BCM (FLASHER) active test item.
2. With operating the test items, check that the turn signal 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-76, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754520

1.CHECK TURN SIGNAL LAMP BULB

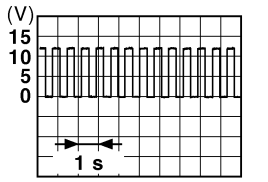
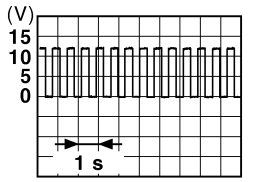
Check the applicable lamp bulb.

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				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-90, "Removal and Installation" (with Intelligent Key), BCS-157, "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:0000000009754521

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT

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

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

Is the inspection result normal?

YES >> Hazard switch circuit is normal.
NO >> Refer to EXL-79, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000009754522

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-90, "Removal and Installation" (With Intelligent Key) or BCS-157, "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:0000000009754523

NOTE:
Perform the self-diagnosis with CONSULT before 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 • IPDM E/R	Headlamp (HI) circuit Refer to EXL-52, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-88, "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 • IPDM E/R	Headlamp (LO) circuit Refer to EXL-54, "WITHOUT DAY-TIME RUNNING LIGHT SYSTEM : Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-89, "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.		• Halogen bulb • Harness between headlamp and ground	Headlamp ground circuit Refer to EXL-59, "WITHOUT DAY-TIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".
Headlamp is not turned ON/OFF with the lighting switch AUTO.		• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-88, "Symptom Table".
		• Optical sensor • Harness between optical sensor and BCM • BCM	Optical sensor Refer to EXL-71, "Component Function Check".
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between IPDM E/R and front fog lamp • IPDM E/R	Front fog lamp circuit Refer to EXL-74, "Component Function Check".
	Both side	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-91, "Diagnosis Procedure".	
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-65, "Component Function Check".

Symptom		Possible cause	Inspection item
Front side marker lamp is not turned ON.		• Front side marker lamp bulb • Harness between IPDM E/R and front side marker lamp	Front side marker lamp circuit Refer to EXL-67, "Component Function Check".
Parking lamp and front side marker lamp are not turned ON.		• Harness between IPDM E/R and parking lamp • IPDM E/R	Parking lamp circuit Refer to EXL-65, "Component Function Check".
Tail lamp is not turned ON.		• Tail lamp bulb • Harness between IPDM E/R and rear combination lamp	Tail lamp circuit Refer to EXL-68, "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-70, "Component Function Check".
Tail lamp and license plate lamp are not turned ON.		Harness between IPDM E/R and rear combination lamp	Tail lamp circuit Refer to EXL-68, "Component Function Check".
• Parking lamp, front side marker lamp, tail lamp and license plate lamp are not turned ON. • Parking lamp, front side marker lamp, tail lamp and license plate lamp are not turned OFF.		**Symptom diagnosis** “PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON” Refer to EXL-90, "Diagnosis Procedure".	
Tail lamp indicator is not turned ON. (Exterior lamps are turned ON.)		Combination meter	• Combination meter Data monitor “LIGHT IND” • BCM (HEADLAMP) Active test “TAIL LAMP”
Turn signal lamp does not blink.	Indicator lamp is 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-76, "Component Function Check".
	Indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-88, "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-50, "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-79, "Component Function Check".

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Symptom Table

INFOID:0000000009754524

EXCEPT FOR NISMO MODELS

NOTE:

Perform the self-diagnosis with CONSULT before 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 • IPDM E/R	Headlamp (HI) circuit Refer to EXL-52, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-88, "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 daytime running light relay 1 • Harness between daytime running light relay 1 and headlamp • Daytime running light relay 1 • IPDM E/R	Headlamp (LO) circuit Refer to EXL-55, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-89, "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.		• Halogen bulb • Harness between headlamp and daytime running light relay 2 • Harness between daytime running light relay 2 and ground • Daytime running light relay 2	Headlamp ground circuit Refer to EXL-59, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".
Daytime running light is not turned ON. [Headlamp (HI) is turned ON.]		• Fuse • Harness between IPDM E/R and daytime running light relay 2 • Daytime running light relay 2 • IPDM E/R • BCM • ECM • Combination meter	• Daytime running light relay circuit Refer to EXL-61, "Component Function Check". • BCM (HEADLAMP) Data monitor "ENGINE STATE" • Combination mete Data monitor "PKB SW" • BCM (HEADLAMP) Active test "DAYTIME RUNNING LIGHT"
Headlamps (both HI and LO) turn ON in the dimming status while daytime running light system is ON.		Daytime running light relay 1	Daytime running light relay 1 Refer to EXL-58, "WITH DAYTIME RUNNING LIGHT SYSTEM : Component Inspection".
Front fog lamp is not turned ON.	One side	• Front fog lamp bulb • Harness between IPDM E/R and front fog lamp • IPDM E/R	Front fog lamp circuit Refer to EXL-74, "Component Function Check".
	Both side	**Symptom diagnosis** "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-91, "Diagnosis Procedure".	
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-65, "Component Function Check".

Symptom		Possible cause	Inspection item
Front side marker lamp is not turned ON.		• Front side marker lamp bulb • Harness between IPDM E/R and front side marker lamp	Front side marker lamp circuit Refer to EXL-67, "Component Function Check".
Parking lamp and front side marker lamp are not turned ON.		• Harness between IPDM E/R and parking lamp • IPDM E/R	Parking lamp circuit Refer to EXL-65, "Component Function Check".
Tail lamp is not turned ON.		• Tail lamp bulb • Harness between IPDM E/R and rear combination lamp	Tail lamp circuit Refer to EXL-68, "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-70, "Component Function Check".
Tail lamp and license plate lamp are not turned ON.		Harness between IPDM E/R and rear combination lamp	Tail lamp circuit Refer to EXL-68, "Component Function Check".
• Parking lamp, front side marker lamp, tail lamp and license plate lamp are not turned ON. • Parking lamp, front side marker lamp, tail lamp and license plate lamp are not turned OFF.		**Symptom diagnosis** “PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON” Refer to EXL-90, "Diagnosis Procedure".	
Tail lamp indicator is not turned ON. (Exterior lamps are turned ON.)		Combination meter	• Combination meter Data monitor “LIGHT IND” • BCM (HEADLAMP) Active test “TAIL LAMP”
Turn signal lamp does not blink.	Indicator lamp is 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-76, "Component Function Check".
	Indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-88, "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-50, "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-79, "Component Function Check".

FOR NISMO MODELS

NOTE:

Perform the self-diagnosis with CONSULT before 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 • IPDM E/R	Headlamp (HI) circuit Refer to EXL-52, "Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to EXL-88, "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 • IPDM E/R	Headlamp (LO) circuit Refer to EXL-54, "WITHOUT DAY-TIME RUNNING LIGHT SYSTEM : Component Function Check".
	Both sides	**Symptom diagnosis** "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-89, "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.		• Halogen bulb • Harness between headlamp and ground	Headlamp ground circuit Refer to EXL-59, "WITHOUT DAY-TIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".
Daytime running light is not turned ON.		• Fuse • Daytime running light • Harness between IPDM E/R and daytime running light • IPDM E/R	Daytime running light circuit Refer to EXL-63, "Component Function Check".
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-65, "Component Function Check".
Front side marker lamp is not turned ON.		• Front side marker lamp bulb • Harness between IPDM E/R and front side marker lamp	Front side marker lamp circuit Refer to EXL-67, "Component Function Check".
Parking lamp and front side marker lamp are not turned ON.		• Harness between IPDM E/R and parking lamp • IPDM E/R	Parking lamp circuit Refer to EXL-65, "Component Function Check".
Tail lamp is not turned ON.		• Tail lamp bulb • Harness between IPDM E/R and rear combination lamp	Tail lamp circuit Refer to EXL-68, "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-70, "Component Function Check".
Tail lamp and license plate lamp are not turned ON.		Harness between IPDM E/R and rear combination lamp	Tail lamp circuit Refer to EXL-68, "Component Function Check".
• Parking lamp, front side marker lamp, tail lamp and license plate lamp are not turned ON. • Parking lamp, front side marker lamp, tail lamp and license plate lamp are not turned OFF.		**Symptom diagnosis** "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-90, "Diagnosis Procedure".	

Symptom		Possible cause	Inspection item
Tail lamp indicator is not turned ON. (Exterior lamps are turned ON.)		Combination meter	• Combination meter Data monitor “LIGHT IND” • BCM (HEADLAMP) Active test “TAIL LAMP”
Turn signal lamp does not blink.	Indicator lamp is 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-76, "Component Function Check".
	Indicator lamp is included.	• Combination switch • Harness between combination switch and BCM • BCM	Combination switch Refer to BCS-88, "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-50, "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-79, "Component Function Check".

NORMAL OPERATING CONDITION

Description

INFOID:0000000009754525

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

INFOID:0000000009754526

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

Diagnosis Procedure

INFOID:0000000009754527

1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-88, "Symptom Table".

Is the inspection result normal?

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

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

CONSULT DATA MONITOR
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 >> Replace IPDM E/R.
NO >> Replace BCM. Refer to BCS-90, "Removal and Installation" (with Intelligent Key), BCS-157, "Removal and Installation" (without Intelligent Key).

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

INFOID:0000000009754528

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

Diagnosis Procedure

INFOID:0000000009754529

1.CHECK COMBINATION SWITCH

Check the combination switch. Refer to BCS-88, "Symptom Table".

Is the inspection result normal?

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

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

CONSULT DATA MONITOR
1. Select “HL LO REQ” 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 >> Replace IPDM E/R.
NO >> Replace BCM. Refer to BCS-90, "Removal and Installation" (with Intelligent Key), BCS-157, "Removal and Installation" (without Intelligent Key).

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

Description

INFOID:0000000009754530

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

Diagnosis Procedure

INFOID:0000000009754531

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-88, "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 DATA MONITOR
1. Select “TAIL & CLR REQ” of IPDM E/R data monitor item.
2. With operating the lighting switch, check the monitor status.

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

Is the item status normal?

YES >> Replace IPDM E/R.
NO >> Replace BCM. Refer to BCS-90, "Removal and Installation" (with Intelligent Key), BCS-157, "Removal and Installation" (without Intelligent Key).

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

INFOID:0000000009754532

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

Diagnosis Procedure

INFOID:0000000009754533

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-88, "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 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-90, "Removal and Installation" (with Intelligent Key), BCS-157, "Removal and Installation" (without Intelligent Key).

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Description

INFOID:0000000009754534

PREPARATION BEFORE ADJUSTING

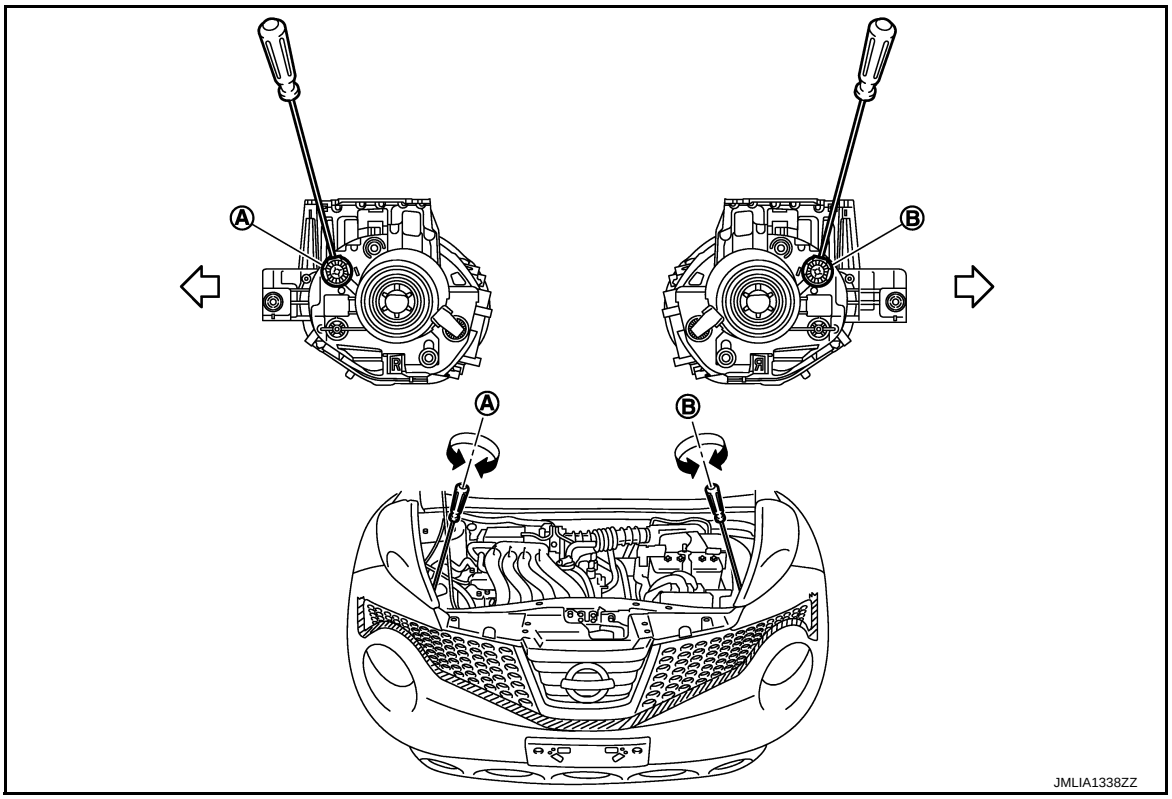
NOTE:

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

Before performing aiming adjustment, check the following.

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

AIMING ADJUSTMENT SCREW



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

⇦ : Vehicle center

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

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

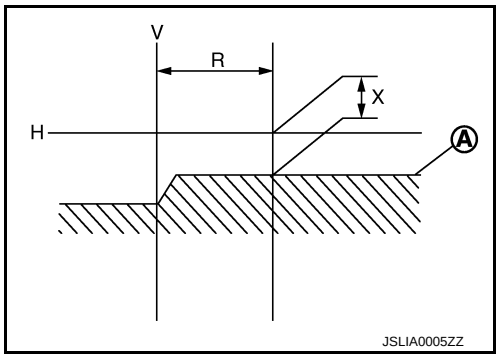
Aiming Adjustment Procedure

INFOID:0000000009754535

1. Place the screen.
   NOTE:
   - Stop the vehicle facing the wall.
   - Place the board on a plain road vertically.
2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the headlamp center and the screen.
3. Start the engine. Turn the headlamp (LO) ON.
   NOTE:
   Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.
   CAUTION:
   Never cover the lens surface with a tape etc. The lens is made of resin.
4. Measure the distance (X) between the horizontal center line of headlamp (H) and the cutoff line (A) within the light axis measurement range (R) from the vertical center line ahead of headlamp (V).

Light axis measurement range (R) : 350 ± 175 mm (13.78 ± 6.89 in)

Low beam distribution on the screen

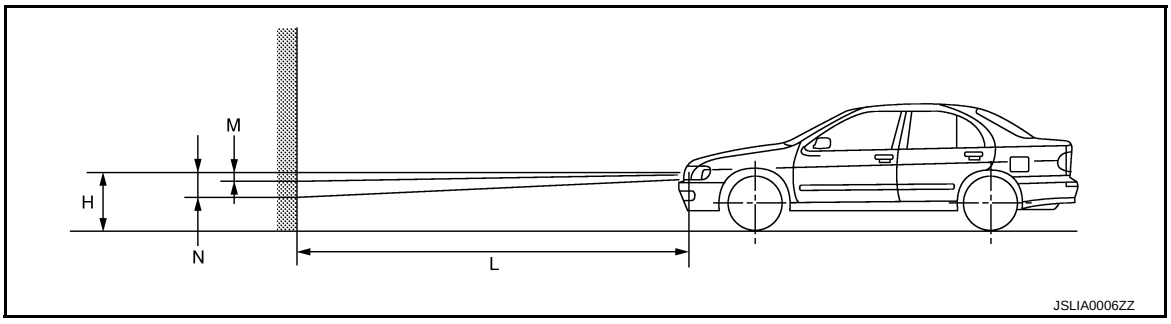


5. Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

unit: mm (in)

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

Side view



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

FRONT FOG LAMP AIMING ADJUSTMENT

Description

INFOID:0000000009754536

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.

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

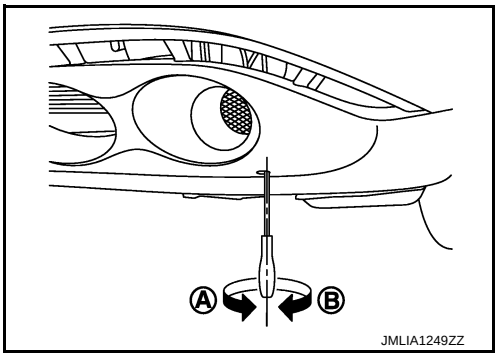
AIMING ADJUSTMENT SCREW

- Turn the aiming adjusting screw for adjustment.

  A: UP

  B: DOWN

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

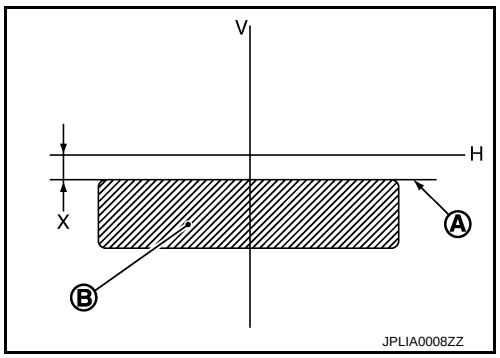


Aiming Adjustment Procedure

INFOID:0000000009754537

1. Place the screen.
   NOTE:
   - Stop the vehicle facing the wall.
   - Place the board on a plain road vertically.
2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.
3. Start the engine. Turn the front fog lamp ON.
   NOTE:
   Shut off the headlamp light with the board to prevent from illuminating the adjustment screen.
   CAUTION:
   Never cover the lens surface with a tape etc. The lens is made of resin.
4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 150 mm (5.91 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

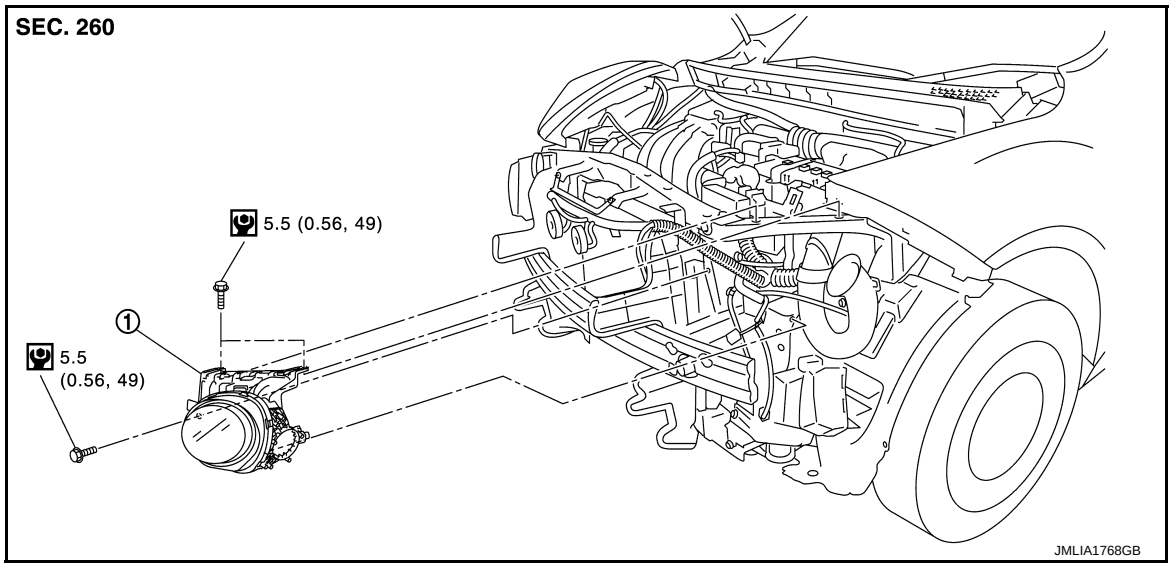
REMOVAL AND INSTALLATION

HEADLAMP

Exploded View

INFOID:0000000009754538

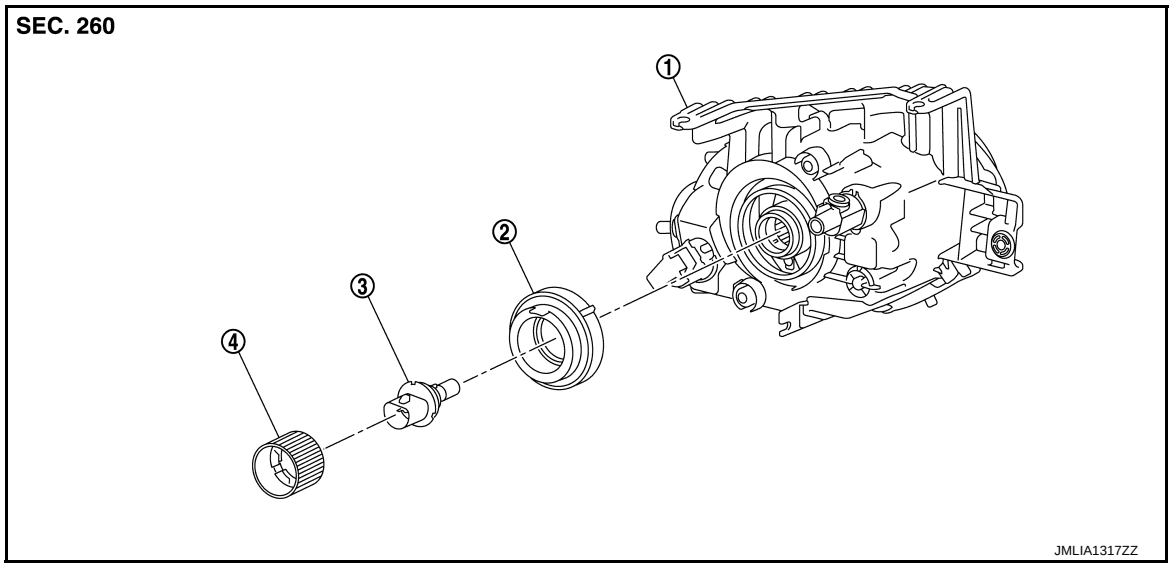
REMOVAL



1. Headlamp assembly

: N·m (kg-m, in-lb)

DISASSEMBLY



1. Headlamp housing assembly
2. Cap
3. Halogen bulb
4. Bulb holder

Removal and Installation

INFOID:0000000009754539

CAUTION:
Disconnect the battery negative terminal or the fuse.

REMOVAL

1. Remove front bumper fascia. Refer to EXT-15, "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-92, "Description".

Replacement

INFOID:0000000009754540

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 bulb holder.
3. Remove halogen bulb from the headlamp housing assembly.

Disassembly and Assembly

INFOID:0000000009754541

DISASSEMBLY

1. Remove back cover.
2. Remove bulb holder.
3. Remove halogen bulb from the headlamp housing assembly.

ASSEMBLY

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

CAUTION:

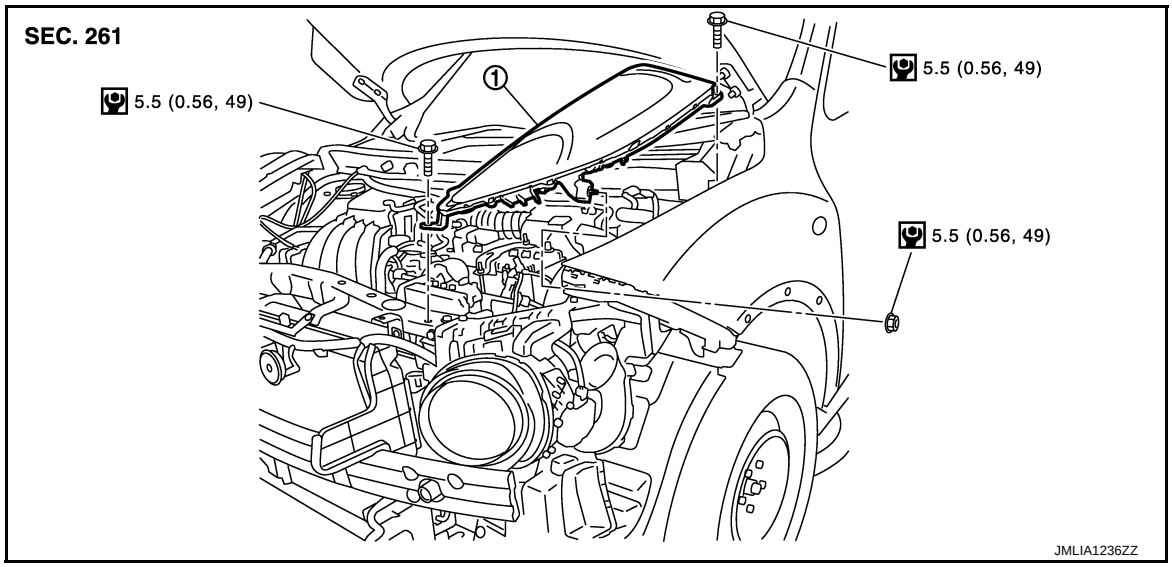
After installing the bulb, install the resin cap and the bulb socket securely for watertightness.

FRONT COMBINATION LAMP

Exploded View

INFOID:0000000009754542

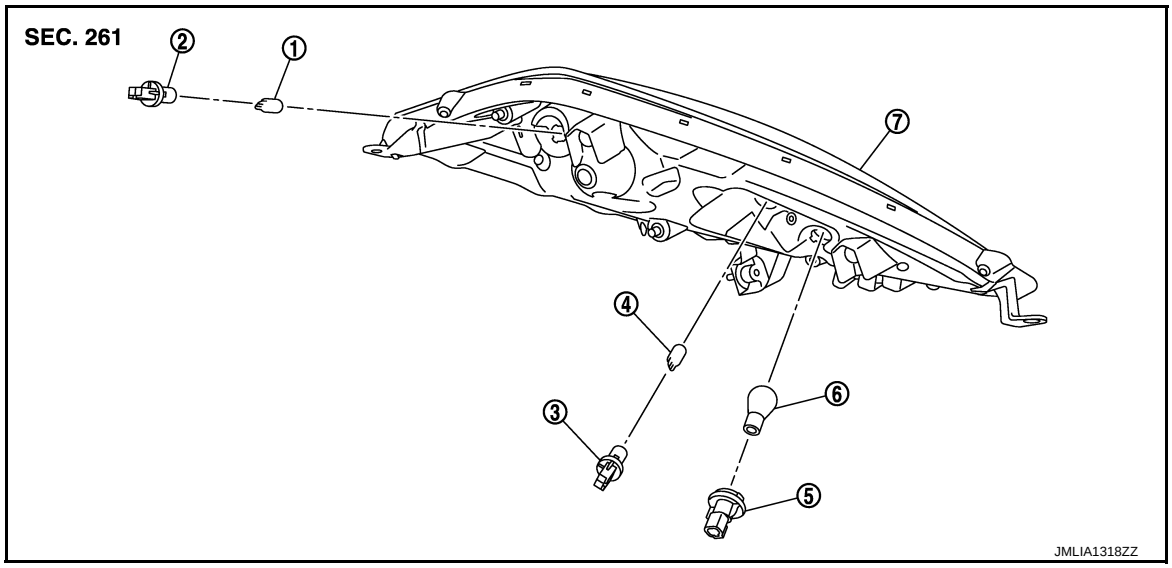
REMOVAL



1. Front combination lamp

: N·m (kg-m, in-lb)

DISASSEMBLY



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

Removal and Installation

INFOID:0000000009754543

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

REMOVAL

1. Remove front bumper fascia. Refer to EXT-15, "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:0000000009754544

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 MARKER LAMP BULB

1. Rotate the front marker lamp bulb socket counterclockwise and unlock it.
2. Remove the front marker 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:0000000009754545

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 marker lamp bulb socket counterclockwise and unlock it.
4. Remove the front marker lamp bulb from the bulb socket.
5. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
6. 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.

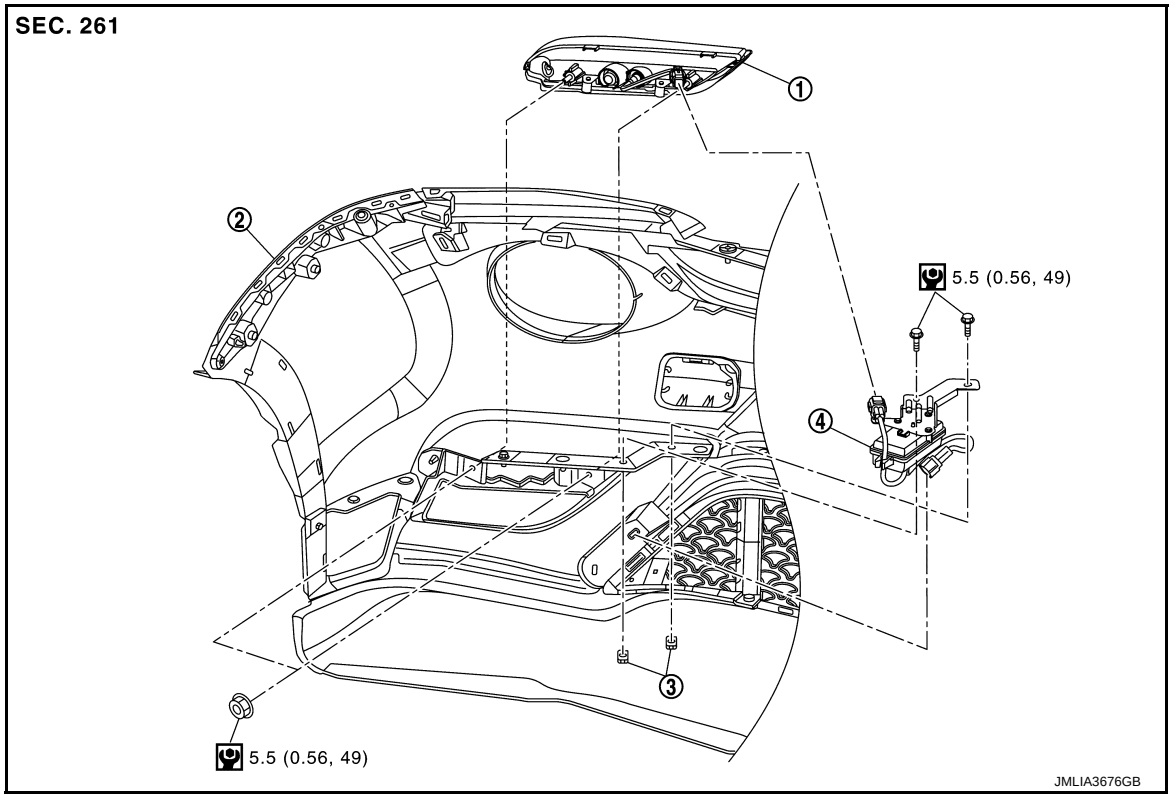
CAUTION:

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

DAYTIME RUNNING LIGHT

Exploded View

INFOID:0000000009754546



1. Daytime running light
2. Front bumper fascia assembly
3. U nut
4. Harness connector assembly

N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000009754547

CAUTION:
Disconnect the battery negative terminal or remove the fuse to prevent electric leakage.

REMOVAL

1. Remove front bumper fascia lower. Refer to EXT-15, "Removal and Installation".
2. Disconnect daytime running light harness connector.
3. Remove daytime running light mounting nuts.
4. Remove daytime running light from front bumper fascia lower.

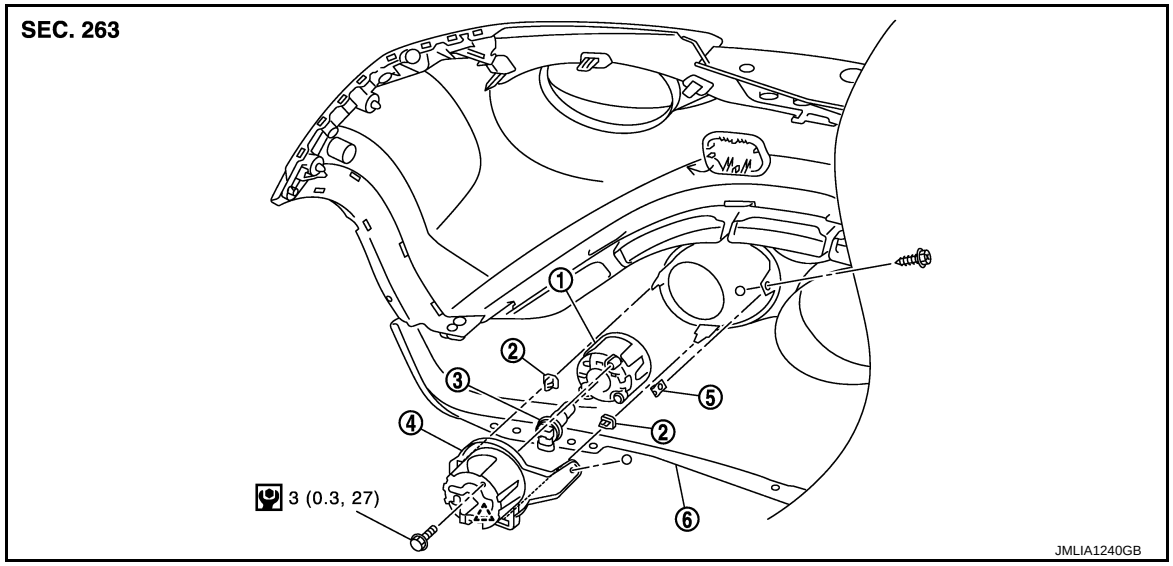
INSTALLATION

Install in the reverse order of removal.

FRONT FOG LAMP

Exploded View

INFOID:0000000009754548



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

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000009754549

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

REMOVAL

1. Remove fender protector. Keep the service area. Refer to EXT-27, "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-94, "Description"

Replacement

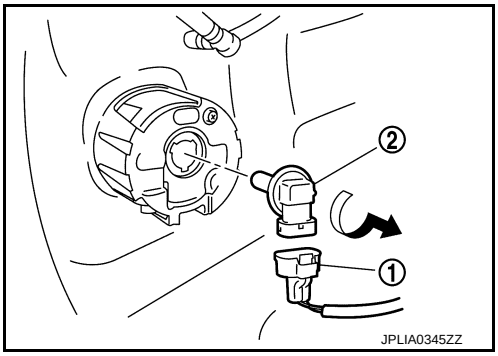
INFOID:0000000009754550

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

FRONT FOG LAMP BULB

1. Remove fender protector. Keep the service area. Refer to EXT-27, "Removal and Installation".

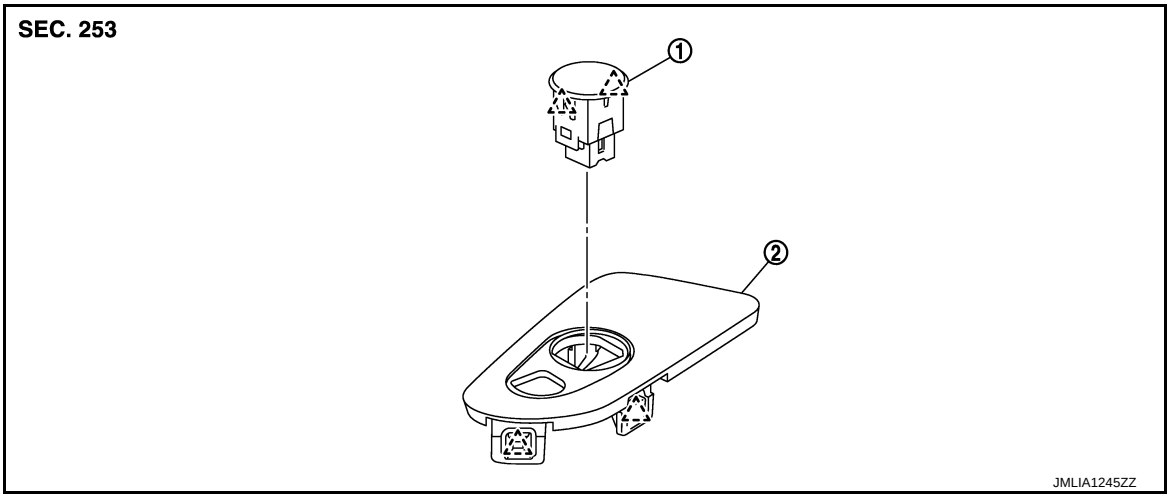
2. Remove front fog lamp bulb connector (1).
3. Rotate the bulb (2) counterclockwise and unlock it.



OPTICAL SENSOR

Exploded View

INFOID:0000000009754551



1. Optical sensor
2. Switch panel

: Pawl

Removal and Installation

INFOID:0000000009754552

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000009754553

REMOVAL

Remove light & turn signal switch. Refer to BCS-91, "Removal and Installation".

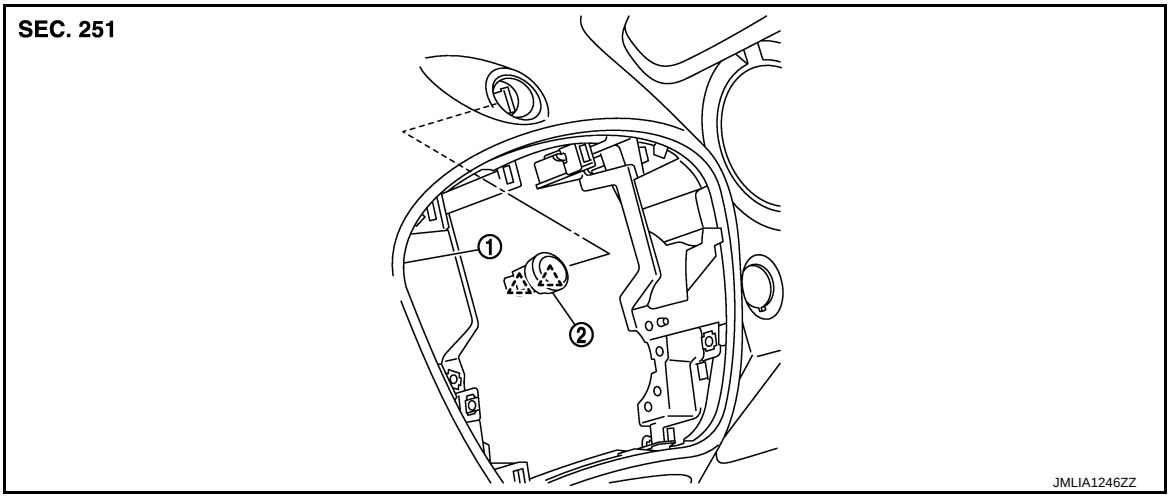
INSTALLATION

Install in the reverse order of removal.

HAZARD SWITCH

Exploded View

INFOID:0000000009754554



1. Instrument panel assembly
2. Hazard switch

: Pawl

Removal and Installation

INFOID:0000000009754555

REMOVAL

1. Remove audio unit. Refer to AV-68, "Removal and Installation".
2. Disengage fixing pawls, and then remove hazard switch from instrument panel inside to outside.

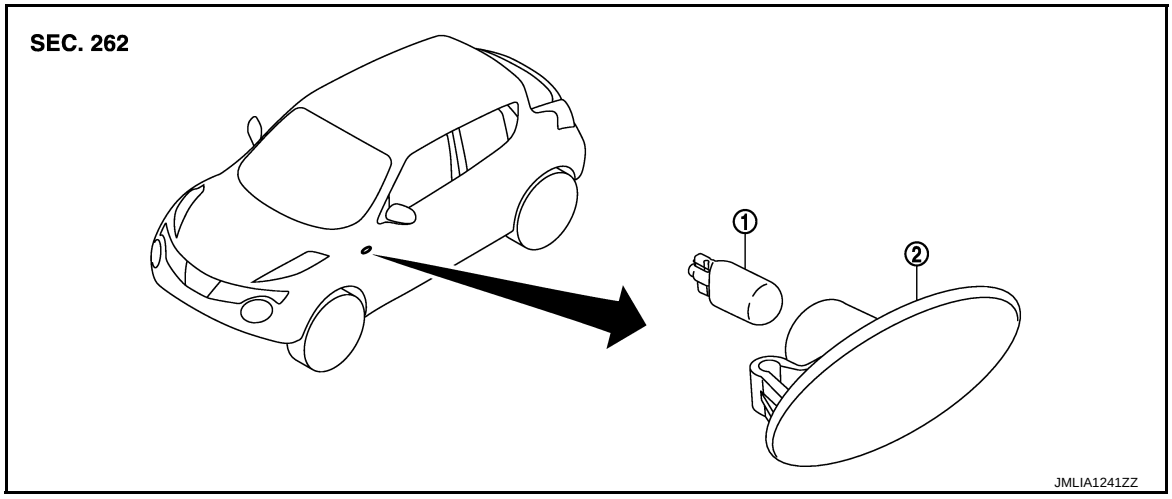
INSTALLATION

Install in the reverse order of removal.

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:0000000009754556



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

Removal and Installation

INFOID:0000000009754557

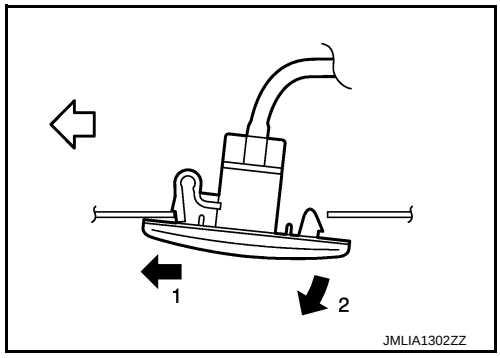
CAUTION:
Disconnect battery negative terminal or remove the fuse.

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:0000000009754558

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.**

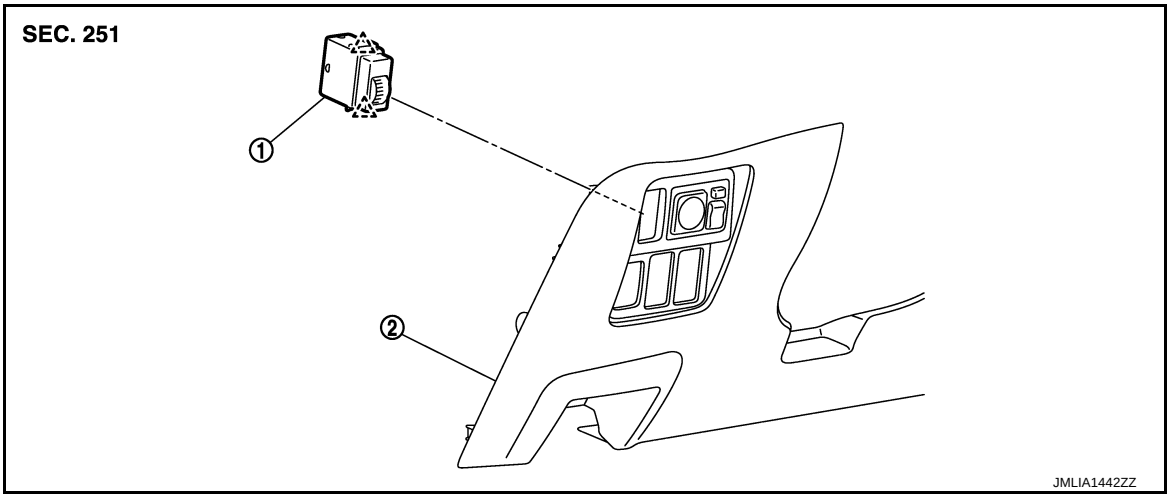
SIDE TURN SIGNAL LAMP BULB

1. Remove side turn signal lamp. Refer to EXL-106, "Removal and Installation".
2. Remove bulb from the bulb socket.

HEADLAMP AIMING SWITCH

Exploded View

INFOID:0000000009754559



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

: Pawl

Removal and Installation

INFOID:0000000009754560

REMOVAL

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

INSTALLATION

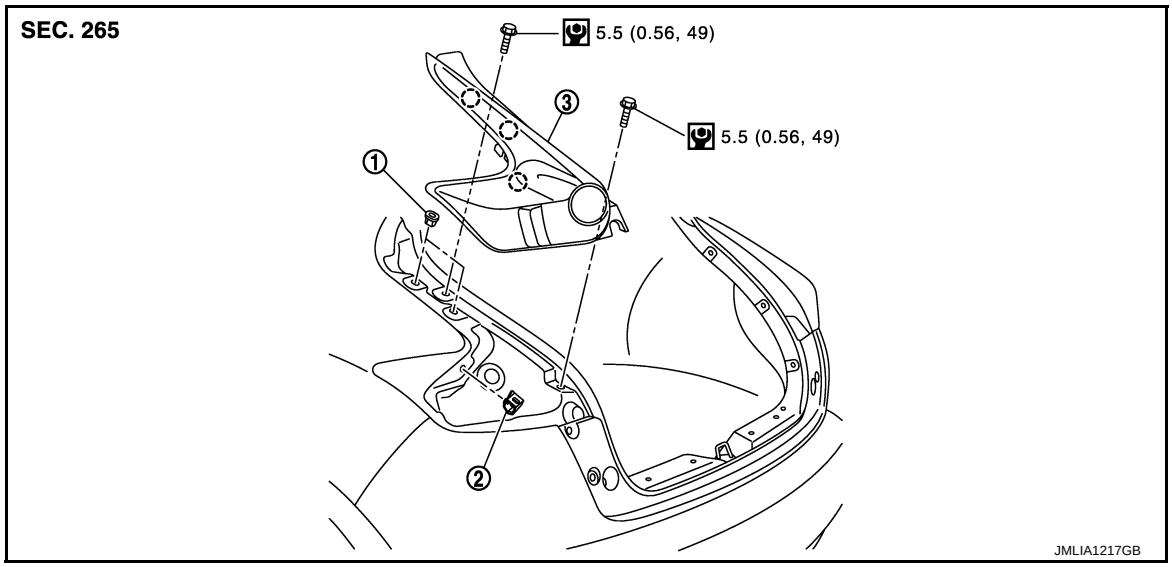
Install in the reverse order of removal.

REAR COMBINATION LAMP

Exploded View

INFOID:0000000009754561

REMOVAL

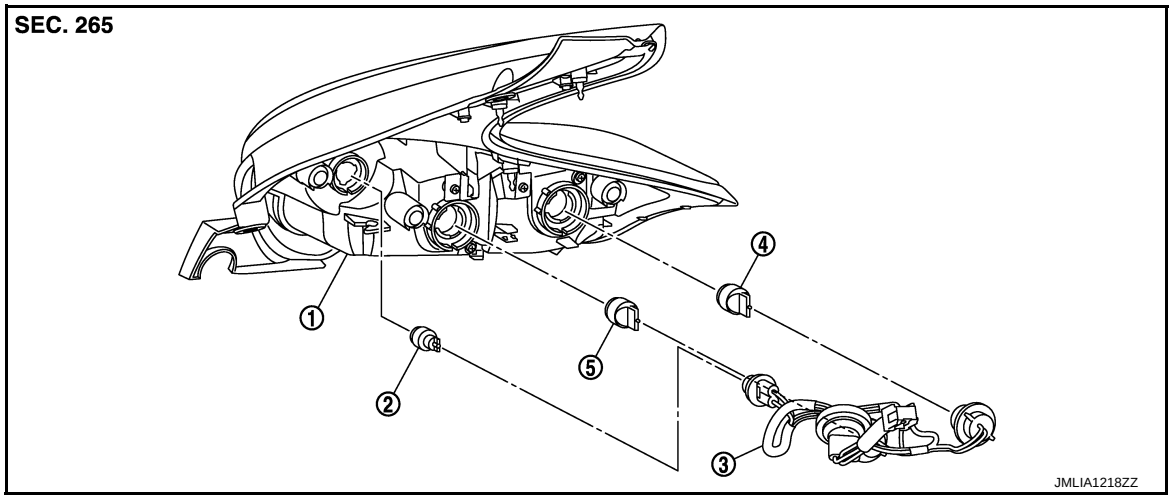


1. Grommet
2. Grommet
3. Rear combination lamp

: 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 signal/tail lamp bulb
5. Stop lamp bulb

Removal and Installation

INFOID:0000000009754562

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-35, "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:0000000009754563

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.**

REAR TURN SIGNAL/TAIL LAMP BULB

1. Remove rear combination lamp assembly. Refer to EXL-108, "Removal and Installation".
2. Rotate rear turn signal/tail lamp bulb socket counterclockwise, and then remove rear turn signal/tail lamp bulb socket.
3. Remove rear turn signal/tail lamp bulb from rear turn signal/tail lamp bulb socket.

STOP LAMP BULB

1. Remove rear combination lamp assembly. Refer to EXL-108, "Removal and Installation".
2. Rotate stop lamp bulb socket counterclockwise, and then remove stop lamp bulb socket.
3. Remove stop lamp bulb from stop lamp bulb socket.

BACK-UP LAMP BULB

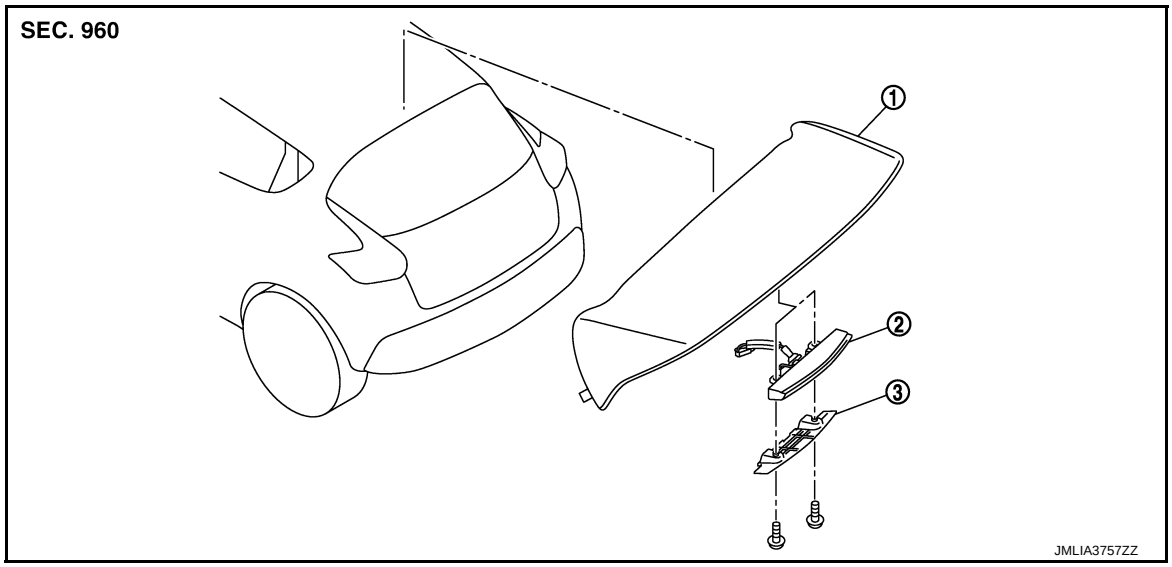
1. Remove rear combination lamp assembly. Refer to EXL-108, "Removal and Installation".
2. Rotate back-up lamp bulb socket counterclockwise, and then remove back-up lamp bulb socket.
3. Remove back-up lamp bulb from back-up lamp bulb socket.

HIGH-MOUNTED STOP LAMP

Exploded View

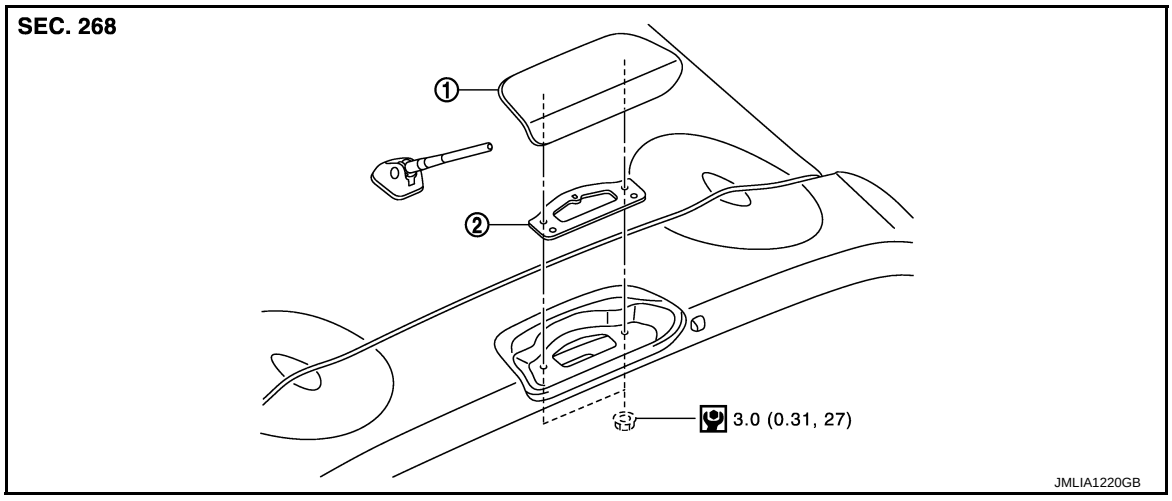
INFOID:0000000009754564

NISMO MODELS



1. Rear spoiler
2. High-mounted stop lamp
3. High-mounted stop lamp cover

EXCEPT NISMO MODELS



1. High-mounted stop lamp
2. Seal packing

: N·m (kg-m, in-lb)

Removal and Installation

INFOID:0000000009754565

CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

NISMO MODELS

1. Remove rear spoiler. Refer to EXT-46, "Removal and Installation".
2. Remove high-mounted stop lamp cover mounting bolts and remove the cover.

3. Remove high-mounted stop lamp harness connector from rear spoiler.
4. Pull out high-mounted stop lamp, and then remove high-mounted stop lamp.

EXCEPT NISMO MODELS

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 harness connector.
3. Pull high-mounted stop lamp toward vehicle upside, and then remove high-mounted stop lamp.

INSTALLATION

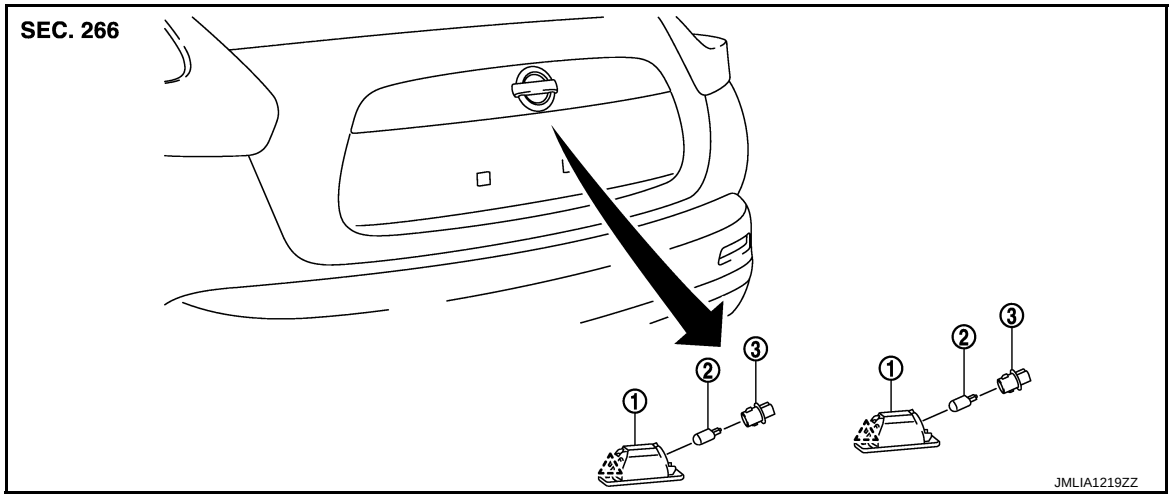
Note the following item and then, install in the reverse order of removal.

CAUTION:
Seal packing cannot be reused.

LICENSE PLATE LAMP

Exploded View

INFOID:0000000009754566



1. License plate lamp housing assembly
2. Bulb
3. License plate lamp bulb socket

: Pawl

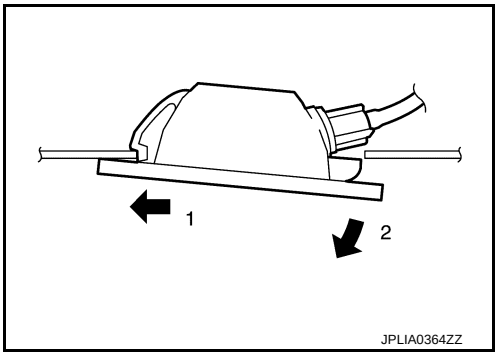
Removal and Installation

INFOID:0000000009754567

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:0000000009754568

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

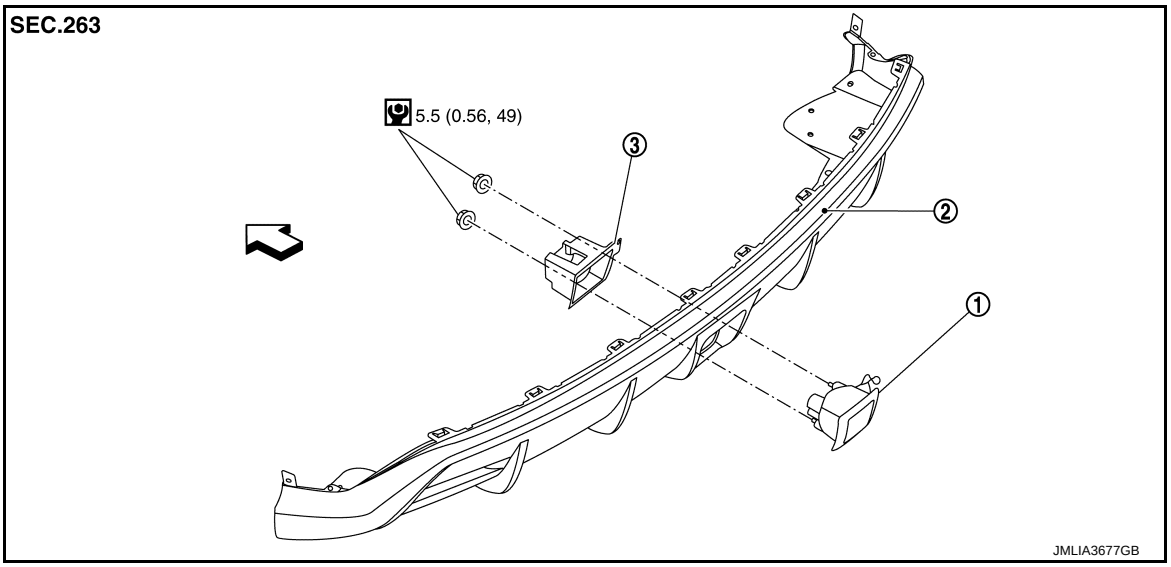
1. Remove license plate lamp.
2. Rotate the bulb socket counterclockwise and unlock it.
3. Remove the bulb from the socket.

REAR FOG LAMP

Exploded View

INFOID:0000000009754569

REMOVAL



1. Rear fog lamp housing
2. Rear bumper fascia lower
3. Rear fog lamp housing bracket

N·m (kg-m, in-lb)

: Vehicle front

Removal and Installation

INFOID:0000000009754570

CAUTION:
Disconnect battery negative terminal or remove the fuse.

REMOVAL

1. Remove rear bumper fascia lower. Refer to EXT-20, "Removal and Installation".
2. Remove rear fog lamp housing mounting nuts.
3. Remove rear fog lamp housing from the rear bumper fascia lower.
4. Remove rear fog lamp housing bracket from rear bumper fascia lower.

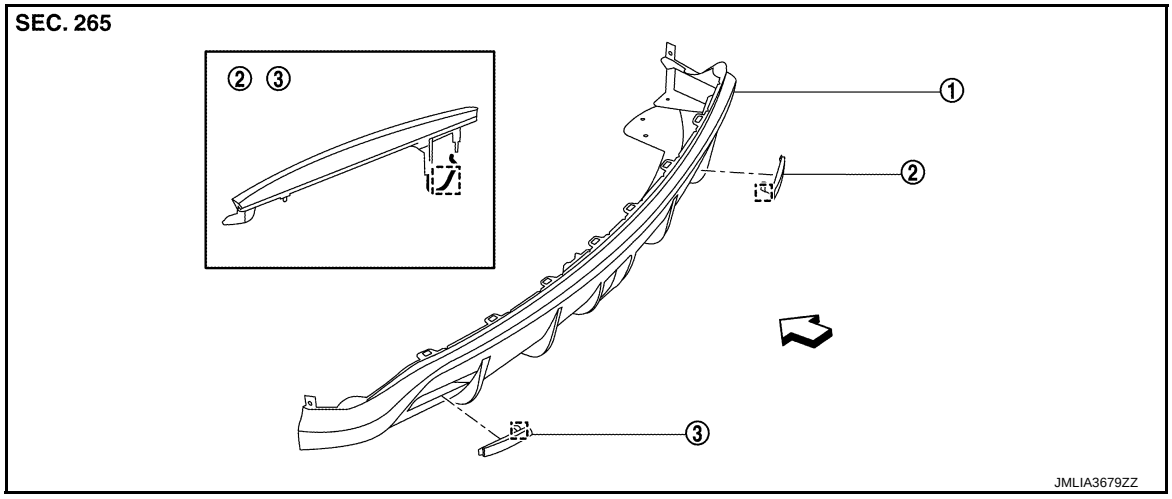
INSTALLATION

Installation is the reverse order of removal.

REAR REFLEX REFLECTOR

Exploded View

INFOID:0000000009754571



1. Rear bumper fascia lower
2. Rear reflex reflector RH
3. Rear reflex reflector LH

: Metal clip

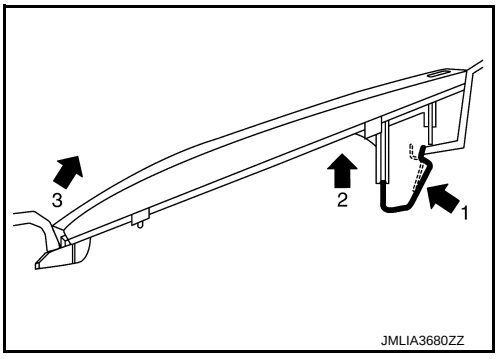
: Vehicle front

Removal and Installation

INFOID:0000000009754572

REMOVAL

1. Remove rear bumper fascia lower. Refer to EXT-20, "Removal and Installation".
2. Disengage rear reflex reflector fixing metal clip and then remove rear reflex reflector according to the numerical order 1→3 as shown in the figure.



INSTALLATION

Install in the reverse order of removal.

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000009754573

Item		Type	Wattage (W)
Headlamp (HI/LO)		HB5	65/55
Front combination lamp	Front turn signal lamp	PY21W (Amber)	21
	Parking lamp	WY5W (Amber)	5
	Front marker lamp	12V3.8W	3.8
Front fog lamp		H8	35
Side turn signal lamp		WY5W (Amber)	5
Rear combination lamp	Rear turn signal lamp/Tail lamp	W21/5W	21/5
	Stop lamp	W21W	21
	Back-up lamp	W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	—