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< PRECAUTION > PRECAUTION PRECAUTIONS FOR USA AND CANADA

FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

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

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

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

FOR USA AND CANADA : Precautions For Xenon Headlamp Service

WARNING:

Comply with the following warnings to prevent any serious accident.

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

CAUTION:

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

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

FOR USA AND CANADA : Precaution for Battery Service

INFOID:000000005568566

INFOID:000000005568564

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the

PRECAUTIONS

< PRECAUTION >

window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

FOR MEXICO

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the "SRS AIR BAG".
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

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

FOR MEXICO : Precautions For Xenon Headlamp Service

WARNING:

- Comply with the following warnings to prevent any serious accident.
- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector. (Turning it ON outside the lamp case may cause fire or visual impairments.)

• Never touch the bulb glass immediately after turning it OFF. It is extremely hot.

CAUTION:

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

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

FOR MEXICO : Precaution for Battery Service

INFOID:000000005568567

INFOID:000000005568565

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

[XENON TYPE]

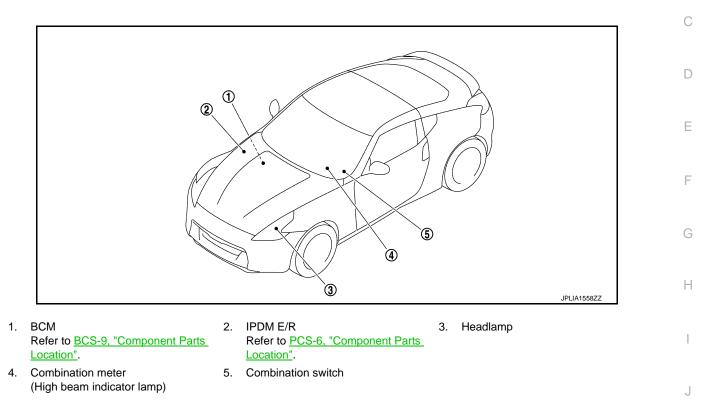
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SYSTEM DESCRIPTION > SYSTEM DESCRIPTION > COMPONENT PARTS HEADLAMP SYSTEM

HEADLAMP SYSTEM : Component Parts Location



HEADLAMP SYSTEM : Component Description

INFOID:000000005233693

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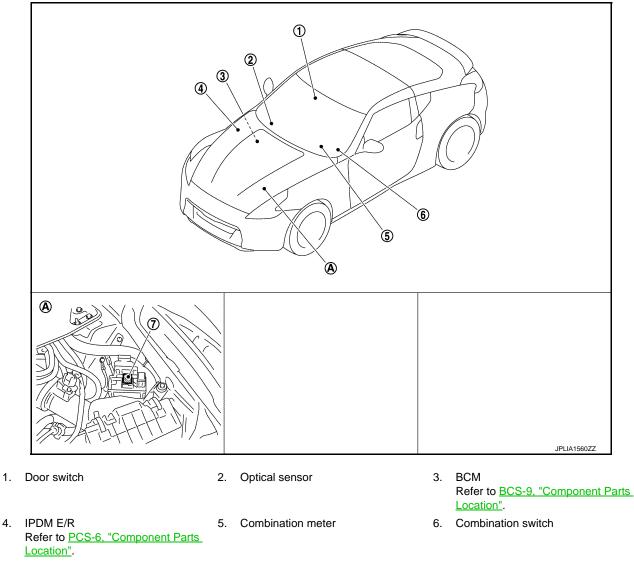
Pa	art	Description
BCM		 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter (with CAN communication).
IPDM E/R		Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)		Refer to <u>BCS-10, "System Diagram"</u> .
Combination meter (High beam indicator	lamp)	Turns the high beam indicator lamp ON according to the request from BCM (with CAN communication).
Headlamp assembly	HID control unitXenon bulb	Refer to <u>EXL-85, "Description"</u> .
	High beam solenoid	Refer to EXL-81, "Description".

< SYSTEM DESCRIPTION >

AUTO LIGHT SYSTEM : Component Parts Location

INFOID:000000005233696

[XENON TYPE]



- 7. Daytime running light relay
- A. Engine room (LH)

AUTO LIGHT SYSTEM : Component Description

INFOID:000000005233697

Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
Optical sensor	Refer to EXL-97, "Description".

DAYTIME RUNNING LIGHT SYSTEM

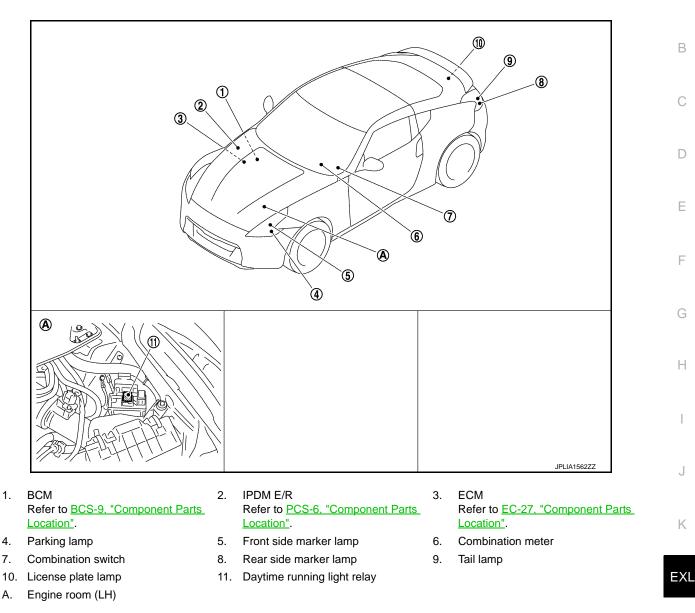
< SYSTEM DESCRIPTION >

[XENON TYPE]

DAYTIME RUNNING LIGHT SYSTEM : Component Parts Location

INFOID:000000005233700

А



DAYTIME RUNNING LIGHT SYSTEM : Component Description

Part Description Ν · Detects each switch condition with the combination switch reading function. BCM Judges each lamps ON/OFF condition according to the vehicle condition. Requests the each relay ON to IPDM E/R (with CAN communication). Controls the integrated relay and supplies voltage to the load according to the request from BCM IPDM E/R (with CAN communication). Combination switch Refer to BCS-10, "System Diagram". Ρ (Lighting & turn signal switch) ECM Transmits the engine status signal to BCM with CAN communication. Combination meter Transmits the parking brake switch signal to BCM with CAN communication.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : Component Parts Loca-

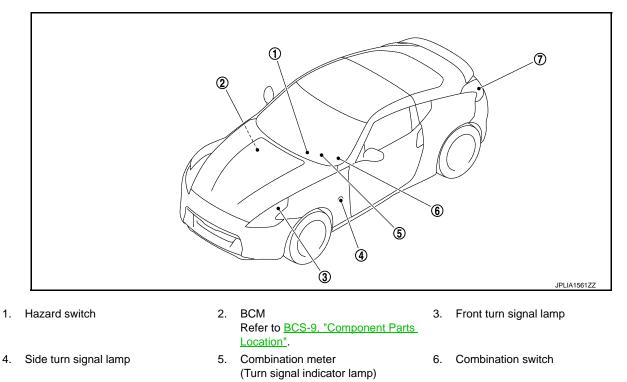
EXL-9

INFOID:000000005233701

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< SYSTEM DESCRIPTION >

INFOID:000000005233704



7. Rear turn signal lamp

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : Component Description

INFOID:000000005233705

Part	Description
ВСМ	 Detects each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-10, "System Diagram".
Hazard switch	Inputs the hazard switch ON/OFF signal to BCM.
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (with CAN communication).

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

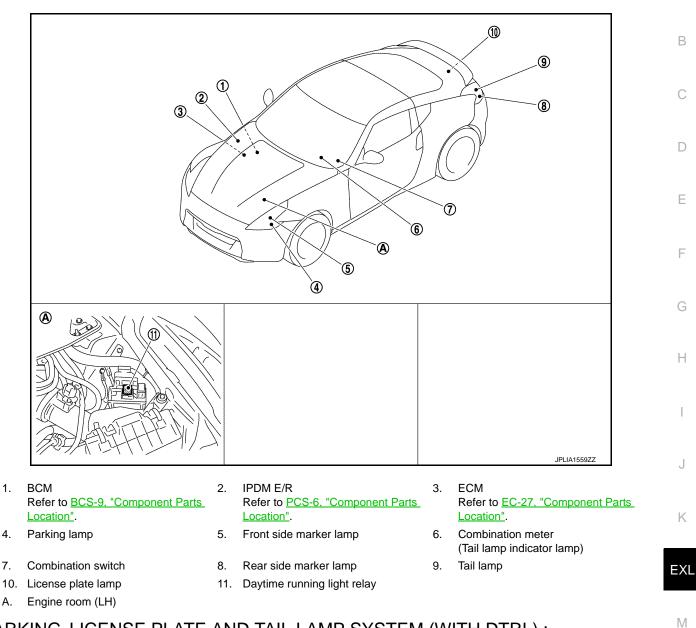
PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) : Component

< SYSTEM DESCRIPTION >

Parts Location

[XENON TYPE]

INFOID:000000005233712



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

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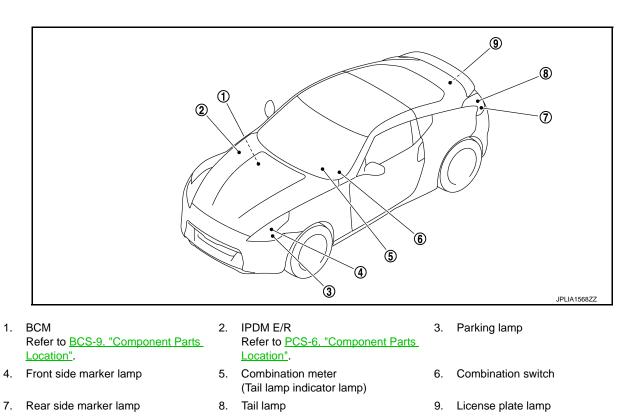
Part	Description
ВСМ	 Detects each switch condition by the combination switch reading function. Judges the ON/OFF status of the parking, license plate, tail and side marker lamps according to the vehicle condition. Requests the daytime running light relay and tail lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	 Controls the daytime running light relay and supplies voltage to the load according to the request from BCM (with CAN communication). Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).

< SYSTEM DESCRIPTION >

Part	Description
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM (with CAN communication).

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

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL) : Component Parts Location



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

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

REAR FOG LAMP SYSTEM

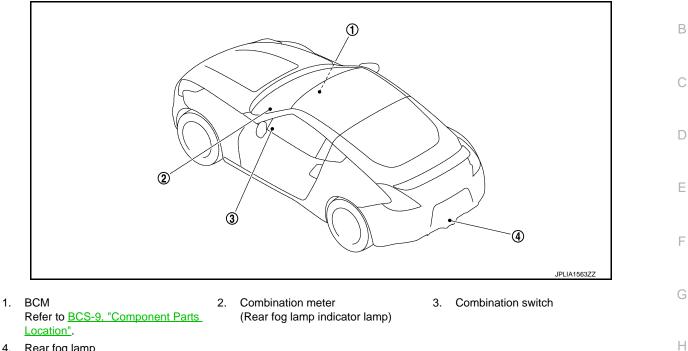
< SYSTEM DESCRIPTION >

REAR FOG LAMP SYSTEM : Component Parts Location

[XENON TYPE]

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А



4. Rear fog lamp

REAR FOG LAMP SYSTEM : Component Description

INFOID:000000005233717

Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges that the rear fog lamp is turned ON according to the vehicle status Supplies voltage to the rear fog lamp Requests the rear fog lamp indicator lamp ON to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-10, "System Diagram"</u> .
Combination meter (Rear fog lamp indicator lamp)	Turns the rear fog lamp indicator lamp ON according to the request from BCM (with CAN communication).

EXTERIOR LAMP BATTERY SAVER SYSTEM

Μ

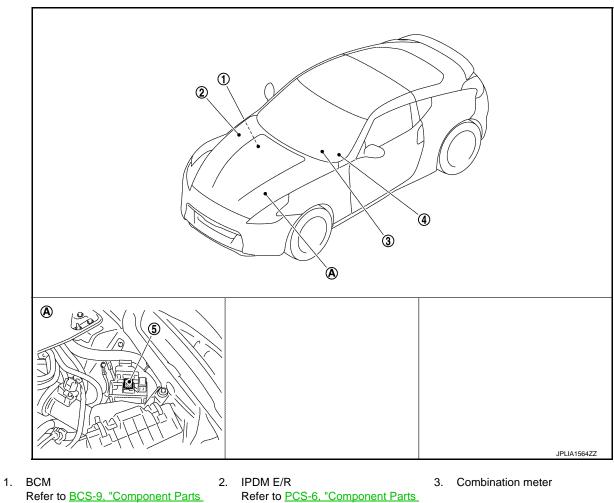
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< SYSTEM DESCRIPTION >

[XENON TYPE]

EXTERIOR LAMP BATTERY SAVER SYSTEM : Component Parts Location

INFOID:000000005233720

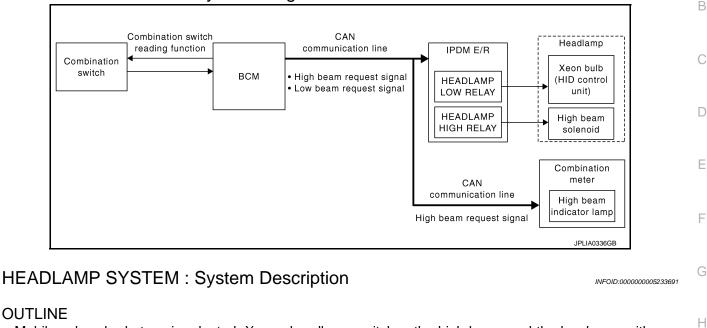


- Refer to BCS-9, "Component Parts Location".
- Location". 5. Daytime running light relay
- 4. Combination switch A. Engine room (LH)
- EXTERIOR LAMP BATTERY SAVER SYSTEM : Component Description INFOLD CODECODOD233721

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

SYSTEM

< SYSTEM DESCRIPTION >



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

HEADLAMP BASIC OPERATION

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

Headlamp ON condition

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

HEADLAMP HI/LO SWITCHING OPERATION

Μ BCM transmits the high beam request signal to IPDM E/R and the combination meter with CAN communication according to the high beam switching condition.

High beam switching condition

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

EXL-15

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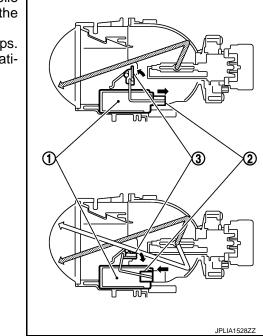
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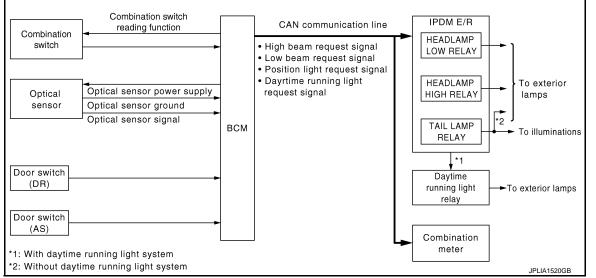
< SYSTEM DESCRIPTION >

- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (3) is switched to the high beam position through the actuator rod (2).
- When the headlamp high relay is turned OFF, the current stops. The mobile valve shade returns to the low beam position automatically.



AUTO LIGHT SYSTEM





AUTO LIGHT SYSTEM : System Description

OUTLINE

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

Control by BCM

- Combination switch reading function
- Headlamp control function
- Auto light function
- Delay timer function

Control by IPDM E/R

- Relay control function
- Auto light system has the auto light function and the delay timer function.

INFOID:000000005233694

INFOID:000000005233695

Revision: 2009 July

EXL-16

< SYSTEM DESCRIPTION >

- Auto light function turns the exterior lamps* and each illumination ON/OFF automatically according to the outside brightness.	А
 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, side marker lamp and tail lamp (Headlamp HI depend on the combination switch condition.)	В
AUTO LIGHT FUNCTIONBCM detects the combination switch condition with the combination switch reading function.	С
 BCM supplies voltage to optical sensor when the ignition switch is turned ON or ACC. Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM. BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior 	D
lamp and each illumination according to the outside brightness.BCM transmits each request signal to IPDM E/R with CAN communication according to ON/OFF condition	
by the auto light function.	Е
ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT-III. Refer	
to <u>EXL-24, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)"</u> . DELAY TIMER FUNCTION	F
BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the igni-	
 tion switch is turned OFF. Turns the exterior lamp OFF 5 minutes after detecting that any door opens (Door switch ON). 	G
• Turns the exterior lamp OFF a certain period of time* after closing all doors (Door switch ON→OFF).	
 Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF. *: The preset time is 45 seconds. The timer operating time can be set by CONSULT-III. Refer to <u>EXL-24</u>, "HEADLAMP : CONSULT-III Function (BCM - HEAD LAMP)". 	Н
NOTE: When any position other than the light switch AUTO is set, the auto light system function switches to the exte-	
rior lamp battery saver function. DAYTIME RUNNING LIGHT SYSTEM	1
	J
DAYTIME RUNNING LIGHT SYSTEM : System Diagram	0
Combination switch CAN IPDM E/R Headlamp	K
CAN • Low beam request signal	EXL
ECM Engine status signal BCM DAYTIME	
RUNNING Parking lamp	ъл
License plate lamp	Μ
Combination Tail lamp	

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DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000005233699

Side marker lamp

OUTLINE

- Turns the following exterior lamps ON as the daytime running light.
- Headlamp (LO)
- Parking, tail, license plate and side marker lamps.

Parking brake switch

signal

• 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

[XENON TYPE]

< SYSTEM DESCRIPTION >

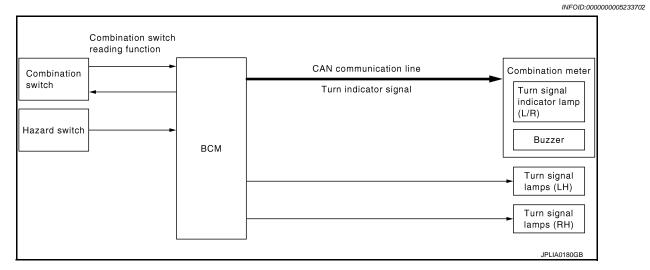
- BCM detects the combination switch condition by the combination switch reading function.
- BCM detects vehicle condition depending on the following signals.
- Engine condition signal (received from ECM with CAN communication).
- Parking brake switch signal (received from combination meter with CAN communication)
- BCM transmits the daytime running light request signal and low beam request signal to IPDM E/R with CAN communication according to the daytime running light ON condition.

Daytime running light ON condition

- While the engine running with the parking brake released.
- Lighting switch OFF
- IPDM E/R turns the integrated headlamp low relay and daytime running light relay ON according to the daytime running light request signal and low beam request signal. And it turns each lamps ON.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000005233703

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL SOUND OPERATION

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

HIGH FLASHER OPERATION (FAIL-SAFE)

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

NOTE:

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

EXL-18

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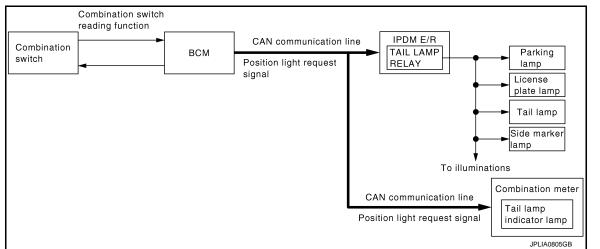
< SYSTEM DESCRIPTION > PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) А PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) : System Diagram INFOID:000000005233710 В IPDM E/B CAN communication line TAIL LAMP Combination switch To illuminations reading function **RELAY** Davtime running Combination light request signal switch Position light DAYTIME request signal RUNNING Parking lamp LIGHT RELAY License plate D всм lamp CAN Tail lamp communication line ECM Side marker Engine status signal lamp Combination meter CAN communication line Tail lamp Position light request signal F indicator lamp JPLIA1522GE PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITH DTRL) : System Description INFOID:000000005233711 Н OUTLINE Parking, license plate, tail and side marker 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, TAIL AND SIDE MARKER LAMPS OPERATION BCM detects the combination switch condition by the combination switch reading function. BCM transmits the daytime running light request signal or position light request signal to IPDM E/R and the combination meter with CAN communication according to the ON/OFF condition of the parking, license plate, tail and side marker lamps. Parking, license plate, tail and side marker lamps ON condition Κ Lighting switch 1ST - Lighting switch 2ND - Lighting switch AUTO, and the auto light function ON judgment EXL Daytime running light ON judgment IPDM E/R turns the daytime running light relay and tail lamp relay ON according to the daytime running light request signal or position light request signal. And turns the parking, license plate, tail, side marker lamps and illuminations ON. Μ Combination meter turns the tail lamp indicator lamp ON according to the position light request signal. PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL) Ν PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM (WITHOUT DTRL) : System

< SYSTEM DESCRIPTION >

[XENON TYPE]

INFOID:000000005233706

Diagram



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

OUTLINE

Parking, license plate, tail and side marker 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, TAIL AND SIDE MARKER LAMPS OPERATION

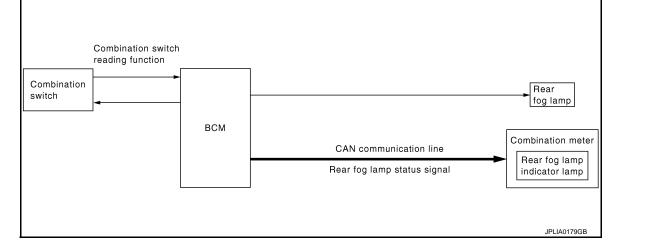
- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the position light request signal to IPDM E/R and the combination meter with CAN communication according to the ON/OFF condition of the parking, license plate, tail and side marker lamps.

Parking, license plate, tail and side marker lamps ON condition

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate, tail and side marker 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.

REAR FOG LAMP SYSTEM

REAR FOG LAMP SYSTEM : System Diagram



REAR FOG LAMP SYSTEM : System Description

INFOID:000000005233715

INFOID:000000005233714

OUTLINE

< SYSTEM DESCRIPTION >

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

REAR FOG LAMP OPERATION

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

Rear fog lamp ON condition

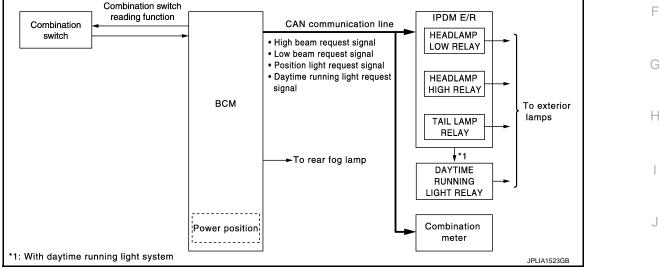
- When rear fog lamp switch signal is input (OFF \rightarrow ON) with headlamp ON and rear fog lamp OFF

Rear fog lamp OFF condition (satisfied any condition as follows)

- When rear fog lamp switch signal is input (OFF \rightarrow ON) with rear fog lamp ON
- Headlamp OFF
- BCM transmits the rear fog lamp status signal to the combination meter with CAN communication.
- Combination meter turns the rear fog lamp indicator lamp ON according to the rear fog lamp status signal.

EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Diagram



EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

OUTLINE

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

Control by BCM

- Combination switch reading function
- Headlamp control function
- Exterior lamp battery saver function

Control by IPDM E/R

- Relay control function
- BCM turns the exterior lamp* OFF after a period of time to prevent the battery from over-discharge when the ignition switch is turned OFF with the exterior lamp ON.

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

When the lighting switch is turned AUTO, the exterior lamp battery saver switches to the auto light system. P Refer to EXL-16, "AUTO LIGHT SYSTEM : System Diagram".

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

• Headlamp control function turns the exterior lamps ON normally when the ignition switch is turned ACC or the engine started (both before and after the exterior lamp battery saver is turned OFF).

EXL-21

[XENON TYPE]

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< SYSTEM DESCRIPTION >

• The timer starts at the time that the lighting switch is turned from OFF \rightarrow 1ST or 2ND with the exterior lamp OFF.

[XENON TYPE]

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	_
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III opera- tion manual.	_
Data Monitor	The BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	F
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.

Sustem	Cub system calestian item	Diagnosis mode			
System	Sub system selection item	Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	-
Rear window defogger	REAR DEFOGGER		×	×	-
Warning chime	BUZZER		×	×	-
Interior room lamp timer	INT LAMP	×	×	×	-
Exterior lamp	HEAD LAMP	×	×	×	-
Wiper and washer	WIPER	×	×	×	-
Turn signal and hazard warning lamps	FLASHER	×	×	×	-
—	AIR CONDITONER*				1
Intelligent Key systemEngine start system	INTELLIGENT KEY	×	×	×	-
Combination switch	COMB SW		×		-
Body control system	BCM	×			-
IVIS - NATS	IMMU		×	×	-
Interior room lamp battery saver	BATTERY SAVER	×	×	×	-
Back door/Trunk lid open	TRUNK		×	×	-
Vehicle security system	THEFT ALM	×	×	×	-
RAP system	RETAINED PWR		×		-
Signal buffer system	SIGNAL BUFFER		×	×	-
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	-

NOTE:

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

FREEZE FRAME DATA (FFD)

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

INFOID:000000005588097

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< SYSTEM DESCRIPTION >

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

HEADLAMP

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

INFOID:000000005233723

WORK SUPPORT

Service item	Setting item	Setting
BATTERY SAVER SET	On*	With the exterior lamp battery saver function
DATTERT OAVER OET	Off	Without the exterior lamp battery saver function

< SYSTEM DESCRIPTION >

[XENON TYPE]

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Service item	Setting item	Setting		
	MODE 1*	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.		
ILL DELAY SET	MODE 4	60 sec.	Sets delay timer function timer operation time.	
ILL DELAT SET	MODE 5	90 sec.	(All doors closed)	
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		
	MODE 1*	Normal		
CUSTOM A/LIGHT	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)		
SETTING	MODE 3	More sensitive setting	g than MODE 2 (Turns ON earlier than MODE 2.)	
	MODE 4	Less sensitive setting	than normal setting (Turns ON later than normal operation.)	

*: Factory setting

DATA MONITOR

Monitor item [Unit]	Description		
PUSH SW [On/Off]	The switch status input from push-button ignition switch		
ENGINE STATE [Stop/Stall/Crank/Run]	The engine status received from ECM with CAN communication		
VEH SPEED 1 [km/h]	The value of the vehicle speed received from combination meter with CAN communication		
KEY SW-SLOT [On/Off]	Key switch status input from key slot		
TURN SIGNAL R [On/Off]			
TURN SIGNAL L [On/Off]			
TAIL LAMP SW [On/Off]			
HI BEAM SW [On/Off]			
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function		
HEAD LAMP SW2 [On/Off]			
PASSING SW [On/Off]			
AUTO LIGHT SW [On/Off]			
FR FOG SW [On/Off]	NOTE: The item is indicated, but not monitored.		
RR FOG SW [On/Off]	Each switch status that BCM judges from the combination switch reading function		
DOOR SW-DR [On/Off]	The switch status input from driver side door switch		
DOOR SW-AS [On/Off]	The switch status input from passenger side door switch		

< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description	
DOOR SW-RR [On/Off]		
DOOR SW-RL [On/Off]	NOTE: The item is indicated, but not monitored.	
DOOR SW-BK [On/Off]		
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor	

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	Off	Stops the position light request signal transmission.
	Hi	Transmits the high beam request signal with CAN communication to turn the head- lamp (HI).
HEAD LAMP	Low	Transmits the low beam request signal with CAN communication to turn the head- lamp (LO).
	Off	Stops the high & low beam request signal transmission.
FR FOG LAMP	On	NOTE:
	Off	The item is indicated, but cannot be tested.
RR FOG LAMP	On	 Outputs the voltage to turn the rear fog lamp ON. Transmits the rear fog lamp status signal to the combination meter with CAN communication to turn the rear fog lamp indicator lamp ON.
	Off	Stops the voltage to turn the rear fog lamp OFF.Stops the rear fog lamp status signal transmission.
On nal with CA		Transmits the low beam request signal and the daytime running light request sig- nal with CAN communication to turn the headlamp (LO), parking, license plate, tail and side marker lamps ON.
	Off	Stops the low beam request signal and the daytime running light request signal transmission.
	RH	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	Off	
ILL DIM SIGNAL	On	NOTE:
	Off	The item is indicated, but cannot be tested.

FLASHER

FLASHER : CONSULT-III Function (BCM - FLASHER)

INFOID:000000005233724

WORK SUPPORT

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

*: Factory setting

DATA MONITOR

< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor item [Unit]	Description	
REQ SW-DR [On/Off]	The switch status input from the request switch (driver side)	_
REQ SW-AS [On/Off]	The switch status input from the request switch (passenger side)	_
PUSH SW [On/Off]	The switch status input from the push-button ignition switch	_
TURN SIGNAL R [On/Off]		
TURN SIGNAL L [On/Off]	Each switch condition that BCM judges from the combination switch reading function	
HAZARD SW [On/Off]	The switch status input from the hazard switch	
RKE-LOCK [On/Off]	Lock signal status received from the remote keyless entry receiver	
RKE-UNLOCK [On/Off]	Unlock signal status received from the remote keyless entry receiver	
RKE-PANIC [On/Off]	Panic alarm signal status received from the remote keyless entry receiver	_

ACTIVE TEST

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

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Diagnosis Description

AUTO ACTIVE TEST

Description

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

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

Operation Procedure

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

NOTE:

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

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

Close passenger door.

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

NOTE:

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

• If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-88.</u> <u>"Component Function Check"</u>.

• Do not start the engine.

Inspection in Auto Active Test Mode

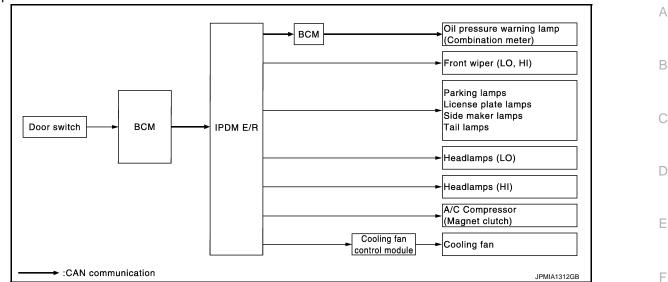
When auto active test mode is actuated, the following 6 steps are repeated 3 times.

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

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

< SYSTEM DESCRIPTION >

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

Revision: 2009 July

Symptom	Inspection contents		Possible cause	
		YES	BCM signal input circuit	
Any of the following components do not operate Parking lamps License plate lamps Side maker lamps Tail lamps Headlamp (HI, LO) Front wiper (HI, LO)	Perform auto active test. Does the applicable system operate?	NO	 Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R 	
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper- ate?	YES	 Unified meter and A/C amp. signal input circuit CAN communication signal between unified meter and A/C amp. and ECM CAN communication signal between ECM and IPDM E/ R 	
		NO	 Magnet clutch Harness or connector be- tween IPDM E/R and mag- net clutch IPDM E/R 	
		YES	 Harness or connector be- tween IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R 	
Oil pressure warning lamp does not operate	es not operate Perform auto active test. Does the oil pressure warning lamp blink? NO Perform auto active test. Does the oil pressure warning BCM NO CAN communication BCM • CAN communication BCM • CAN communication between IPDM E BCM • CAN communication between BCM a meter and A/C a	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and unified meter and A/C amp. Combination meter 		

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< SYSTEM DESCRIPTION >

[XENON TYPE]

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

CONSULT-III Function (IPDM E/R)

INFOID:000000005588099

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT Refer to PCS-32, "DTC Index".

DATA MONITOR Monitor item

MAIN SIG-Monitor Item

Monitor Item [Unit]	MAIN SIG- NALS	Description
RAD FAN REQ [%]	×	Displays the value of the cooling fan speed signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	NOTE: The item is indicated, but not monitored.
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 stop position 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.

Revision: 2009 July

< SYSTEM DESCRIPTION >

[XENON TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the clutch interlock switch (M/T models) or shift position (A/T 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 A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

ACTIVE TEST

Test item

Test item	Operation	Description	
	Off		
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.	0
	RH		
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.	
	Off	OFF	P
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	

< SYSTEM DESCRIPTION >

[XENON TYPE]

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

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

List of ECU Reference

INFOID:000000005402599

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ECU	Reference	
BCM	BCS-51, "Reference Value"	
	BCS-82, "Fail-safe"	
	BCS-85, "DTC Inspection Priority Chart"	
	BCS-86, "DTC Index"	
IPDM E/R	PCS-20, "Reference Value"	
	PCS-30, "Fail-safe"	
	PCS-32, "DTC Index"	

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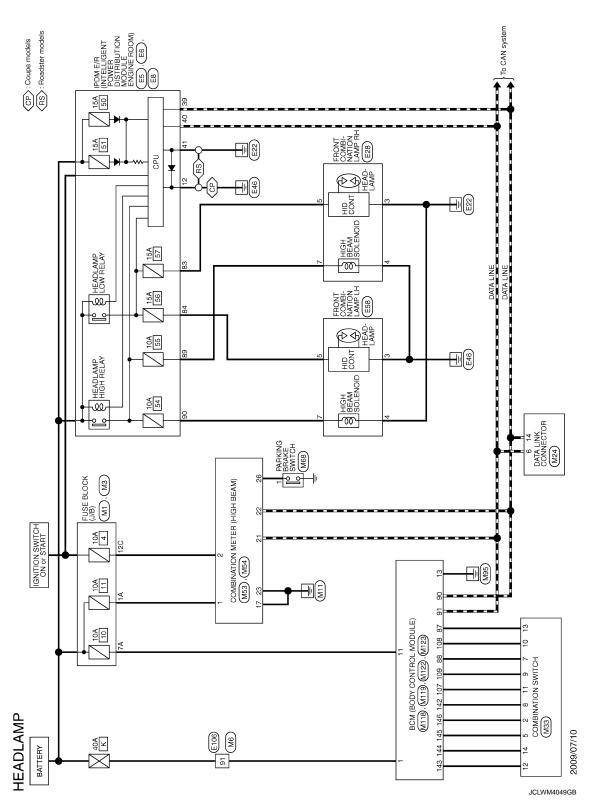
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WIRING DIAGRAM HEADLAMP SYSTEM

Wiring Diagram

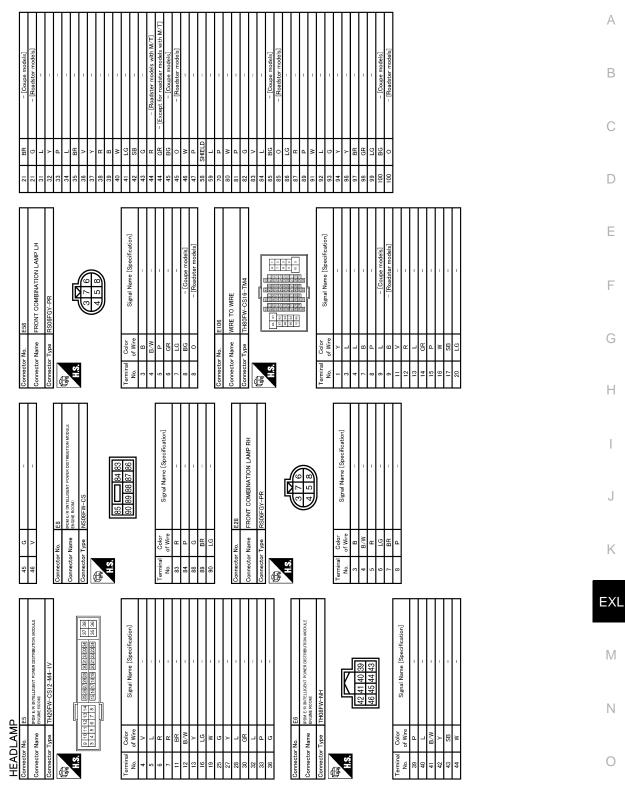
INFOID:000000005233766



< WIRING DIAGRAM >

HEADLAMP SYSTEM

[XENON TYPE]

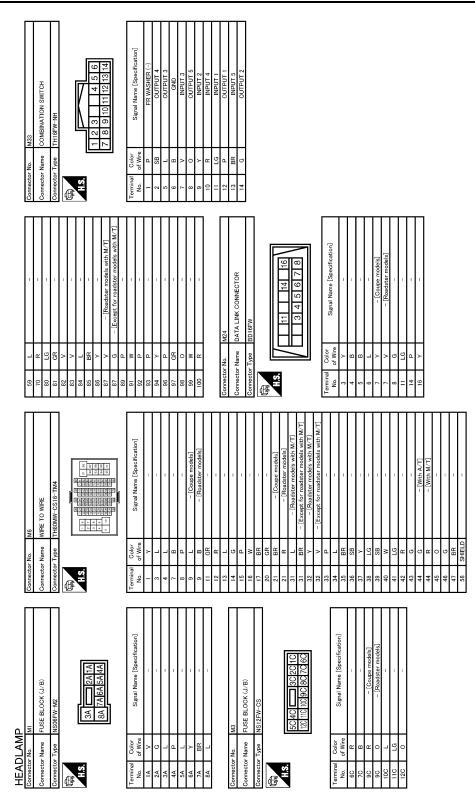


JCLWM4050GB

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HEADLAMP SYSTEM

< WIRING DIAGRAM >

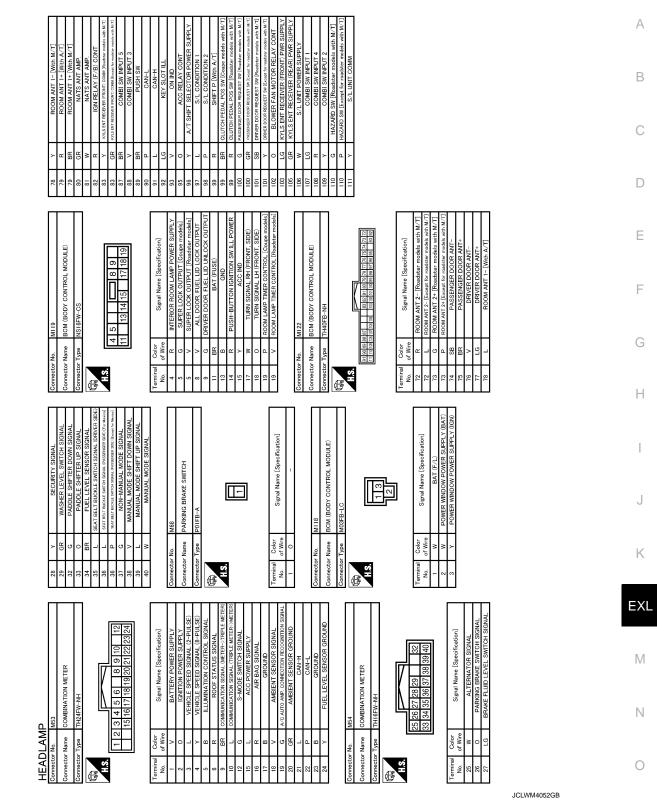


JCLWM4051GB

HEADLAMP SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]



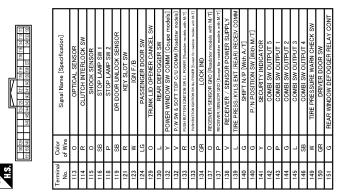
BCM (BODY CONTROL MODULE)

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HEADLAMP

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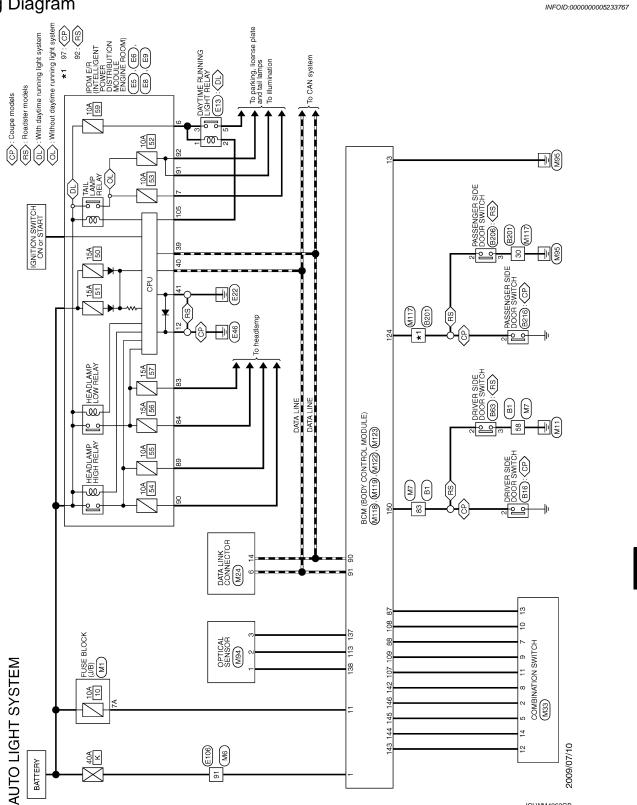


HEADLAMP SYSTEM

JCLWM4053GB

AUTO LIGHT SYSTEM

Wiring Diagram



JCLWM4062GB

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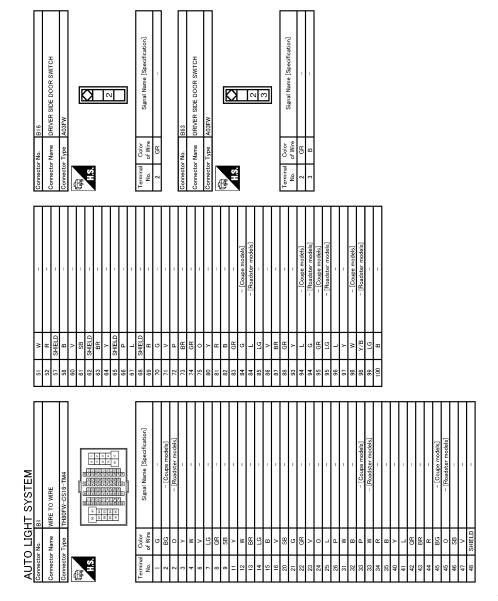
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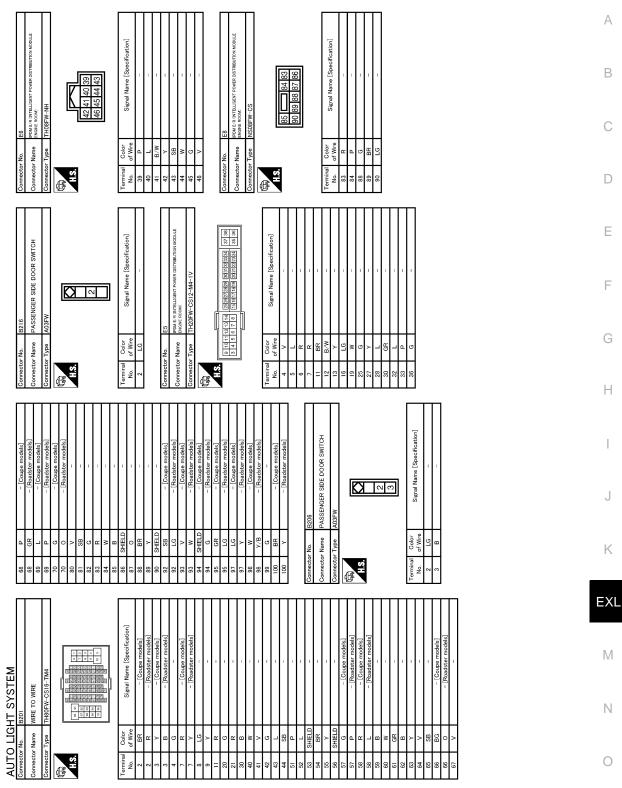


JCLWM4063GB

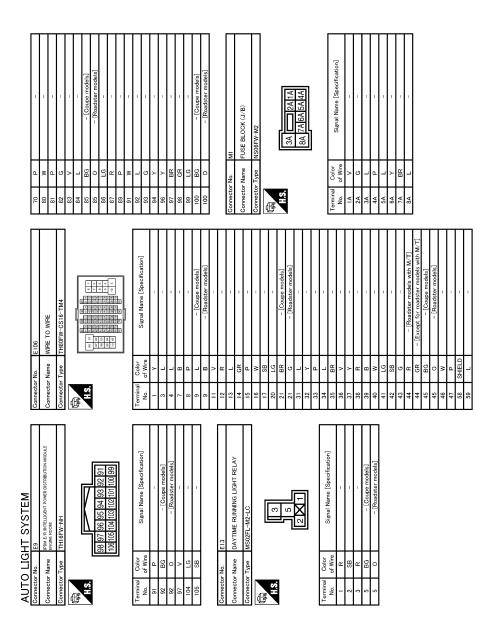
AUTO LIGHT SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]



JCLWM4064GB

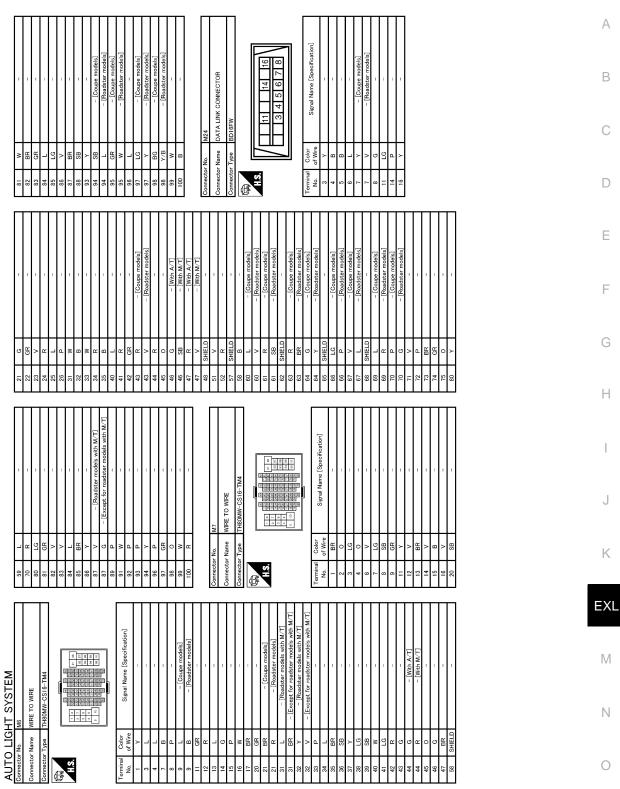


JCLWM4065GB

AUTO LIGHT SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]

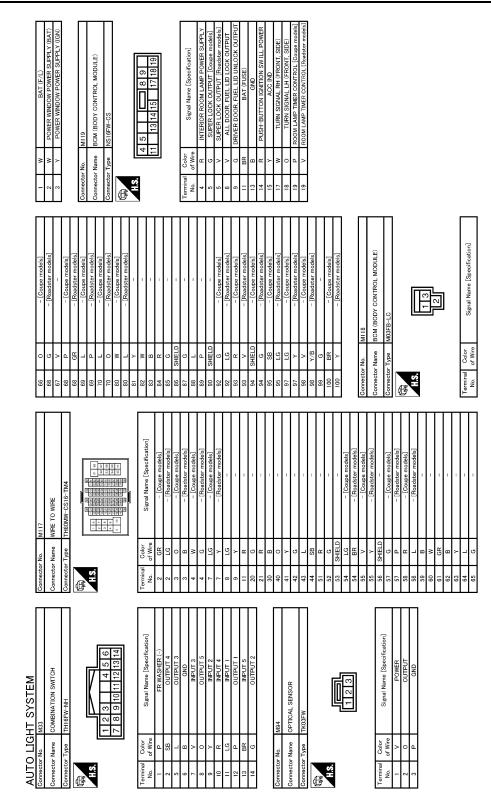


JCLWM4066GB

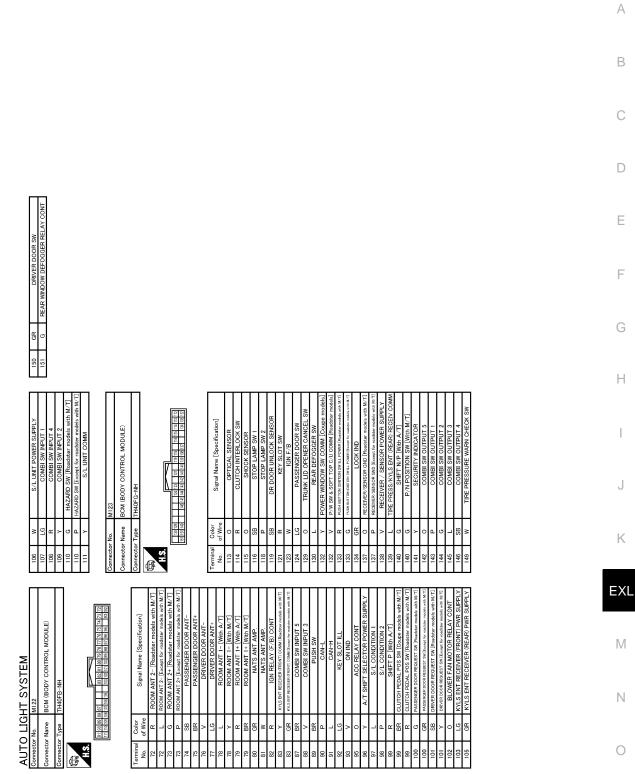
AUTO LIGHT SYSTEM

< WIRING DIAGRAM >

[XENON TYPE]



JCLWM4067GB

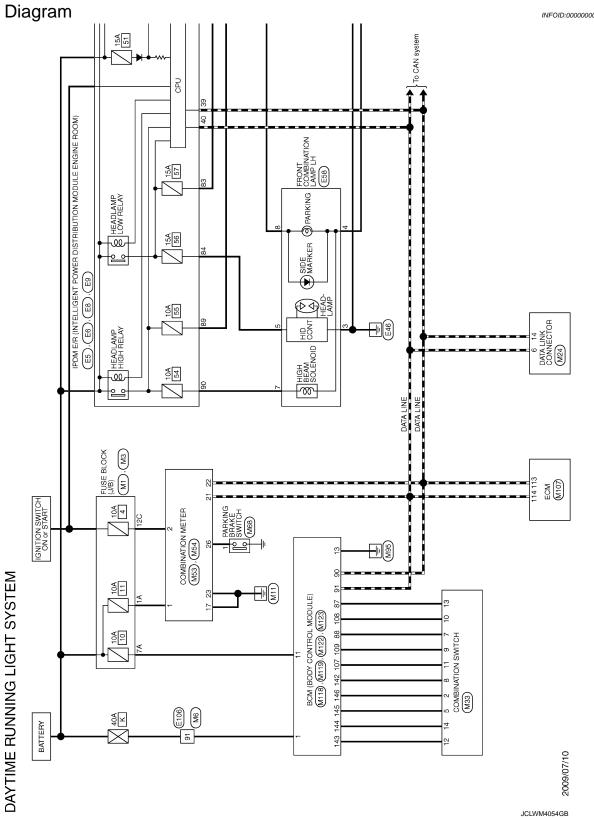


JCLWM4068GB

< WIRING DIAGRAM >

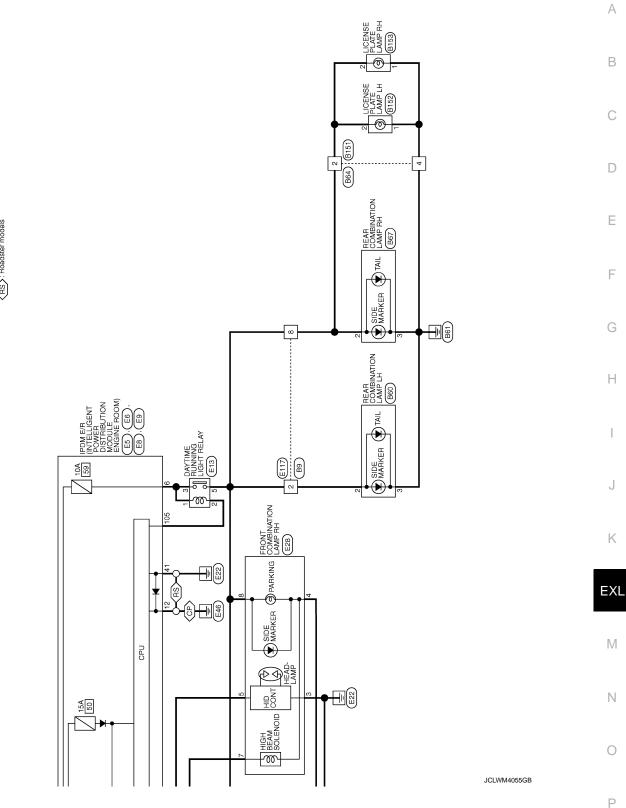
DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram



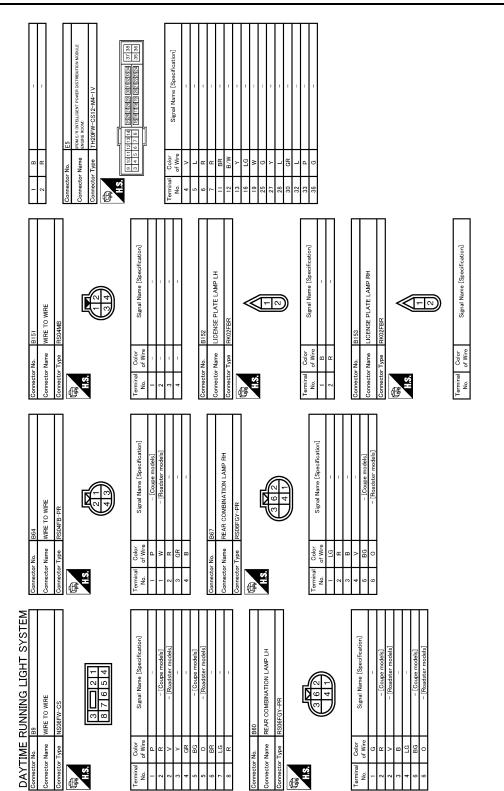
INFOID:000000005233768

< WIRING DIAGRAM >



CP): Coupe models (RS): Roadster models

[XENON TYPE]



JCLWM4056GB

< WIRING DIAGRAM >	[XENON TYPE]
Connector No. E3 Connector No. C3 <td< th=""><th></th></td<>	

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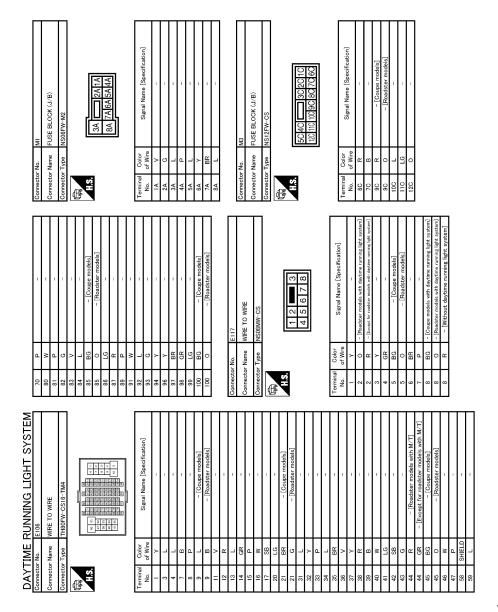
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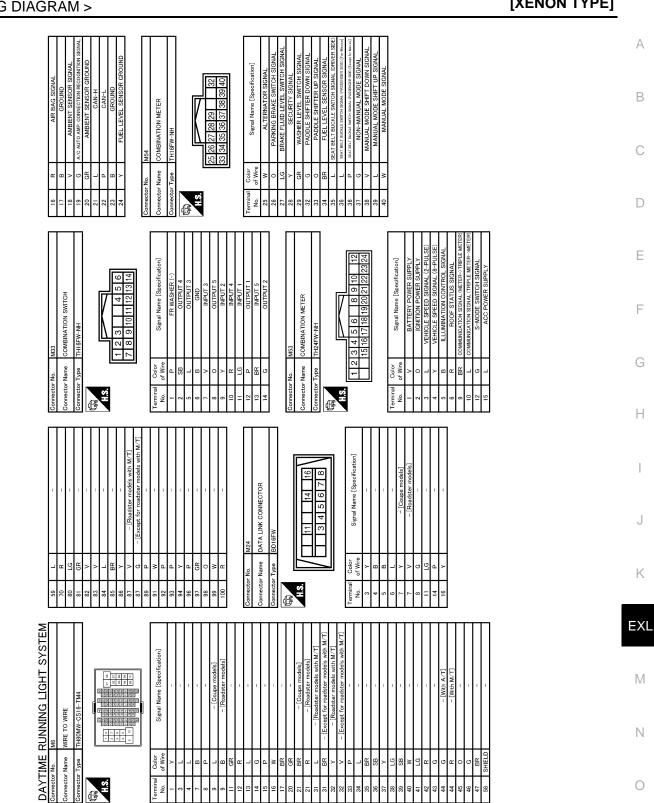
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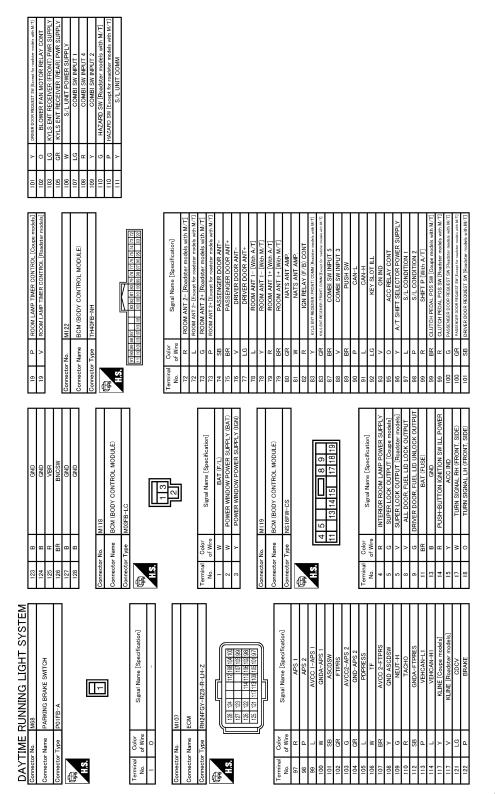
JCLWM4058GB



JCLWM4059GB

< WIRING DIAGRAM >

[XENON TYPE]



JCLWM4060GB

< WIRING DIAGRAM >

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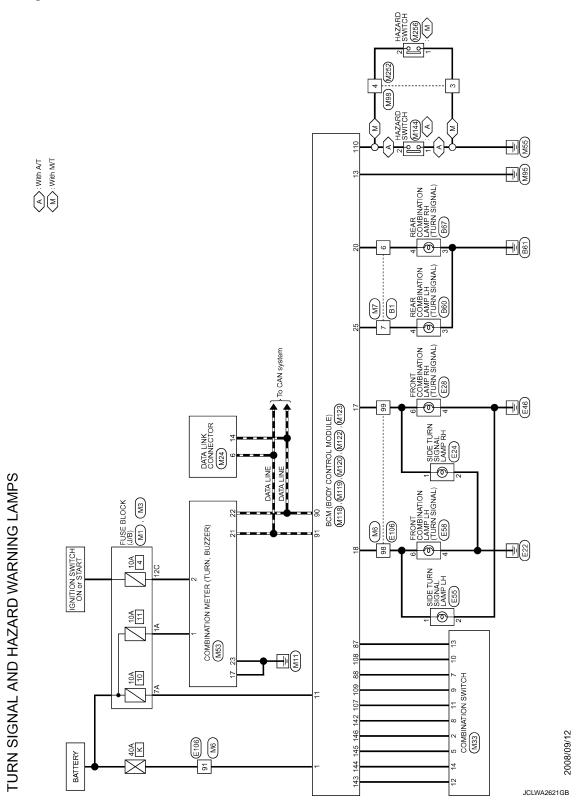
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram

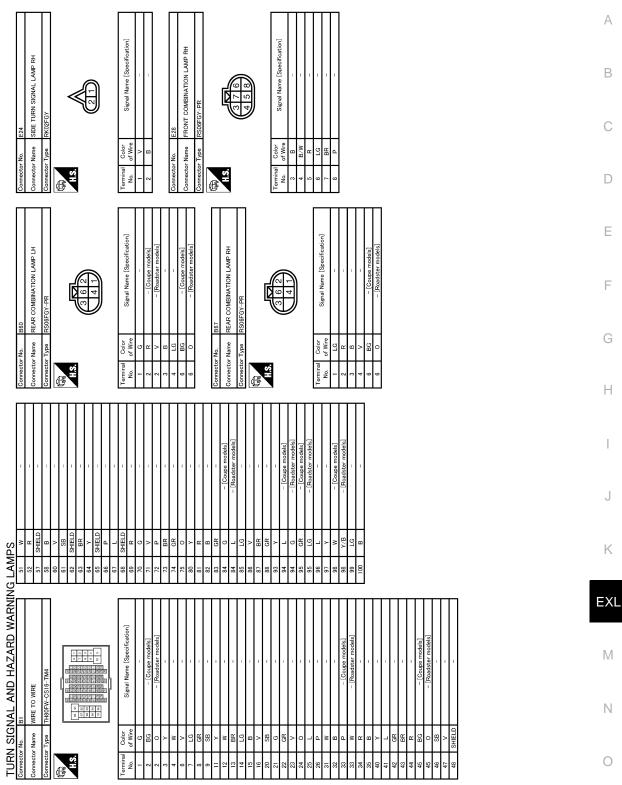
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[XENON TYPE]



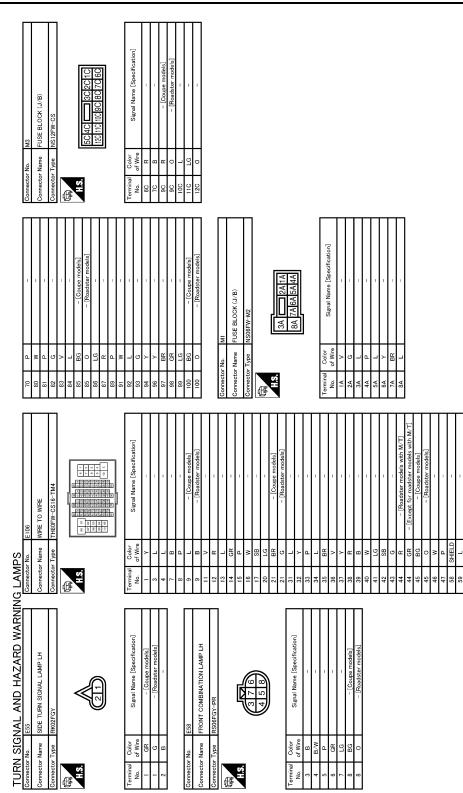
< WIRING DIAGRAM >

[XENON TYPE]



JCLWM4074GB

< WIRING DIAGRAM >



JCLWM4075GB

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [XENON TYPE]

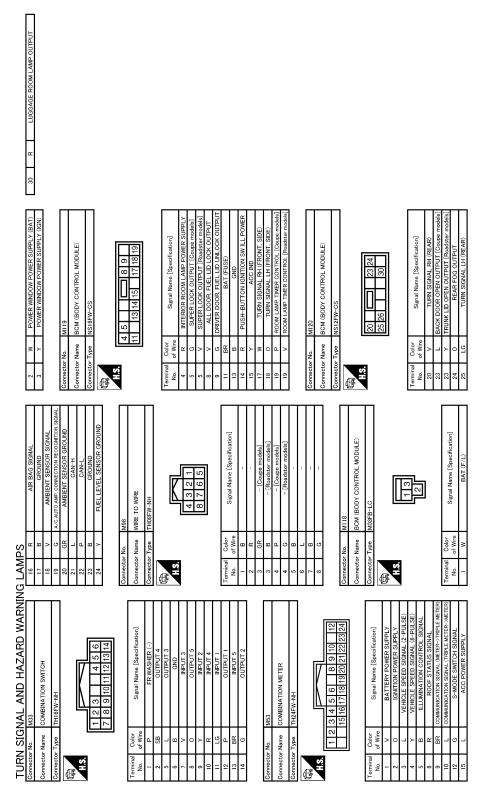
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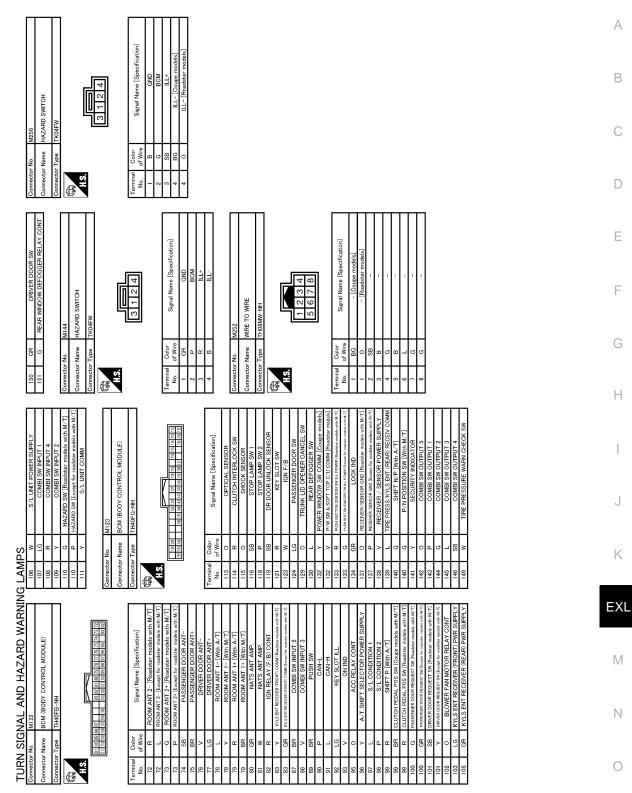
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JCLWM4077GB

< WIRING DIAGRAM >

[XENON TYPE]



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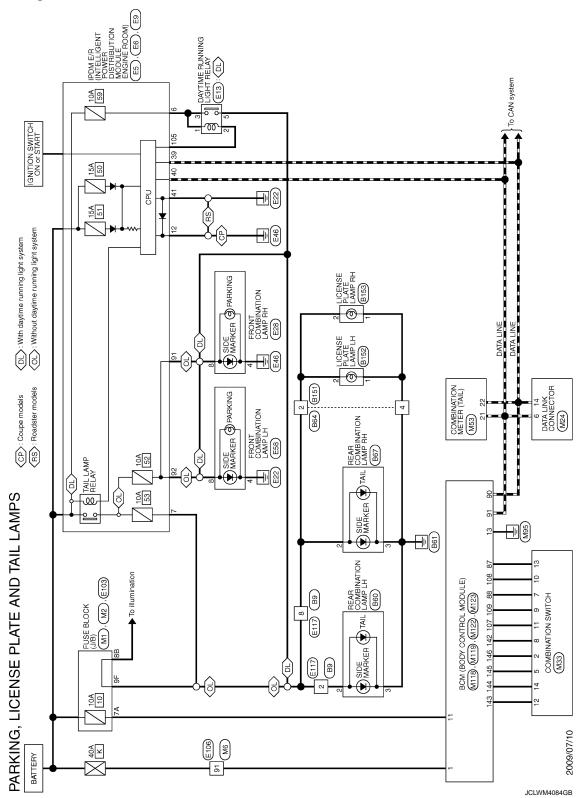
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[XENON TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram

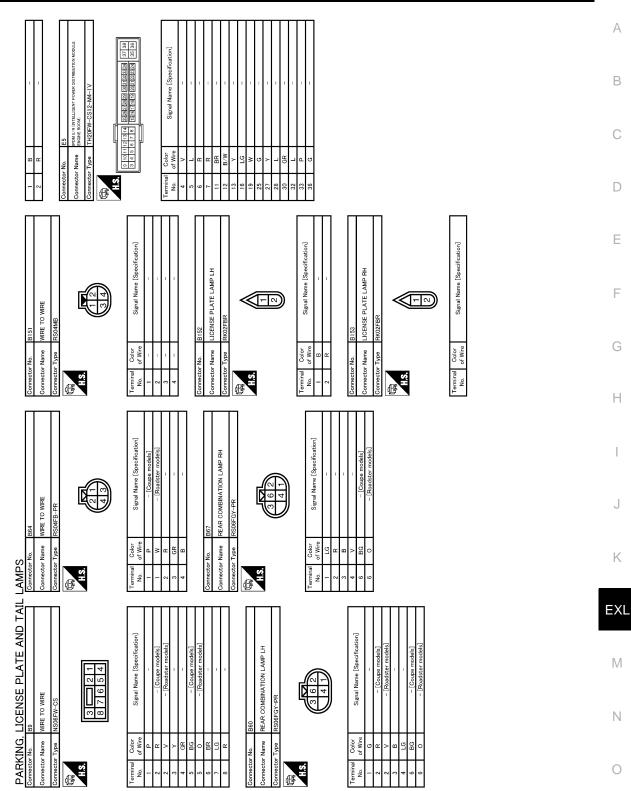
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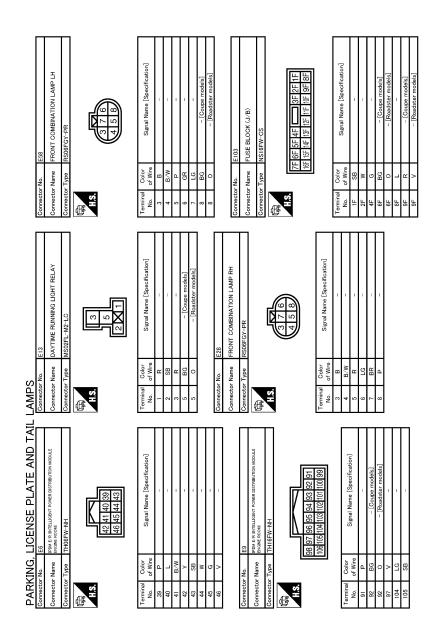
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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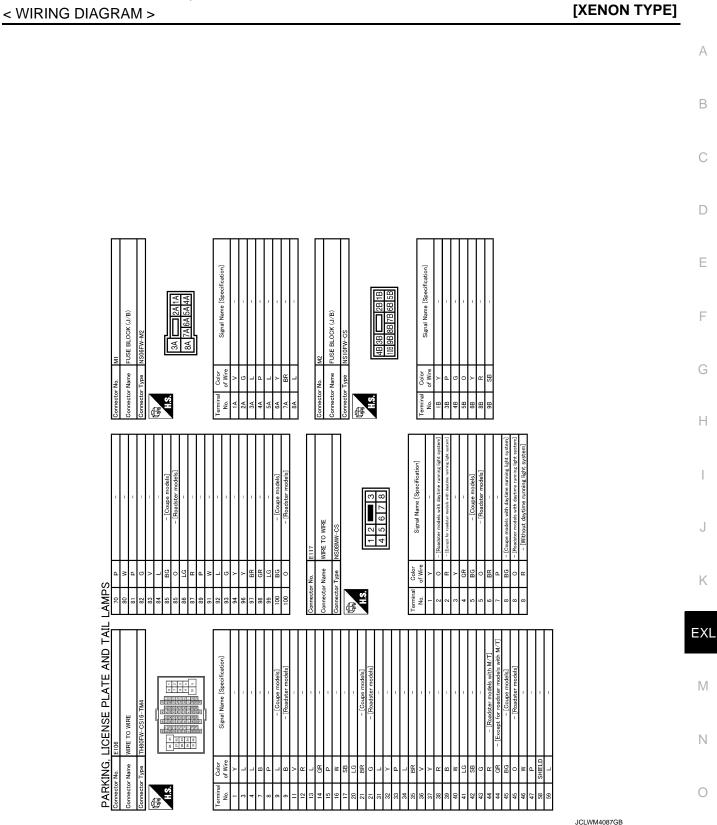
[XENON TYPE]



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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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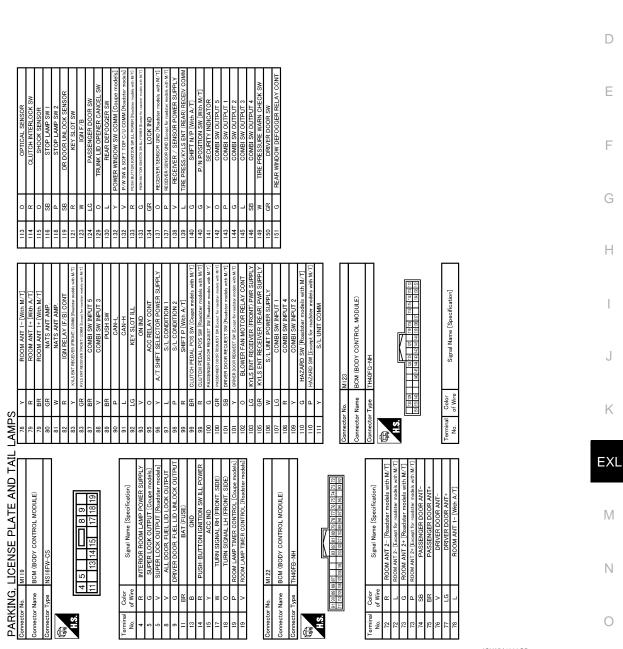
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< WIRING DIAGRAM >

Signal Name [Specification] WINDOW POWER SUPPLY WINDOW POWER SUPPLY BCM (BODY CONTROL MODULE) BAT M118 Color of Wire Connector Name vpe onnector No. 。 明 8 erminal No. Connect 24 ŝ Signal Name [Specification] Signal Name [Specification] WASHER NUTPUT 2 INPUT 2 INPUT 4 INPUT 1 NUTPUT 5 INPUT COMBINATION SWITCH COMBINATION METER 8 M53 ¢. 7 7 ¢ Color of Wire Color of Wire 88 Connector Name 포임리腸이 Connector Name Ē Connector No. R.S.H . HS Terminal No. ş Signal Name [Specification] DATA LINK CONNECTOR 11 14 3456 HF Color of Wire Connector Name ector No. BR ്വം σ LAMPS H.S. erminal No. 10 倨 PARKING, LICENSE PLATE AND TAIL Signal Name [Specification] 22 22 24 94 50 50 27 50 28 50 50 24 WIRE TO WIRE Color of Wire ≥ KB KB KB KB ⊣ KB k G R O G BR SHIELD ≥ ဩ œ ଓ Connector Name 照임≻의路 ٩ ч в Ю к 强 HS rmina! No.

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PARKING, LICENSE PLATE AND TAIL L	AMPS SYSTEM
< WIRING DIAGRAM >	[XENON TYPE]



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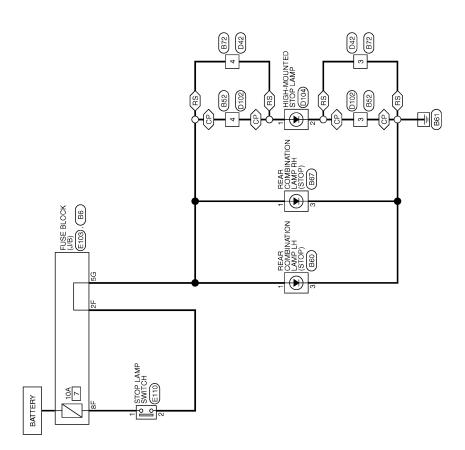
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[XENON TYPE]





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Bit Event FUSE BLOCK (J/B) NIN12FBR-05 NIN12FBR-05 NIN12FBR-05 Signal Name (Specification)	M
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STOP LAMP Connector Name 100 110 110 110 110 110 110 11	0

STOP LAMP

Revision: 2009 July

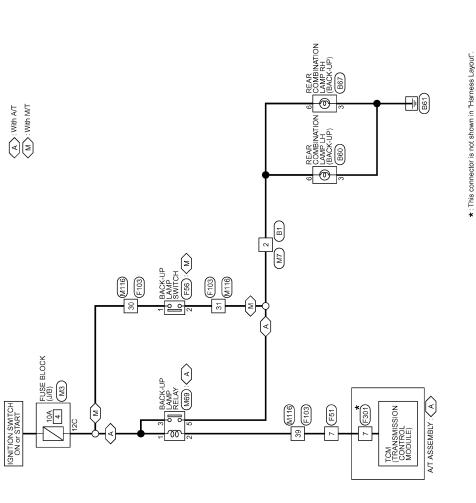
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JCLWM4080GB

BACK-UP LAMP

BACK-UP LAMP

Wiring Diagram

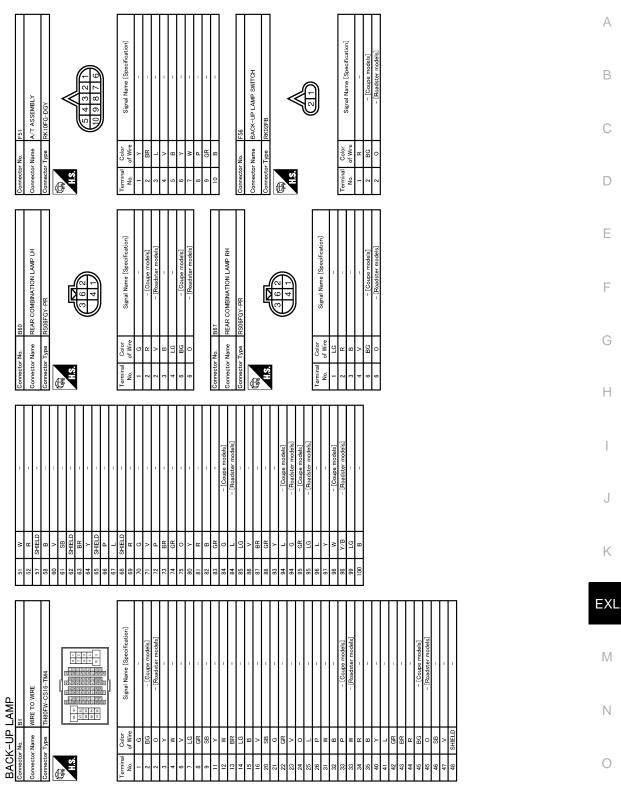


BACK-UP LAMP

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BACK-UP LAMP

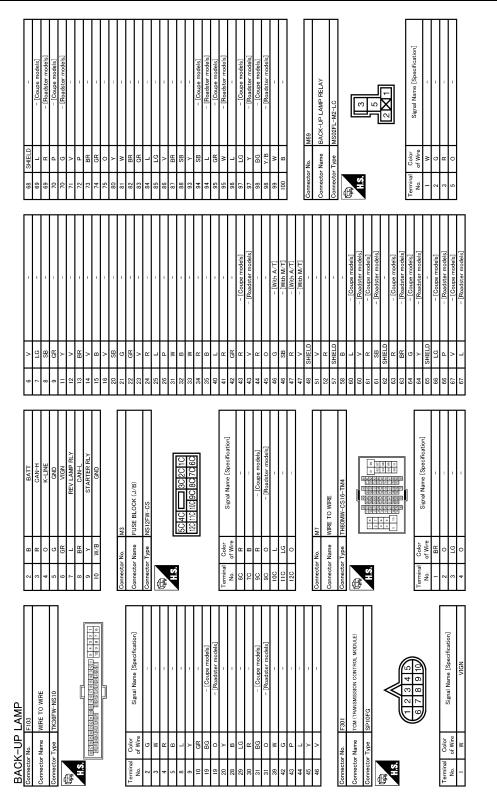


JCLWM4081GB

BACK-UP LAMP

< WIRING DIAGRAM >

[XENON TYPE]

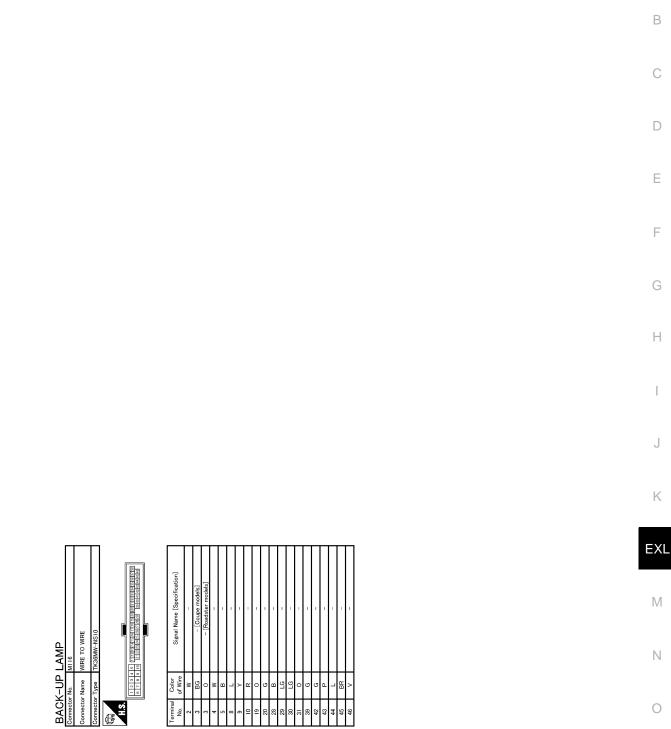


JCLWM4082GB

< WIRING DIAGRAM >



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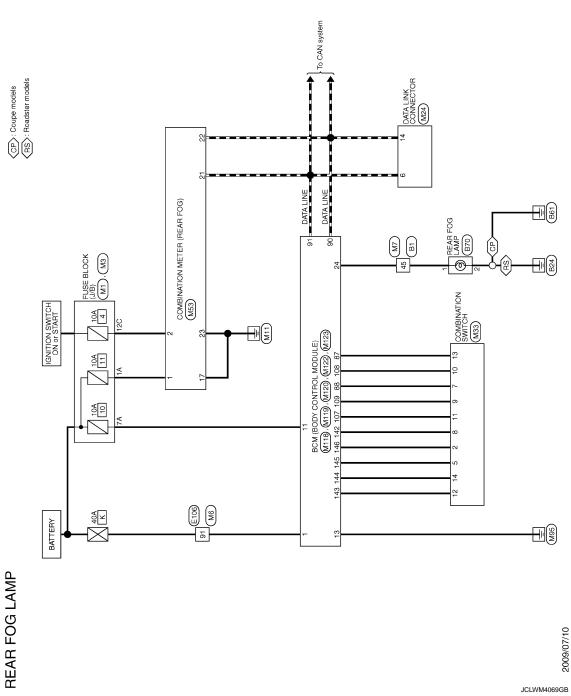
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REAR FOG LAMP SYSTEM

Wiring Diagram

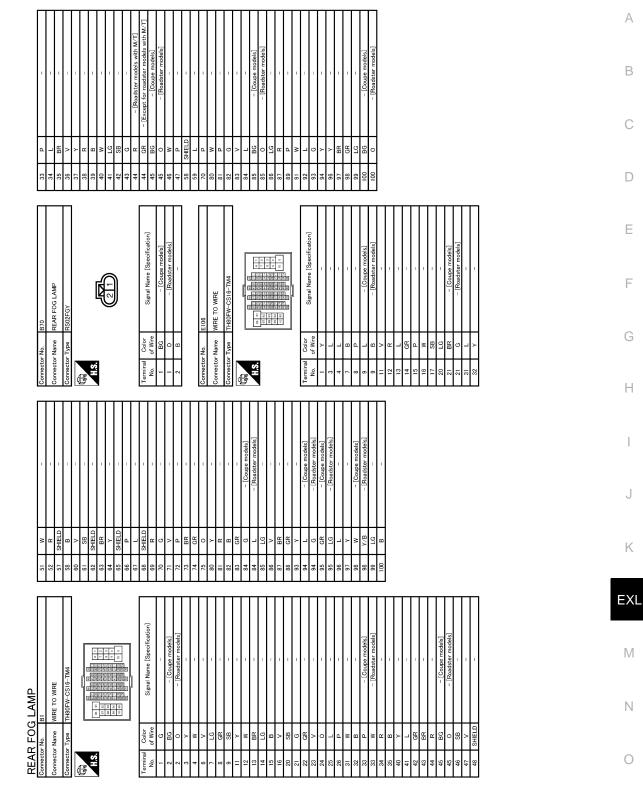
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[XENON TYPE]



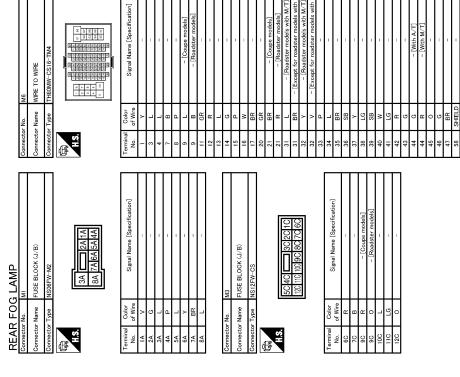
REAR FOG LAMP SYSTEM

[XENON TYPE]



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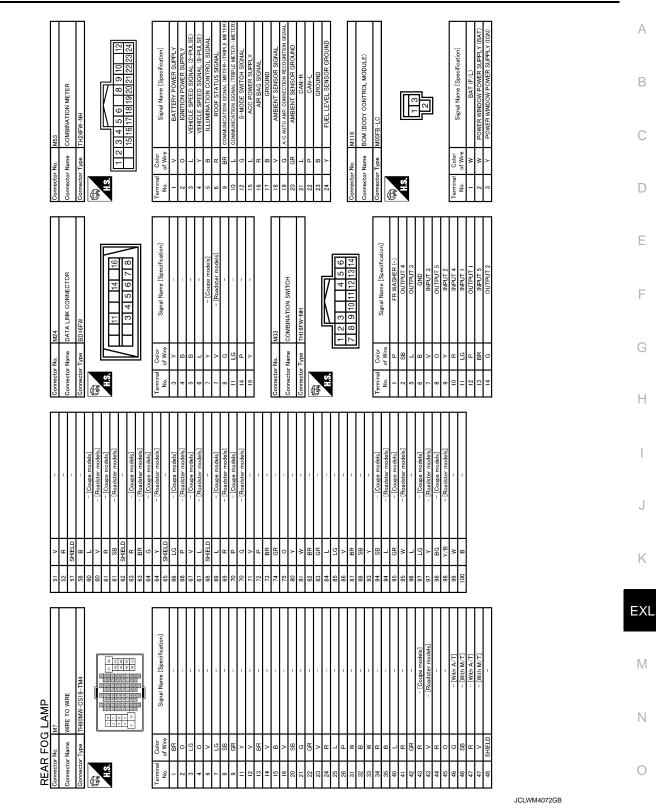
1	1	1	1	1	1	1	1	1	 [Roadster models with M/T] 	 [Except for roadster models with M/T] 	-	-	-	-	-	-	-	-	-	-	
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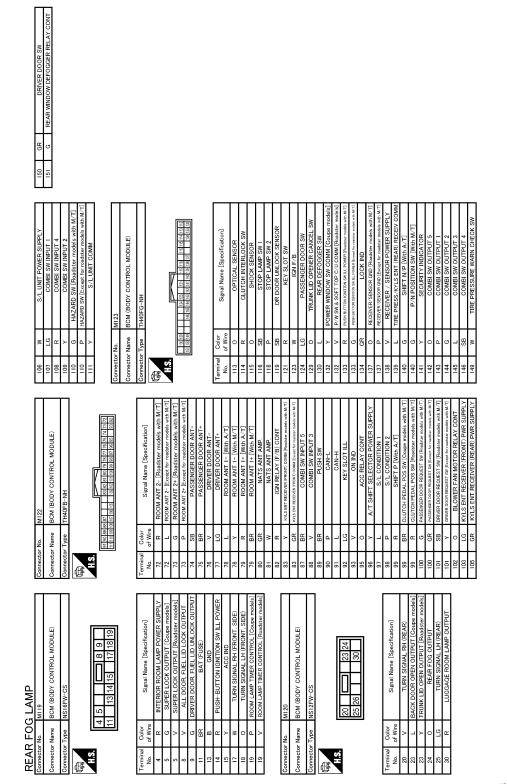
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[XENON TYPE]



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REAR FOG LAMP SYSTEM



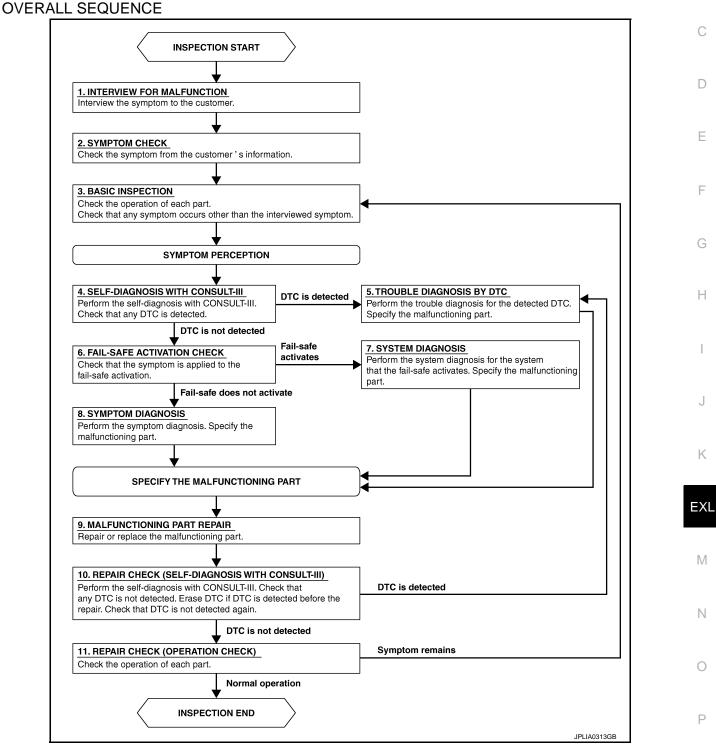
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BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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DETAILED FLOW **1**.INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

>> GO TO 2.

2.SYMPTOM CHECK

Check the symptom from the customer's information.

>> GO TO 3.

3.BASIC INSPECTION

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

>> GO TO 4.

4.SELF-DIAGNOSIS WITH CONSULT-III

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

Is any DTC detected?

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

5. TROUBLE DIAGNOSIS BY DTC

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

>> GO TO 9. 6.FAIL-SAFE ACTIVATION CHECK

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

Does the fail-safe activate?

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

7.SYSTEM DIAGNOSIS

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

>> GO TO 9.

8.SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

9.MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10.

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

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

Is any DTC detected?

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

11.REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

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

EXTERIOR LAMP FUSE

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS EXTERIOR LAMP FUSE WITHOUT DAYTIME RUNNING LIGHT SYSTEM WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Description

Fuse list

Unit	Location	Fuse No.	Capacity	
Headlamp HI (LH)	IPDM E/R	#54	10 A	
Headlamp HI (RH)	IPDM E/R	#55	10 A	
Headlamp LO (LH)	IPDM E/R	#56	15 A	
Headlamp LO (RH)	IPDM E/R	#57	15 A	
Parking lampFront side marker lamp	IPDM E/R	#52	10 A	
 Tail lamp Rear side marker lamp License plate lamp Each illumination 	IPDM E/R	#53	10 A	
Stop lamp	FUSE BLOCK (J/B)	#7	10 A	
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A	

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

1.CHECK FUSE

Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	#54	10 A
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp LO (LH)	IPDM E/R	#56	15 A
Headlamp LO (RH)	IPDM E/R	#57	15 A
 Parking lamp Front side marker lamp	IPDM E/R	#52	10 A
 Tail lamp Rear side marker lamp License plate lamp Each illumination 	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

Is the fuse fusing?

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

NO >> The fuse is normal.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Description

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Fuse	list

uc				
	Unit	Location	Fuse No.	Capacity
	Headlamp HI (LH)	IPDM E/R	#54	10 A
	Headlamp HI (RH)	IPDM E/R	#55	10 A
	Headlamp LO (LH)	IPDM E/R	#56	15 A

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EXTERIOR LAMP FUSE

< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	#57	15 A
 Daytime running light relay Parking lamp Front side marker lamp Tail lamp Rear side marker lamp License plate lamp 	IPDM E/R	#59	10 A
Each illumination	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

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1.CHECK FUSE

Check that the following fuses are not fusing.

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	#54	10 A
Headlamp HI (RH)	IPDM E/R	#55	10 A
Headlamp LO (LH)	IPDM E/R	#56	15 A
Headlamp LO (RH)	IPDM E/R	#57	15 A
 Daytime running light relay Parking lamp Front side marker lamp Tail lamp Rear side marker lamp License plate lamp 	IPDM E/R	#59	10 A
Each illumination	IPDM E/R	#53	10 A
Stop lamp	FUSE BLOCK (J/B)	#7	10 A
Back-up lamp	FUSE BLOCK (J/B)	#4	10 A

Is the fuse fusing?

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

NO >> The fuse is normal.

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

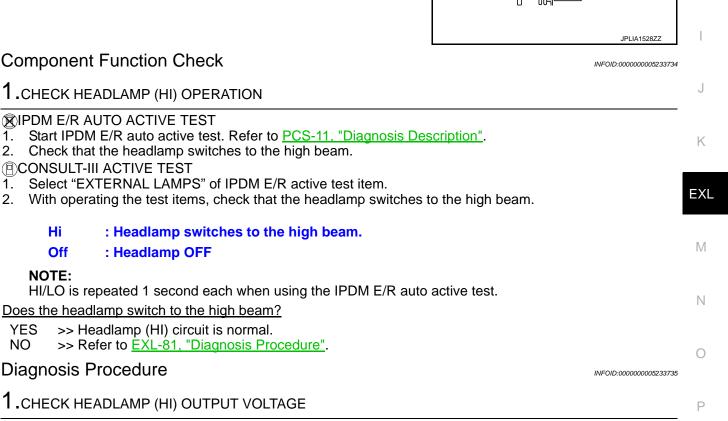
HEADLAMP (HI) CIRCUIT

Description

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

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- When the headlamp high relay is turned ON, magnetic force is applied to the high beam solenoid (1) by a current. The mobile valve shade (3) is switched to the high beam position through the actuator rod (2).
- When the headlamp high relay is turned OFF, the current stops. The mobile valve shade returns to the low beam position automaticallv.



(P)CONSULT-III ACTIVE TEST

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

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HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	-	Terminals		Test item		
(+)			(–)	iest item	Voltage	
IPDM		E/R		EXTERNAL	(Approx.)	
Conr	nector	Terminal		LAMPS		
RH		89	Ground	Hi	Battery voltage	
	E8	03	Ground	Off	0 V	
LH	LO	90		Hi	Battery voltage	
		30		Off	0 V	

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK HEADLAMP (HI) OPEN CIRCUIT

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

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

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

- **3.**CHECK HEADLAMP (HI) FUSE
- 1. Turn the ignition switch OFF.
- 2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4.CHECK FRONT COMBINATION LAMP (HI) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

IPDM E/R				Continuity	
Conr	nector	Terminal	Ground	Continuity	
RH	E8	89	Giodila	Not existed	
LH	LO	90		NOT EXISTED	

Does continuity exist?

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

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

HEADLAMP (LO) CIRCUIT

					DLAMP (LO)	
						[XENON TYPE]
HEAI	DLA	MP (L	O) CIF	RCUIT		
Desci	riptio	n				INFOID:00000005233736
xenon	headl	amp ON.			-	ted in the headlamp. Headlamp (LO) circuit turns
		nt Func			non neualamp, n	INFOID:00000005233737
						INFOLD.0000000233737
			. ,	OPERATION		
1. Sta	art IPE		uto active		o <u>PCS-11, "Diagn</u>	osis Description".
		-III ACTI EXTERNI			/R active test iter	
					t the headlamp is	
	Lo	·Hea	dlamp C)N		
	Off		idlamp C			
<u>Is the h</u>	neadla	amp turne				
YES		Headlam				
NO				Diagnosis Pro	oceaure".	
Diagr	10515	Proced	Jure			INFOID:00000005233738
1.сне	ECK F	HEADLAN	1P (LO) (OUTPUT VOL	TAGE	
		F-III ACTI				
		e ignition s ect the fro		ination lamp	connector.	
		ignition s			/R active test iter	
5. Wi	ith op					een the IPDM E/R harness connector and the
gro	ound.					
	Т	erminals		-		
	(+)		(-)	Test item	Voltage	
	IPDM I			EXTERNAL	(Approx.)	
	1					
Conne	ector	Terminal		LAMPS		
	ector	Terminal 83	Ground	Lo	Battery voltage	
Conne	ector E8		Ground	Lo Off	0 V	
Conne			Ground	Lo		
Conne RH LH	E8	83 84		Lo Off Lo Off	0 V Battery voltage	
Conne RH LH Is the r YES	E8 measu	83 84 urement v GO TO 2	alue norr	Lo Off Lo Off	0 V Battery voltage	
Conne RH LH <u>Is the r</u> YES NO	E8 measu	83 84 <u>urement v</u> GO TO 2 GO TO 3	alue norr	Lo Off Lo Off	0 V Battery voltage 0 V	

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

HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	IPDN	/I E/R	Front combination lamp		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E8	83	E28	5	Existed
LH	LO	84	E58	5	LAISIEU

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

3.CHECK HEADLAMP (LO) FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuses are not fusing.

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

Is the fuse fusing?

YES >> GO TO 4.

NO >> Replace IPDM E/R.

4.CHECK HEADLAMP (LO) SHORT CIRCUIT

1. Disconnect IPDM E/R connector.

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

	IPDN	/I E/R		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E8	83	Glound	Not existed
LH	20	84		NUL EXISIEU

Does continuity exist?

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

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

5. CHECK HEADLAMP GROUND OPEN CIRCUIT

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

F	ront comb	ination lamp		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	3	Giodina	Existed
LH	E58	3	•	LAIsteu

Does continuity exist?

YES >> Perform the xenon headlamp diagnosis. Refer to EXL-85, "Description".

NO >> Repair the harnesses or connectors.

XENON HEADLAMP

< DTC/CIRCUIT DIAGNOSIS > XENON HEADLAMP

Description

OUTLINE

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

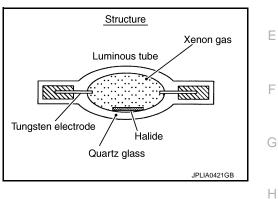
ILLUMINATION PRINCIPLE

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

NOTE:

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

PRECAUTIONS FOR TROUBLE DIAGNOSIS



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

WARNING:

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

CAUTION:

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

NOTE:

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

Diagnosis Procedure

1.CHECK XENON BULB

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

Is the headlamp turned ON?

YES >> Replace the xenon bulb.

NO >> GO TO 2.

2. CHECK HID CONTROL UNIT

Install the normal HID control unit to the applicable headlamp. Check that the lamp is turned ON. <u>Is the headlamp turned ON?</u>

EXL-85

INFOID:000000005233740

INFOID:000000005233739



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XENON HEADLAMP

< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace HID control unit.

NO >> GO TO 3.

3. CHECK XENON HEADLAMP HOUSING ASSEMBLY

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

Is the headlamp turned ON?

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

< DTC/CIRCI			RUNNI	NG LIGHT	RELAY	CIRCUIT	[XENON TYPE]
DAYTIME			T REL	AY CIRC	UIT		
Componen	t Function	Check					INFOID:000000005233741
1. CHECK D	AYTIME RUN	NING LIGH	IT OPERA	TION			
 Check that CONSULT- Select "E 	PDM E/R auto at the parking III ACTIVE TI XTERNAL LA	o active tes lamp and ta EST MPS" of IP	ail lamp ai DM E/R a	re turned ON ctive test iten	∩.	scription". re turned ON.	
TAIL	: Parking	lamp and t	ail lamp (ON			
Off	: Parking	lamp and t	ail lamp C	OFF			
	amp and tail la Daytime runnir Refer to <u>EXL-8</u>	ng light relay	y circuit is				
Diagnosis		· · · · · · · · · · · · · · · · · · ·					INFOID:000000005233742
1. CHECK D/			IT RFI AV	FUSF			
Check that the				TOOL			
		1	0				
Uni		Location	Fuse No.	Capacity	-		
Daytime runnin		IPDM E/R	#59	10 A			
NO >> G 2.CHECK D/ 1. Remove t	the daytime ru	NING LIGH	IT RELAY	POWER SU	PPLY	ector and the	ground.
	Terminals						_
(+)	(-)		Voltage			
	ning light relay			(Approx.)			
Connector	Terminal	Ground			_		
E13	1	_		attery voltage			
Is the measur	ement value	normal?					
	O TO 3. Lepair harness	ses or conn	ectors.				
3.CHECK D	AYTIME RUN	NING LIGH	IT RELAY				
Check the day		•		XL-88, "Com	ponent Insp	pection".	
Is the daytime		relay norm	<u>al?</u>				
	O TO 4. eplace the da	aytime runni	ing liaht re	elay.			
4.CHECK D	•	•		•	SIGNAL OU	TPUT	
	III ACTIVE THe second s	OFF.	lav.				

2. Install the daytime running light relay.

DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Terminals		Test item		
(+)		(–)	iest item	Voltage	
IPDM E/R			EXTERNAL	(Approx.)	
Connector	Terminal	Ground	LAMPS		
E9	105	Giouna	TAIL	0 V	
£9	E9 105		Off	Battery voltage	

Is the measurement value normal?

YES >> Check the parking lamp circuit. Refer to <u>EXL-92</u>, "WITH DAYTIME RUNNING LIGHT SYSTEM : <u>Diagnosis Procedure</u>".

Fixed at 0 V >> GO TO 5.

Fixed at battery voltage >>Replace IPDM E/R.

5.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OPEN CIRCUIT

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

IPDM E/R		Daytime runr	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E9	105	E13	2	Existed

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

6.CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL SHORT CIRCUIT

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

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E9	105	1	Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace IPDM E/R.

Component Inspection

INFOID:000000005233743

1.CHECK DAYTIME RUNNING LIGHT RELAY EXCITATION COIL SIDE

- 1. Turn the ignition switch OFF.
- 2. Remove the daytime running light relay.
- 3. Check continuity of the daytime running light relay excitation coil side.

Daytime runn	Continuity	
Terr	Continuity	
1	1 2	

Does continuity exist?

YES >> GO TO 2.

NO >> Replace the daytime running light relay.

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DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

$\overline{2.}$ CHECK DAYTIME RUNNING LIGHT RELAY CONTACT SIDE

- 1. Apply battery voltage to the daytime running light relay between the terminals 1 and 2.
- 2. Check continuity of the daytime running light relay.

Daytime runr	ning light relay	Condition	Continuity
Terr	Terminal		Continuity
2	Δ	Apply	Existed
3	4	Not Apply	Not existed

Does continuity exist?

YES >> Daytime running light relay is normal.

NO >> Replace the daytime running light relay.

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< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:000000005233744

INFOID:000000005233745

1. CHECK PARKING LAMP OPERATION

⑧IPDM E/R AUTO ACTIVE TEST

1. Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".

2. Check that the parking lamp is turned ON.

CONSULT-III ACTIVE TEST

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

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-90, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuse is not fusing.

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

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK PARKING LAMP SHORT CIRCUIT

1. Disconnect IPDM E/R connector and the front combination lamp connector.

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

	IPDM E/	R		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E9	91	Glound	Not existed
LH	59	92		NUL EXISIEU

Does continuity exist?

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

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

3.CHECK PARKING LAMP BULB AND FRONT SIDE MARKER LAMP

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

1. Disconnect the front combination lamp connector.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	٦	Terminals		Test item	
	(+)		(-)		Voltage
	IPDM	E/R		EXTERNAL	(Approx.)
Conr	nector	Terminal		LAMPS	
RH		91	Ground	TAIL	Battery voltage
INT I	E9	31	Gibunu	Off	0 V
LH	L9	92		TAIL	Battery voltage
L11		32		Off	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5.CHECK PARKING LAMP OPEN CIRCUIT

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

	IPDN	/I E/R	Front comb	ination lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E9	91	E28	8	Existed
LH	L3	92	E58	8	LAISIEU

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

6.CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

F	ront comb	ination lamp		Continuity
Coni	nector	Terminal	Ground	Continuity
RH	E28	4	Giodila	Existed
LH	E58	4		LAISIEU

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check INFOLD 2000000005233746

NOTE:

Check the daytime running light relay circuit first if the parking lamp, tail lamp, license plate lamp and side marker lamp are not turned ON. Refer to <u>EXL-87, "Component Function Check"</u>.

1.CHECK PARKING LAMP OPERATION

⑧IPDM E/R AUTO ACTIVE TEST

Activate IPDM E/R auto active test. Refer to <u>PCS-11, "Diagnosis Description"</u>.

2. Check that the parking lamp is turned ON.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

CONSULT-III ACTIVE TEST

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

TAIL : Parking lamp ON

Off : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-92. "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:000000005233747

1.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2. CHECK PARKING LAMP OPEN CIRCUIT

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

Dayti	me runr	ning light relay	Front comb	ination lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E13	5	E28	8	Existed
LH		5	E58	8	LAISIEU

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

${ m 3.}$ CHECK PARKING LAMP SHORT CIRCUIT

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

Daytime runr	ning light relay		Continuity
Connector	Terminal	Ground	Continuity
E13	5	*	Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 4.

4.CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

F	ront comb	ination lamp		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	4	Giodila	Existed
LH	E58	4	Ť	Existed

Does continuity exist?

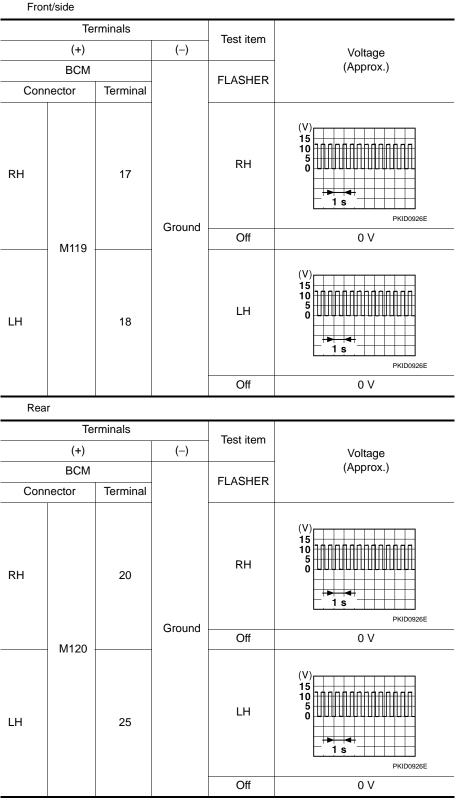
YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

TURN SIGNAL LAMP CIRCUIT	
< DTC/CIRCUIT DIAGNOSIS >	[XENON TYPE]
TURN SIGNAL LAMP CIRCUIT	A
Description	A
BCM performs the high flasher operation (fail-safe) if any bulb or harness of the turn s open. NOTE: Turn signal lamp blinks at normal speed when using the hazard warning lamp.	signal lamp circuit is _B
Component Function Check	INFOID:000000005233749
	INFOID:000000005233749
1.CHECK TURN SIGNAL LAMP	D
 CONSULT-III ACTIVE TEST Select "FLASHER" of BCM (FLASHER) active test item. With operating the test items, check that the turn signal lamp blinks. 	E
LH : Turn signal lamp LH blinking RH : Turn signal lamp RH blinking Off : The turn signal lamp OFF	F
Does the turn signal lamp blink?YESYESNO>> Refer to EXL-93, "Diagnosis Procedure".	G
Diagnosis Procedure	INFOID:000000005233750
1. CHECK TURN SIGNAL LAMP BULB	
Check the applicable lamp bulb.	
Is the bulb normal?	
YES >> GO TO 2. NO >> Replace the bulb.	J
2. CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE	
 CONSULT-III ACTIVE TEST Turn the ignition switch OFF. Disconnect the front combination lamp connector, side turn signal lamp connector or t 	K
lamp connector. 3. Turn the ignition switch ON.	EXI
 Select "FLASHER" of BCM (FLASHER) active test item. With operating the turn signal switch, check the voltage between the BCM harness ground. 	s connector and the
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< DTC/CIRCUIT DIAGNOSIS >

[XENON TYPE]



Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.CHECK TURN SIGNAL LAMP OPEN CIRCUIT

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

EXL-94

Existed

< DTC/CIRCUIT DIAGNOSIS >

18

F	Front turn	signal lamp			
	B	СМ	Front comb	ination lamp	Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M119	17	E28	6	Existed
LH	101113	18	E58	6	LXISIOU
5	Side turn s	signal lamp			
	B	CM	Side turn s	signal lamp	Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
RH		17	E24	1	- • • •

1

Rear turn signal lamp

M119

		•			
	B	СМ	Rear comb	ination lamp	Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M120	20	B67	4	Existed
LH	101120	25	B60	4	LAISted

E55

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and the ground.

Front/side

RH

LH

LH

	BCM			Continuity
C	onnector	Terminal	Ground	Continuity
RH	M119	17	Ground	Not existed
LH	MITS	18		NOL EXISTED
Rear				
	BCM			Continuity
C	onnector	Terminal	Ground	Continuity
			Glound	

Not existed

Does continuity exist?

M120

YES >> Repair the harnesses or connectors.

20

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NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP GROUND OPEN CIRCUIT

Check the continuity between the front combination lamp, side turn signal lamp or rear combination lamp and the ground.

Front turn signal lamp

Fi	ront comb	ination lamp		Continuity
Con	nector	Terminal	Ground	Continuity
RH	E28	4	Ground	Existed
LH	E58	4		EXISTED

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< DTC/CIRCUIT DIAGNOSIS >

Side turn signal lamp

Ground	Continuity
Giouna	
	Existed
	Existed

R	ear comb	Continuity			
Con	nector	Terminal	Ground	Continuity	
RH	B67	3	Giodila	Existed	
LH	B60	3		LAISted	

Does continuity exist?

YES >> Replace the front combination lamp, side turn signal lamp or rear combination lamp.

NO >> Repair the harnesses or connectors.

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Description

Optical senso	r converts	the outside brightne	ess (lux) to voltage	e and transmits the optical sensor signal to BCM.	В
Componen	t Functio	on Check		INF0ID:00000005233752	
1. CHECK O	PTICAL SE	NSOR SIGNAL BY	CONSULT-III		С
 Select "O Turn the I 	gnition swi PTICAL SE	tch ON. ENSOR" of BCM (H			D
Monitor item		Condition	Voltage (Approx.)		
OPTICAL	Optical	When illuminating	3.1 V or more *		_
SENSOR	sensor	When shutting off light	t 0.6 V or less		F
*: Illuminates the	optical sense	or. The value may be les	s than the standard v	alue if brightness is weak.	
Is the item sta					G
		sor is normal. L-97, "Diagnosis Pr	ocedure".		
Diagnosis		-		INFOID:000000005233753	Н
1.снеск о	PTICAL SE	NSOR POWER SU	JPPLY INPUT		
	gnition swi				
	ighting swi		sensor harness co	onnector and the ground.	
5. Check the	e voltage b	etween the optical t		sinector and the ground.	J
	Termina	ls			
	(+)	()	Voltage		K
Optica	al sensor		(Approx.)		
Connector	Termina	al Ground			
M94	1		5 V		EXL
Is the measur		<u>ie normal?</u>			
	60 TO 2. 60 TO 4.				M
•		NSOR GROUND I	NPUT		
Check the vol	tage betwe	en the optical sens	or harness conne	ctor and the ground.	Ν
					IN
	Termina	ls			
	(+)	(-)	Voltage		0
Optica	al sensor		(Approx.)		
Connector	Termina	al Ground		-	Ρ
M94	3		0 V		
Is the measur YES >> G	<u>ement valu</u> O TO 3.	ie normal?			
	60 TO 3. 60 TO 6.				
3. CHECK O	PTICAL SE	ENSOR SIGNAL OU	JTPUT		

INFOID:000000005233751

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OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

	Terminals		Condition	Voltage	
(+	·)	(-)	Condition		
Optical sensor			Optical sensor	(Approx.)	
Connector	Terminal	Ground	Optical sensor		
M94	2	Giouna	When illuminating	3.1 V or more *	
10194	2		When shutting off light	0.6 V or less	

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

Is the measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

1. Turn the ignition switch OFF.

- 2. Disconnect the optical sensor connector and BCM connector.
- 3. Check continuity between the optical sensor harness connector and the BCM harness connector.

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

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

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

Optica	sensor		Continuity
Connector	Terminal	Ground	Continuity
M94	1		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

6.CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

Optica	sensor	B	Continuity	
Connector	Terminal	Connector Terminal		
M94	3	M123	137	Existed

Does continuity exist?

YES >> Replace BCM.

NO >> Repair the harnesses or connectors.

7. CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

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

[XENON TYPE]

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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Optical	Optical sensor BCM		Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M94	2	M123	113	Existed	
	GO TO 8. Repair the h DPTICAL SE		RT CIRCUI	Т	
	cal sensor			Continuity	
O A A A A A A A	Termina		ound		
Connector	Termina	a Gi	ound		

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM.

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< DTC/CIRCUIT DIAGNOSIS >

HAZARD SWITCH

Component Function Check

1.CHECK HAZARD SWITCH SIGNAL BY CONSULT-III

CONSULT-III DATA MONITOR

1. Turn the ignition switch ON.

2. Select "HAZARD SW" of BCM (FLASHER) data monitor item.

3. With operating the hazard switch, check the monitor status.

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

Is the item status normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-100, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK HAZARD SWITCH SIGNAL INPUT

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

	Terminals				
(+)		(-)	Condition	Voltage	
BC	М	Hazard		(Approx.)	
Connector	Terminal		switch		
			ON	0 V	
M122	110	Ground	OFF	(V) 15 10 5 0 ++++ 10 ms JPMIA0012GB	

Is the measurement value normal?

YES >> Replace BCM.

NO >> GO TO 2.

2.CHECK HAZARD SWITCH SIGNAL OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the hazard switch connector and BCM connector.

3. Check continuity between the hazard switch harness connector and the BCM harness connector.

Hazard switch		B	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M144	2	M122	110	Existed	

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK HAZARD SWITCH SIGNAL SHORT CIRCUIT

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

EXL-100

INFOID:000000005233754

INFOID:000000005233755

HAZARD SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Hazard switch Ground Continuity M144 2 Not existed Dess continuity exist? YES >> Repair the harnesses or connectors. NO >> GO TO 4. 4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check the harnesses connector and the ground. Image: Continuity exist? Ground Continuity Connector Terminal Ground Continuity M144 1 Continuity Existed Connector Terminal Ground Continuity M144 1 Continuity Existed Dess continuity exist? YES >> Replace the hazard switch. NO >> Repair the harnesses or connectors. NO >> Repair the harnesses or connectors. Sisted Sisted	Connector Terminal Ground Continuity M144 2 Not existed Voes continuity exist? Not existed YES >> Repair the harnesses or connectors. NO >> GO TO 4. •CHECK HAZARD SWITCH GROUND OPEN CIRCUIT check continuity between the hazard switch harness connector and the ground. Hazard switch Ground M144 1 Opes continuity exist? YES >> Replace the hazard switch.						
Connector Ierminal Ground M144 2 Not existed Does continuity exist? YES >> Repair the harnesses or connectors. NO >> GO TO 4. 1 .CHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check continuity between the hazard switch harness connector and the ground. Hazard switch Continuity M144 1 Continuity M144 1 Existed Does continuity exist? YES YES >> Replace the hazard switch.	Connector Ierminal Ground M144 2 Not existed Notescontinuity exist? YES >> Repair the harnesses or connectors. NO >> GO TO 4. . .CHECK HAZARD SWITCH GROUND OPEN CIRCUIT . check continuity between the hazard switch harness connector and the ground. Hazard switch Ground Connector Terminal M144 1 Consector Terminal M144 1 Coses continuity exist? YES >> Replace the hazard switch.	Hazaro	d switch				
Does continuity exist? YES >> Repair the harnesses or connectors. NO >> GO TO 4. 1 .CHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check continuity between the hazard switch harness connector and the ground. Hazard switch Connector Terminal Ground Continuity M144 1 Does continuity exist? YES >> Replace the hazard switch.	Proces continuity exist? YES >> Repair the harnesses or connectors. NO >> GO TO 4. INCHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check continuity between the hazard switch harness connector and the ground. Hazard switch Connector Terminal Ground Continuity M144 1 Proces continuity exist? YES >> Replace the hazard switch.	Connector	Terminal	Ground	Continuity		
YES >> Repair the harnesses or connectors. NO >> GO TO 4. 1.CHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check continuity between the hazard switch harness connector and the ground. Hazard switch Connector Terminal Ground Continuity M144 1 Coes continuity exist? YES >> Replace the hazard switch.	YES >> Repair the harnesses or connectors. NO >> GO TO 4. .CHECK HAZARD SWITCH GROUND OPEN CIRCUIT check continuity between the hazard switch harness connector and the ground. Hazard switch Continuity M144 1 Consector Terminal Ground Existed Does continuity exist? YES YES >> Replace the hazard switch.	M144	2	-	Not existed		
NO >> GO TO 4. 1. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check continuity between the hazard switch harness connector and the ground. Hazard switch Continuity M144 1 Coes continuity exist? YES >> Replace the hazard switch.	NO >> GO TO 4. .CHECK HAZARD SWITCH GROUND OPEN CIRCUIT check continuity between the hazard switch harness connector and the ground. Hazard switch Gonnector Terminal M144 1 Continuity exist? YES >> Replace the hazard switch.	Does continuity	/ exist?				
Hazard switch Continuity Hazard switch Ground M144 1 Consc continuity exist? Existed YES >> Replace the hazard switch.	CHECK HAZARD SWITCH GROUND OPEN CIRCUIT Check continuity between the hazard switch harness connector and the ground. Hazard switch Connector Terminal Ground Continuity M144 1 Continuity Does continuity exist? YES >> Replace the hazard switch.	YES >> Re	pair the harnes	ses or connecto	ors.		
Check continuity between the hazard switch harness connector and the ground. Hazard switch Hazard switch Continuity Connector Terminal Ground M144 1 Existed Does continuity exist? YES >> Replace the hazard switch.	Check continuity between the hazard switch harness connector and the ground. Hazard switch Hazard switch Continuity Connector Terminal Ground M144 1 Existed Does continuity exist? YES >> Replace the hazard switch.	NO >> GC	D TO 4.				
Hazard switchConnectorTerminalGroundContinuityM1441ExistedDoes continuity exist?YES >> Replace the hazard switch.	Hazard switch Connector Terminal Ground M144 1 Existed Ves continuity exist? YES >> Replace the hazard switch.	4. CHECK HAZ	ZARD SWITCH	I GROUND OPE	EN CIRCUIT		
Connector Terminal Ground Continuity M144 1 Existed Does continuity exist? YES >> Replace the hazard switch.	Connector Terminal Ground Continuity M144 1 Existed Poes continuity exist? YES >> Replace the hazard switch.	Check continuit	ty between the	hazard switch h	arness connecto	r and the ground.	
Connector Terminal Ground Continuity M144 1 Existed Does continuity exist? YES >> Replace the hazard switch.	Connector Terminal Ground Continuity M144 1 Existed Poes continuity exist? YES >> Replace the hazard switch.					_	
Connector Terminal Ground M144 1 Existed Does continuity exist? YES >> Replace the hazard switch.	Connector Terminal Ground M144 1 Existed Does continuity exist? YES >> Replace the hazard switch.			-	Continuity		
<u>Does continuity exist?</u> YES >> Replace the hazard switch.	voes continuity exist? YES >> Replace the hazard switch.			Ground			
YES >> Replace the hazard switch.	YES >> Replace the hazard switch.				Existed	_	
YES >> Replace the hazard switch. NO >> Repair the harnesses or connectors.	YES >> Replace the hazard switch. NO >> Repair the harnesses or connectors.						
Tre verepair ute namesses of comectors.		YES >> Re	place the haza	rd switch.			
					13.		

< DTC/CIRCUIT DIAGNOSIS >

TAIL LAMP CIRCUIT

WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Component Function Check

INFOID:000000005233756

INFOID:000000005233757

1.CHECK TAIL LAMP OPERATION

⑧IPDM E/R AUTO ACTIVE TEST

- 1. Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- 2. Check that the tail lamp is turned ON.

CONSULT-III ACTIVE TEST

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

TAIL : Tail lamp ON

Off : Tail lamp OFF

Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

NO >> Refer to EXL-102, "WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

1.CHECK TAIL LAMP FUSE

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

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

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK TAIL LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

-	Terminals		Test item		
(+)		(–)	iest item	Voltage	
IPDM	E/R		EXTERNAL	(Approx.)	
Connector	Terminal	rminal Ground	LAMPS		
E5	7	Giouna	TAIL	Battery voltage	
ED	1	Off		0 V	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace IPDM E/R.

3.CHECK TAIL LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R connector.

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

	IPDN	/I E/R	Rear combination lamp		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E5	7	B67	2	Existed
LH	LJ	7	B60	2	LAISteu

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4.CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

R	Rear combination lamp			Continuity
Con	nector	Terminal	Ground	Continuity
RH	B67	3	Giodria	Existed
LH	B60	3	-	Existed

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

WITH DAYTIME RUNNING LIGHT SYSTEM

NOTE:

Check the daytime running light relay circuit first if the parking lamp, tail lamp, license plate lamp and side marker lamp are not turned ON. Refer to EXL-87, "Component Function Check".

1.CHECK TAIL LAMP OPERATION

IPDM E/R AUTO ACTIVE TEST

- Κ Activate IPDM E/R auto active test. Refer to <u>PCS-11, "Diagnosis Description"</u>. 2. Check that the tail lamp is turned ON. CONSULT-III ACTIVE TEST EXL 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. Μ TAIL : Tail lamp ON Off : Tail lamp OFF Is the tail lamp turned ON? Ν YES >> Tail lamp circuit is normal. NO >> Refer to EXL-103, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure". WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure C INFOID:000000005233759 **1.**CHECK TAIL LAMP BULB P Check the applicable lamp bulb. Is the bulb normal? YES >> GO TO 2.
- NO >> Replace the bulb.

2.CHECK TAIL LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF. В

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TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

- 2. Remove the daytime running light relay.
- 3. Disconnect the rear combination lamp connector.
- 4. Check continuity between the daytime running light relay harness connector and the rear combination lamp harness connector.

Dayti	Daytime running light relay		Rear combination lamp		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E13	5	B67	2	Existed
LH	L13	5	B60	2	LAISteu

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3. CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

Rear combination lamp				Continuity	
Con	nector Terminal		Ground	Continuity	
RH	B67	3	Giouna	Existed	
LH	B60	3		Existed	

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

< DTC/CIR0		_	ENSE PL	ATE LAN	IP CIRCUIT [XENON TYPE]
LICENSE WITHOU					EM
WITHOUT	DAYTIN	IE RUNNI	NG LIGH	T SYSTE	M : Component Function Check
NOTE: Check the ta 1.CHECK L	•		•	•	e lamp are not turned ON.
 Check the CONSULT Select "I 	IPDM E/R a nat the licen III ACTIVE	auto active te se plate lamp TEST LAMPS" of I	o is turned C PDM E/R ac	DN. ctive test iten	agnosis Description". n. plate lamp is turned ON.
TAIL Off		se plate lam se plate lam	-		
NO >>	License plat Refer to <u>EX</u>	e lamp circui L-105, "WITH	it is normal. <u>IOUT DAYT</u>		<u>NG LIGHT SYSTEM : Diagnosis Procedure"</u> .
1.снески				ISISIE	M : Diagnosis Procedure INFOID:00000005233761
Check the ap Is the bulb n YES >>	oplicable lar <u>ormal?</u> GO TO 2. Replace the	np bulb. bulb.		і Ш Т	
1. Turn the 2. Disconn	ignition swi ect IPDM E/	tch OFF. 'R connector	and the lice	ense plate lar	np connector. ctor and the license plate lamp harness connec-
IPDN	1 E/R	License p	plate lamp		
Connector	Terminal	Connector	Terminal	Continuity	
RH LH E5	7	B153 B152	2 2	Existed	
NO >> 3.CHECK L	GO TO 3. Repair the h ICENSE PL		GROUND O	PEN CIRCU	
Check contir	nuity betwee	n the license	e plate lamp	harness con	nector and the ground.
Licen	se plate lamp			Continuit	
Connector	Termi		round	Continuity	
RH B15				Existed	
Does continu	-	licence plat			

YES >> Replace the license plate lamp.

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the harnesses or connectors. WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Component Function Check INFOLD:00000005233762

NOTE:

Check the daytime running light relay circuit first if the parking lamp, tail lamp, license plate lamp and side marker lamp are not turned ON. Refer to <u>EXL-87, "Component Function Check"</u>.

1.CHECK LICENSE PLATE LAMP OPERATION

DIPDM E/R AUTO ACTIVE TEST

- 1. Activate IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".
- 2. Check that the license plate lamp is turned ON.

(D)CONSULT-III ACTIVE TEST

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

Off : License plate lamp OFF

Is the license plate lamp turned ON?

YES >> License plate lamp circuit is normal.

NO >> Refer to EXL-106, "WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure".

WITH DAYTIME RUNNING LIGHT SYSTEM : Diagnosis Procedure

INFOID:000000005233763

1.CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

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

2. CHECK LICENSE PLATE LAMP OPEN CIRCUIT

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

Dayti	me runr	ning light relay	License p	plate lamp	Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E13	5	B153	2	Existed
LH		5	B152	2	LAISIEU

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

${\it 3.}$ CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

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

		late lamp		Continuity
Conn	ector	Terminal	Ground	Continuity
RH	B153	1	Giouna	Existed
LH	B152	1		Existed

Does continuity exist?

LICENSE PLATE LAMP CIRCUIT

< DTC/	/CIRCUIT DIAGNOSIS >	[XENON TYPE]	
YES NO	>> Replace the license plate lamp.>> Repair the harnesses or connectors.	Ą	1
		E	3

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REAR FOG LAMP CIRCUIT

Component Function Check

1.CHECK REAR FOG LAMP OPERATION

CONSULT-III ACTIVE TEST

i. Select "RR FOG LAMP" of BCM (HEAD LAMP) active test item.

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

On : Rear fog lamp ON

Off : Rear fog lamp OFF

Is rear fog lamp turned ON?

YES >> Rear fog lamp circuit is normal.

NO >> Refer to <u>EXL-108</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK REAR FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK REAR FOG LAMP OUTPUT VOLTAGE

CONSULT-III ACTIVE TEST

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

Terminals			Test item		
(+)		(–)	rest item	Voltage (approx.)	
BC	BCM		RR FOG LAMP		
Connector	Terminal	Ground			
M120	24	Ground	On	Battery voltage	
WIT20	24		Off	0 V	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.CHECK REAR FOG LAMP OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM connector.

3. Check continuity between BCM harness connector and rear fog lamp harness connector.

BCM		Rear fo	Continuity	
Connector	Terminal	Connector Terminal		Continuity
M120	24	B70	1	Existed

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

EXL-108

INFOID:000000005233764

INFOID:000000005233765

DTC/CIRCUI	T DIAGNOSIS	S >			[XENON TYPE]
CHECK REA	R FOG LAMP	SHORT CIRC	JIT		
heck for contir	nuity between I	BCM harness c	onnector and t	ground.	
BC	M		Continuity		
Connector	Terminal	Ground	Continuity		
M120	24	_	Not existed		
oes continuity	exist?				
YES >> GO NO >> Rep	pair the harnes	ses or connect			
YES >> GO NO >> Rep CHECK REA heck for contir	Dair the harnes	GROUND OPI	EN CIRCUIT	and the ground.	
YES >> GO NO >> Rep O.CHECK REA	Dair the harnes	GROUND OPI	EN CIRCUIT	and the ground.	
YES >> GO NO >> Rep CHECK REA heck for contir Rear for	pair the harnes NR FOG LAMP nuity between n	GROUND OPI	EN CIRCUIT arness connect	and the ground.	

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Revision: 2009 July

< SYMPTOM DIAGNOSIS >

INFOID:000000005233783

SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS WITHOUT DAYTIME RUNNING LIGHT SYSTEM

WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Symptom Table

CAUTION:

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

Symp	otom	Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	 Fuse Harness between IPDM E/R and the front combination lamp Front combination lamp (High beam solenoid) IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-81</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO NO Refer to <u>EXL-115</u> .	DT SWITCH TO HIGH BEAM"
High beam indicator lamp (Headlamp switches to the		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
	One side	Front combination lamp (High beam solenoid)	_
Headlamp does not switch to the low beam.		 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
	Both sides	High beam request signal • BCM • IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	_
Headlamp is not turned ON.	One side	 Fuse Xenon bulb Harness between IPDM E/R and the front combination lamp Front combination lamp (xenon headlamp) IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-83</u> .
	Both sides	Symptom diagnosis	
	When the ignition switch is turned ON	"BOTH SIDE HEADLAMPS (LO) A Refer to <u>EXL-116</u> .	RE NOT TURNED ON"
Headlamp is not turned OFF.	The ignition switch is turned OFF (After acti- vating the battery sav- er).	IPDM E/R	_
Headlamp is not turned ON/OFF with the lighting switch AUTO.		 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-97</u> .

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symp	otom	Possible cause	Inspection item
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-90</u> .
Tail lamp is not turned ON.		 Harness between IPDM E/R and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-102</u> .
License plate lamp is not to	urned ON.	 Harness between IPDM E/R and the license plate lamp License plate lamp 	License plate lamp circuit Refer to <u>EXL-105</u> .
Tail lamp and license plate	lamp are not turned ON.	 Fuse Harness between IPDM E/R and the rear combination lamp IPDM E/R 	Tail lamp circuit Refer to <u>EXL-102</u> .
 Parking lamp, tail lamp a not turned ON. Parking lamp, tail lamp a not turned OFF. (Each illumination is turned) 	nd license plate lamp are	Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-117</u> .	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-93</u> .
blink.	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	 Turn signal indicator lamp signal Combination meter BCM Combination meter 	 Combination meter Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
amp is normal.)	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF)	 Combination meter power supply and the ground circuit Combination meter 	Combination meter Power supply and the ground circui Refer to <u>MWI-45</u> .
 Hazard warning lamp do Hazard warning lamp co (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to <u>EXL-100</u> .
Rear fog lamp is not	Rear fog lamp indicator lamp is normal.	 Harness between BCM and rear fog lamp Rear fog lamp bulb BCM 	Rear fog lamp circuit Refer to <u>EXL-108</u> .
turned ON.	Rear fog lamp indicator lamp is included.	 Rear fog lamp indicator lamp is included. Harness between combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .

WITH DAYTIME RUNNING LIGHT SYSTEM

WITH DAYTIME RUNNING LIGHT SYSTEM : Symptom Table

INFOID:000000005233784

CAUTION:

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EXL-111

2010 370Z

< SYMPTOM DIAGNOSIS >

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

Sym	otom	Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	 Fuse Harness between IPDM E/R and the front combination lamp Front combination lamp (High beam solenoid) IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-81</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO N Refer to <u>EXL-115</u> .	OT SWITCH TO HIGH BEAM"
High beam indicator lamp (The headlamp switches t		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP"
	One side	Front combination lamp (High beam solenoid)	_
Headlamp does not switch to the low beam.		 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
	Both sides	High beam request signal • BCM • IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	—
Headlamp is not turned ON.	One side	 Fuse Xenon bulb Harness between IPDM E/R and the front combination lamp Front combination lamp (xenon headlamp) IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-83</u> .
	Both sides	Symptom diagnosis	
Headlamp is not turned	When ignition switch is turned ON	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-116</u> .	
OFF.	Ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned O	N/OFF with the lighting	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
switch AUTO.		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-97</u> .
Parking lamp is not turned ON.		 Parking lamp bulb Harness between daytime running light relay and the front combination lamp Front combination lamp 	Parking lamp circuit Refer to <u>EXL-91</u> .
Tail lamp is not turned ON		 Harness between daytime running light relay and the rear combination lamp Rear combination lamp 	Tail lamp circuit Refer to <u>EXL-103</u> .

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

Symptom		Possible cause	Inspection item
License plate lamp is not turned ON.		 Harness between daytime running light relay and the license plate lamp License plate lamp 	License plate lamp circuit Refer to <u>EXL-106</u> .
Tail lamp and license plate lamp are not turned ON.		 Fuse Harness between daytime running light relay and the rear combination lamp 	Tail lamp circuit Refer to <u>EXL-103</u> .
 Parking lamp, tail lamp a not turned ON. Parking lamp, tail lamp a not turned OFF. (Each illumination is turned) 	nd license plate lamp are	Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to <u>EXL-117</u> .	TAIL LAMPS ARE NOT TURNED
Tail lamp indicator lamp is (Parking and tail lamps are		Combination meter	 Combination meter Data monitor "LIGHT IND" BCM (HEAD LAMP) Active test "TAIL LAMP"
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal lamp circuit Refer to <u>EXL-93</u> .
	Indicator lamp is includ- ed	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
	One side	Combination meter	
Turn signal indicator lamp does not blink. (The turn signal indicator	Both sides (Always)	 Turn signal indicator lamp signal combination meter BCM Combination meter 	 Combination meter Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
lamp is normal.)	Both sides (Only when activating the hazard warning lamp with the ignition switch OFF.)	 Combination meter power supply and the ground circuit Combination meter 	Combination meter Power supply and the ground circuit Refer to <u>PCS-19</u> .
 Hazard warning lamp does not activate. Hazard warning lamp continues activating. (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to <u>EXL-100</u> .
Rear fog lamp is not turned ON.	Rear fog lamp indicator lamp is normal.	 Harness between BCM and rear fog lamp Rear fog lamp bulb BCM 	Rear fog lamp circuit Refer to <u>EXL-108</u> .
	Rear fog lamp indicator lamp is included.	 Combination switch Harness between combination switch and BCM BCM 	Combination switch Refer to <u>BCS-89</u> .
Rear fog lamp indicator lamp is not turned ON. (Rear fog lamp is turned ON.)		 Rear fog lamp status signal Combination meter. BCM Combination meter 	 Combination meter Data monitor "RR FOG IND" BCM (HEAD LAMP) Active test "RR FOG LAMP"

NORMAL OPERATING CONDITION

Description

[XENON TYPE]

INFOID:000000005233785

XENON HEADLAMP

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

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM < SYMPTOM DIAGNOSIS > [XENON TYPE] BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

001110			01 01111			А
Descriptio	on				INFOID:000000005233786	
The headlamp (both sides) does not switch to the high beam when setting to the lighting switch HI or PASS. Diagnosis Procedure					В	
1. COMBIN	1.COMBINATION SWITCH INSPECTION					
<u>Is the combi</u> YES >>	ination switch n GO TO 2.			able		D
2.снески	HEADLAMP (H	ce the malfunctioning	• •			Е
1. Select "	 CONSULT-III DATA MONITOR Select "HL HI REQ" of IPDM E/R data monitor item. With operating the lighting switch, check the monitor status. 					F
Monitor item	C	Condition	Monitor status			
HL HI REQ	Lighting switch	HI or PASS	On			G
	(2ND)	Except for HI or PASS	Off			
Is the item status normal? YES >> GO TO 3. NO >> Replace BCM. 3.HEADLAMP (HI) CIRCUIT INSPECTION					H	
Check the headlamp (HI) circuit. Refer to <u>EXL-81, "Description"</u> .						
<u>Is the headl</u> YES >>	amp (HI) circuit Replace IPDM	normal?	·	<u>n"</u> .		J

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.CHECK COMBINATION SWITCH

Check the combination switch. Refer to <u>BCS-89, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

©CONSULT-III DATA MONITOR

1. Select "HL LO REQ" of IPDM E/R data monitor item.

2. With operating the lighting switch, check the monitor status.

Monitor item	Con	Monitor status	
HL LO REQ	Lighting switch	2ND	On
THE EO REQ		OFF	Off

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM.

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-83, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

Revision: 2009 July

[XENON TYPE]

INFOID:000000005233788

INFOID:000000005233789

PARKING	, LICENSE	PLATE	, SIDE MARK TURNED O	ER AND TAIL LAMP	S ARE NOT	
< SYMPTOM DIA	GNOSIS >		IORNEDO		[XENON TYPE]	
		LATE,	SIDE MARK	ER AND TAIL LAN	IPS ARE NOT	
TURNED ON		,			A	
WITHOUT DA	YTIME RU	NNING	LIGHT SYST	EM		
WITHOUT DAYTIME RUNNING LIGHT SYSTEM : Description						
The parking, licen	se plate, tail, sic	le markei	lamps and each il	lumination are not turned C		
WITHOUT DA	YTIME RUN	INING I	_IGHT SYSTE	M : Diagnosis Proced	C Iure INFOID:000000005233791	
	N SWITCH INSP	PECTION			D	
			S-89, "Symptom T	able".		
Is the combination YES >> GO T		2			E	
NO >> Repai	r or replace the		• ·			
2.CHECK TAIL L	AMP RELAY R	EQUEST	SIGNAL INPUT		F	
CONSULT-III D			R data monitor item			
			ck the monitor stat		G	
Monitor item	Conditio	n	Monitor status			
		1ST	On		Н	
TAIL & CLR REQ	Lighting switch	OFF	Off			
Is the item status					1	
YES >> GO To NO >> Repla						
3. TAIL LAMP CIF	RCUIT INSPEC	TION			J	
Check the tail lam Function Check".	p circuit. Refer f	to <u>EXL-10</u>	2, "WITHOUT DA	YTIME RUNNING LIGHT S	YSTEM : Component	
Is the tail lamp circ	cuit normal?				K	
	ce IPDM E/R.	molfunct	ioning nort			
NO >> Repai	r or replace the ∕IE RUNNIN				EXL	
WITH DAYTIM		GLIGH	T SYSTEM · F	Description	INFOID:000000005233792	
					M	
The parking, licen	•	-		Diagnosis Procedure		
					INFOID:000000005233793	
1.SYMPTOM CC						
Turn the lighting s Are each illuminat					0	
YES >> GO T	0 4.				0	
NO >> GOT					P	
2.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to <u>BCS-89, "Symptom Table"</u> .						
Is the combination						
YES >> GO T NO >> Repai		molfunct	ioning port			
· · ·	r or replace the AMP RELAY RI					
3.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT						

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

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

(E)CONSULT-III DATA MONITOR

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

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

Is the item status normal?

YES >> Replace IPDM E/R.

NO >> Replace BCM.

4. DAYTIME RUNNING LIGHT RELAY CIRCUIT INSPECTION

Check the daytime running light relay circuit. Refer to <u>EXL-87</u>, "Component Function Check". Is the daytime running light relay circuit normal?

- YES >> Check the parking lamp circuit. Refer to <u>EXL-92</u>, "WITH DAYTIME RUNNING LIGHT SYSTEM : <u>Diagnosis Procedure</u>".
- NO >> Repair or replace the malfunctioning part.

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< PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

PREPARATION BEFORE ADJUSTING

NOTE:

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

Before performing aiming adjustment, check the following.Adjust the tire pressure to the specification.

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

NOTE:

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

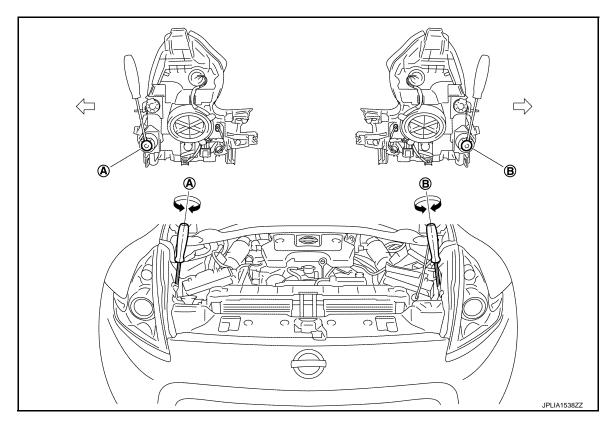
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



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

C: Vehicle center

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

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

[XENON TYPE]

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

Aiming Adjustment Procedure

INFOID:000000005233798

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:**

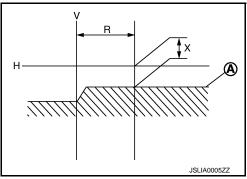
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

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).

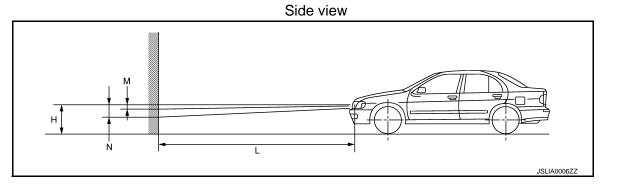
Light axis measure- : 350 \pm 175 mm (13.78 \pm 6.89 in) ment range (R)

Low beam distribution on the screen



 Adjust the cutoff line height 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)



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

< REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

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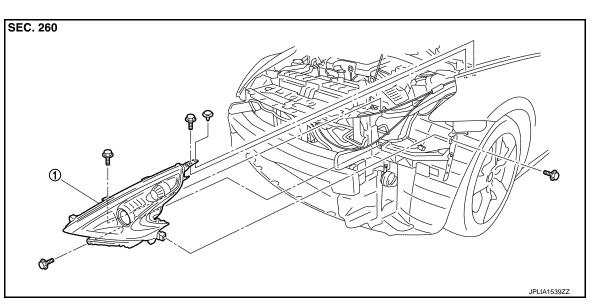
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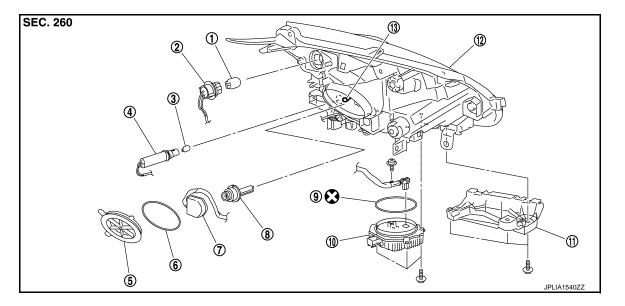
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



- 1. Front turn signal lamp bulb
- 4. Parking lamp bulb socket
- 7. Xenon bulb socket
- 10. HID control unit
- 13. Retaining spring

Refer to <u>GI-4, "Components"</u> for symbols in the figure.

- 2. Front turn signal lamp bulb socket
- 5. Resin cap
- 8. Xenon bulb
- 11. Bumper bracket

- 3. Parking lamp bulb
- 6. Seal packing
- 9. Seal packing
- 12. Headlamp housing assembly

< REMOVAL AND INSTALLATION >

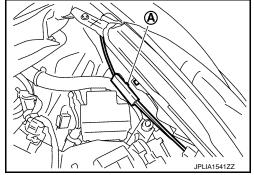
Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the front bumper fascia. Refer to EXT-13, "Exploded View".
- 2. Remove the headlamp mounting bolts and clip.
- Remove the holding clip (A)* and harness clip.
 *: Left side only
- 4. Pull out the headlamp assembly forward the vehicle.
- 5. Disconnect the connector before removing the headlamp housing assembly.



INSTALLATION

Install in the reverse order of removal.

NOTE:

- After installation, perform aiming adjustment. Refer to EXL-119, "Description".
- After installation, check that headlamp lighting. Refer to <u>EXL-123</u>, "Inspection After Installation (HID Control Unit)".

Replacement

INFOID:000000005233801

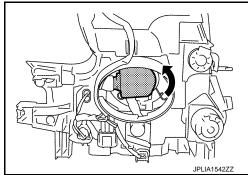
CAUTION:

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

HEADLAMP BULB

- 1. Remove the fender protector. Keep a service area. Refer to <u>EXT-25</u>, "FENDER PROTECTOR : Exploded <u>View"</u>.
- 2. Rotate the resin cap counterclockwise and unlock it.
- 3. Rotate the bulb socket counterclockwise and unlock it.
- Remove the retaining spring lock. Remove the bulb from the headlamp housing assembly.
 CAUTION:

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



PARKING LAMP BULB

- 1. Remove the fender protector. Keep a service area. Refer to <u>EXT-25, "FENDER PROTECTOR : Exploded</u> <u>View"</u>.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

EXL-122

FRONT COMBINATION LAMP

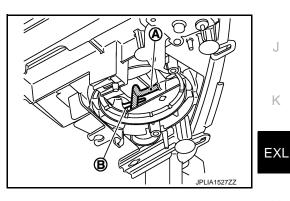
< REMOVAL AND INSTALLATION >	[XENON TYPE]
FRONT TURN SIGNAL LAMP BULB	
 Remove the fender protector. Keep a service area. Refer to <u>EXT-25</u>, "FENDER PROT <u>View"</u>. 	<u> FECTOR : Exploded</u>
2. Rotate the bulb socket counterclockwise and unlock it.	
3. Remove the bulb from the bulb socket.	
SIDE MARKER LAMP	
Replacement integral with front combination lamp. Refer to EXL-121, "Exploded View".	
Disassembly and Assembly	INFOID:000000005233802
DISASSEMBLY	
1. Rotate the resin cap counterclockwise and unlock it.	
2. Rotate the xenon bulb socket counterclockwise and unlock it.	
3. Remove the retaining spring lock. Remove the xenon bulb.	
4. Remove the bumper bracket.	
5. Remove the HID control unit installation screw.	
6. Remove the screw. Disconnect the connector from HID control unit.	
7. Pull out the xenon bulb socket from the headlamp housing assembly.	
8. Rotate the parking lamp bulb socket counterclockwise and unlock it.	
9. Remove the bulb from the parking lamp bulb socket.	
10. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.	
11. Remove the bulb from the front turn signal lamp bulb socket.	
ASSEMBLY	

ASSEMBLY

Assemble in the reverse order of disassembly.

CAUTION:

 When xenon bulb socket installation, fix xenon bulb socket harness (A) to a protruding portion (B) in a headlamp housing surely.



- Install HID control unit securely.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Seal packing cannot be reused.
- After installation, check that headlamp lighting. Refer to EXL-123, "Inspection After Installation (HID Ν Control Unit)".

Inspection After Installation (HID Control Unit)

CAUTION:

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

XENON HEADLAMP LIGHTING CHECK

When recycled HID Control Unit, check the following, when there is abnormality replace the HID Control Unit.

- Xenon bulb is cold condition (turn OFF more than 10 minutes), and repetition does headlamp turned ON/ 1. OFF, check that a headlamp illuminated it surely.
- 2. Headlamp is turn ON until the xenon bulb becomes stable condition (for about 5 minutes) from cold condition, check that there are not on and off light, abnormality such as blinking.

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< REMOVAL AND INSTALLATION >

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

OPTICAL SENSOR

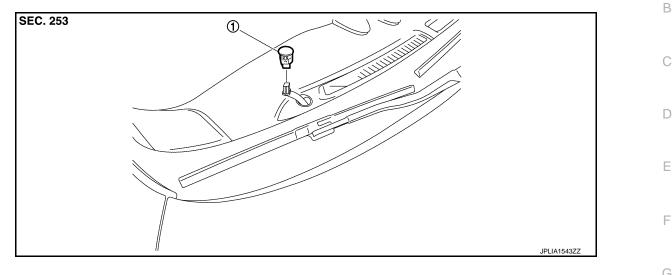
< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

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1. Optical sensor

Removal and Installation

REMOVAL

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

INSTALLATION

Install in the reverse order of removal.

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LIGHTING & TURN SIGNAL SWITCH

Exploded View

The lighting & turn switch is integrated in the combination switch. Refer to BCS-93, "Exploded View".

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HAZARD SWITCH

< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Exploded View

1.

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	JPLIA1	544ZZ
azard switch		G

Removal and Installation INEOID:000000005233808 Н REMOVAL 1. Remove the console finisher. Refer to IP-23, "Exploded View". 2. Remove the hazard switch from the console finisher. **INSTALLATION** Install in the reverse order of removal.

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SIDE TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

SIDE TURN SIGNAL LAMP

Exploded View

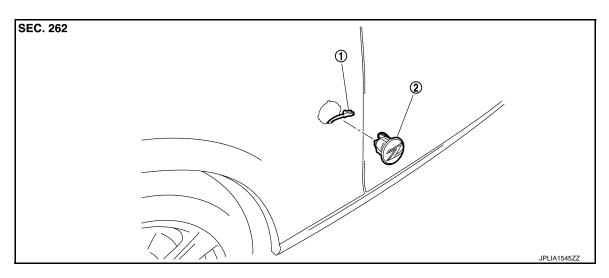
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[XENON TYPE]



1. Side turn signal lamp connector 2. Side turn signal lamp

Removal and Installation

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. Disconnect the side turn signal lamp connector.

NOTE:

Support the vehicle-side harness of the side turn signal lamp with tape so that it does not drop inside the front fender.



- 1. Connect the connector.
- 2. Fix the pawl-side behind the side turn signal lamp housing first, then push the resin clip-side.

Replacement

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SIDE TURN SIGNAL LAMP BULB

Replace the side turn signal lamp as an assembly because it cannot be disassembled.

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Exploded View

REMOVAL

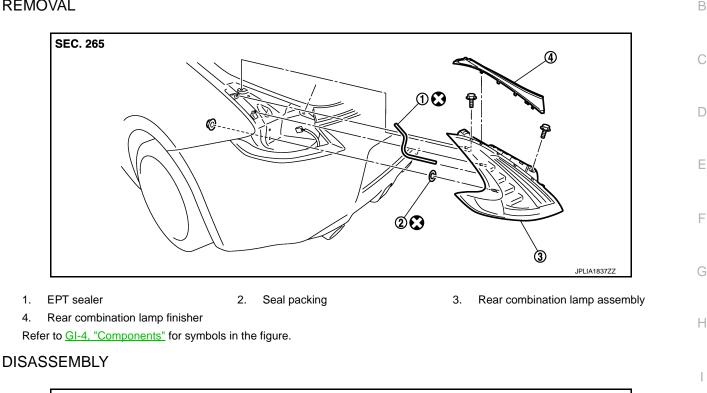
1.

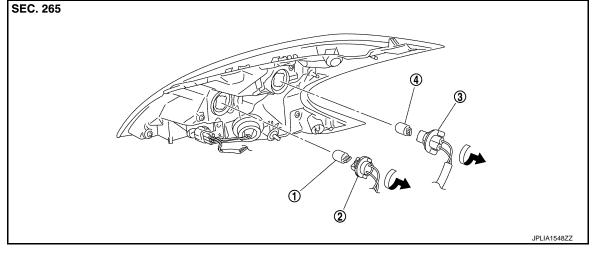
4.

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[XENON TYPE]





Rear turn signal lamp bulb socket

3.

Back-up lamp bulb socket

- Rear turn signal lamp bulb 1.
- Back-up lamp 4.

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the rear combination lamp finisher.
- Remove the luggage side finisher upper / trunk side finisher. 2. Coupe models: Refer to INT-28, "Exploded View". Roadster models: Refer to INT-89, "TRUNK SIDE FINISHER : Exploded View".

2.

Remove the rear combination lamp mounting nut and bolts. 3.

EXL-129

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REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

- 4. Pull the rear combination lamp toward rear of the vehicle.
- 5. Disconnect the rear combination lamp connector.

INSTALLATION

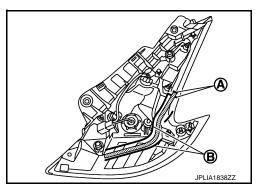
Install in the reverse order of removal.

CAUTION:

Always replace EPT sealer and seal packing with a new one, if rear combination lamp assembly isreused.

Installation EPT sealer

- 1. Remove the EPT sealer from rear combination lamp assembly.
- 2. Apply new EPT sealer within mark off line (A) surface while following the mark off line (B) as shown in the figure.



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CAUTION:

Replacement

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

REAR TURN SIGNAL LAMP BULB

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

BACK-UP LAMP BULB

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

STOP/TAIL LAMP

Replacement integral with rear combination lamp. Refer to EXL-129, "Exploded View".

REAR SIDE MARKER LAMP

Replacement integral with rear combination lamp. Refer to EXL-129, "Exploded View".

HIGH-MOUNTED STOP LAMP

< REMOVAL AND INSTALLATION >

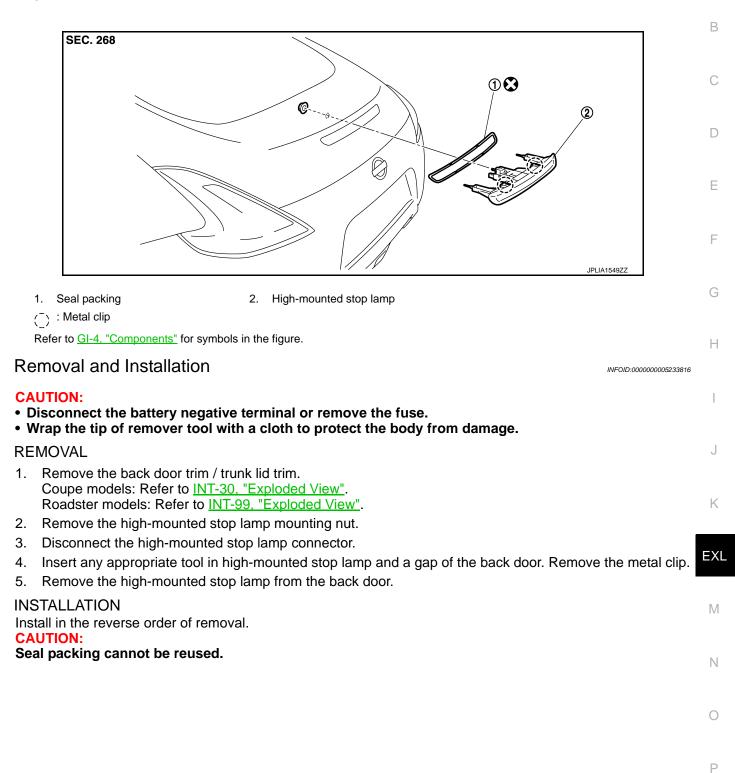
HIGH-MOUNTED STOP LAMP

Exploded View

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[XENON TYPE]

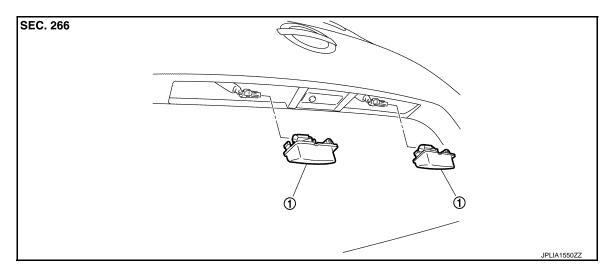


< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

INFOID:000000005233817



1. License plate lamp

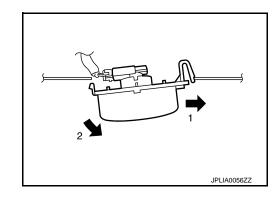
Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

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



INSTALLATION

- 1. Connect the license plate lamp connector.
- 2. Fix the pawl side. And then push the resin clip side.

Replacement

INFOID:000000005233819

CAUTION:

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

LICENSE PLATE LAMP BULB

1. Remove the license plate lamp.

Revision: 2009 July

EXL-132

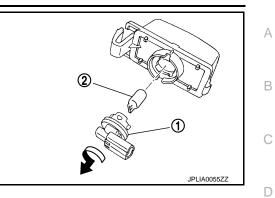
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LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

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

3. Remove the bulb (2) from the socket.



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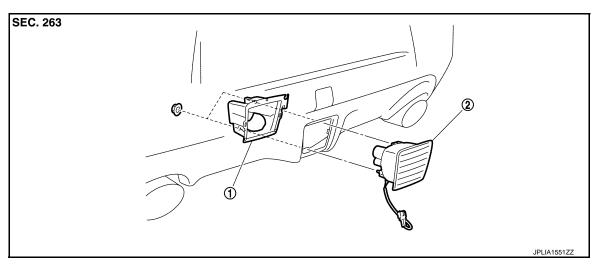
[XENON TYPE]

< REMOVAL AND INSTALLATION >

REAR FOG LAMP

Exploded View

INFOID:000000005233820



- 1. Rear fog lamp bracket
- 2. Rear fog lamp

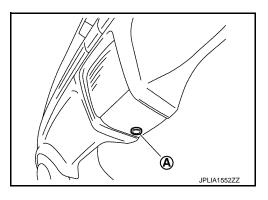
Removal and Installation

CAUTION:

Disconnect battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the clip (A), keep a service area.
- 2. Remove the rear fog lamp mounting nuts.
- 3. Turn the bulb socket counterclockwise and unlock it.
- 4. Remove the rear fog lamp from the rear fog lamp bracket.
- 5. Disconnect the rear fog lamp connector.
- 6. Remove the rear fog lamp bracket from the rear bumper fascia.



INSTALLATION Installation is the reverse order of removal.

Replacement

CAUTION:

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

REAR FOG LAMP BULB

INFOID:000000005233822

INFOID:000000005233821

Revision: 2009 July

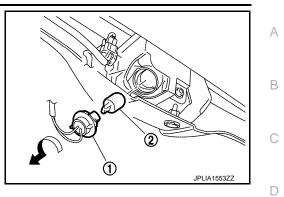
[XENON TYPE]

REAR FOG LAMP

< REMOVAL AND INSTALLATION >

[XENON TYPE]

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



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< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS) SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:000000005233823

	Item	Туре	Wattage (W)
Front combination lamp	Headlamp (HI/LO)	D2S (Xenon)	35
	Front turn signal lamp	7444NA (Amber)	28/8
	Parking lamp	W5W	5
	Front side marker lamp	LED	_
Side turn signal lamp		LED	_
Rear combination lamp	Stop lamp/Tail lamp	LED	_
	Rear turn signal lamp	WY21W (Amber)	21
	Rear side marker lamp	LED	_
	Back-up lamp	W16W	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_
Rear fog lamp		W21W	21