EXTERIOR LIGHTING SYSTEM

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< PRECAUTION > PRECAUTION

PRECAUTIONS

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 SR and SB section 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 SR section.
- 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 or batteries, and wait at least three minutes before performing any service.

Precaution for Work

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- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

PREPARATION

< PREPARATION >

PREPARATION

PREPARATION

Special Service Tool

The actual shape of the tools may differ from those illustrated here.

Tool number (TechMate No.) Tool name		Description	(
 (J-46534) Trim Tool Set		Removing trim components	[
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[LED HEADLAMP]

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Revision: December 2015

COMPONENT PARTS

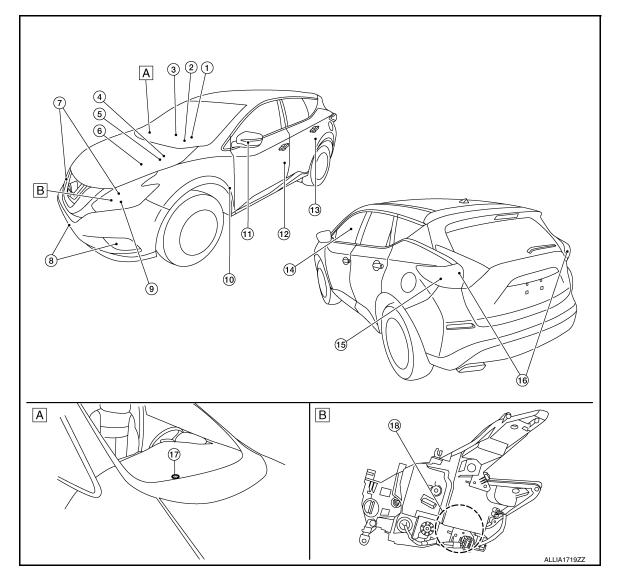
< SYSTEM DESCRIPTION >

[LED HEADLAMP]

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

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A. Right hand side of instrument panel B. Front combination lamp (back)

No.	Part	Function				
1.	Combination meter	Refer to MWI-9, "METER SYSTEM : System Description".				
2.	ВСМ	 Detects each switch condition by the combination switch reading function. Judges that the exterior lamps are turned ON according to the vehicle condition. Requests the headlamp (HI/LO), tail lamp and front fog lamp ON to IPDM E/R (via CAN communication). Requests high beam indicator lamp ON to the combination meter (via CAN communication). Judges the outside brightness from the optical sensor signal. Judges the ON/OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp according to the outside brightness and the vehicle condition. Refer to <u>BCS-4. "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed installation location. 				



COMPONENT PARTS

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

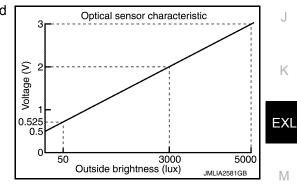
No.	Part	Function
3.	Combination switch (Lighting and turn signal switch)	Refer to <u>MWI-5</u> , " <u>METER SYSTEM</u> : <u>Component Parts Location</u> " for detailed instal- lation location.
4.	IPDM E/R	 Supplies voltage to the load according to the request from BCM (via CAN communication). Refer to <u>PCS-5</u>, "Component Parts Location" for detailed installation location.
5.	Front fog lamp relay	Supplies voltage to front fog lamps when operated by IPDM E/R.
6.	Daytime running lamp relay	Supplies voltage to the daytime running lamps according to request from IPDM E/R. Refer to component below.
7.	Front combination lamps	Refer to EXL-129, "Bulb Specifications".
8.	Front fog lamps	Refer to EXL-129, "Bulb Specifications".
9.	Front turn signal lamp LH	Refer to EXL-129. "Bulb Specifications".
10.	Parking brake switch	Transmits the parking brake switch signal to the combination meter to operate the daytime light system.
11.	Door mirror turn signal LH	Refer to EXL-129, "Bulb Specifications".
12.	Front door switch LH	Transmits the door open signal to the BCM to operate the autolight system.
13.	Rear door switch LH	Refer to <u>DLK-22</u> , "Front Door Switch" for front door switch or <u>DLK-22</u> , "Rear Door <u>Switch</u> " for rear door switch.
14.	Hazard switch	Refer to EXL-9, "Hazard Switch" for detailed installation location.
15.	Rear turn signal lamp LH	Refer to EXL-129, "Bulb Specifications".
16.	Rear combination lamps	Refer to EXL-129, "Bulb Specifications".
17.	Optical sensor	Refer to EXL-9, "Optical Sensor".
18.	LED headlamp control module	LED headlamp control module is integrated into the front combination lamp and turns the LED headlamp ON according to the request from IPDM E/R.

Optical Sensor

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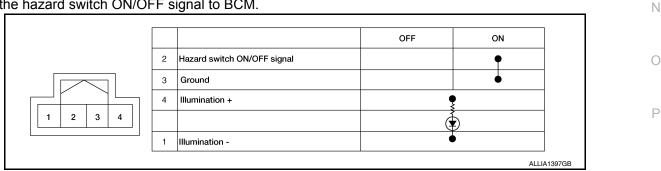
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Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.



Hazard Switch

Inputs the hazard switch ON/OFF signal to BCM.



Daytime Running Light Relay

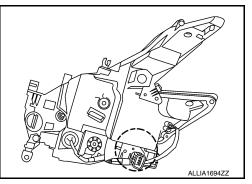
Power is provided to the daytime running light relay according to request from IPDM E/R.



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LED Headlamp Control Module

· LED headlamp control module is integrated into the front combination lamp and turns the LED headlamp ON according to the request from IPDM E/R.



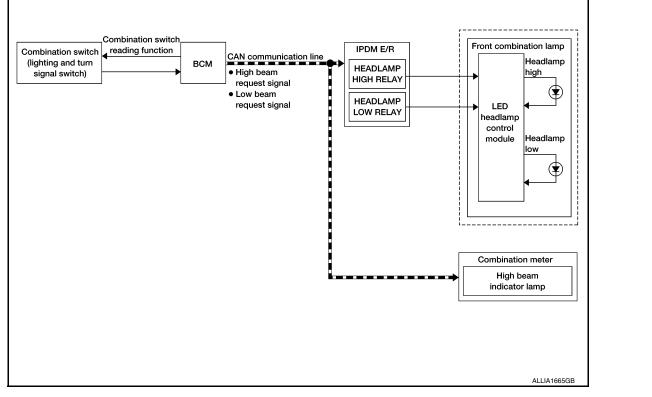
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[LED HEADLAMP]

SYSTEM HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Description

SYSTEM DIAGRAM



OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

- Lighting switch 2ND
- Lighting switch AUTO with the ignition switch ON (Only when the illumination judgment by auto light system is ON. For details, refer to <u>EXL-12</u>, "AUTO LIGHT SYSTEM : System Description".)
- Lighting switch PASS
- IPDM E/R turns the integrated headlamp low relay ON according to low beam request signal and supplies power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (LO) ON according to the power supply from IPDM E/R.

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND
- Lighting switch HI with the lighting switch AUTO and ignition switch ON (Only when the illumination judgment by auto light system is ON and the illumination judgment by high beam assist system is ON. For details, refer to EXL-12, "AUTO LIGHT SYSTEM : System Description".)
- Lighting switch PASS

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< SYSTEM DESCRIPTION >

- 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 according to high beam request signal and supplies
 power supply to LED headlamp control module.
- LED headlamp control module turns the headlamp (HI) ON according to the power supply from IPDM E/R.

HEADLAMP WARNING OPERATION

Headlamp warning warns the driver that there is a malfunction in LED headlamp system. Refer to <u>MWI-15</u>, <u>"INFORMATION DISPLAY : System Description"</u>.

HEADLAMP SYSTEM : Fail-safe

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CAN COMMUNICATION CONTROL

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

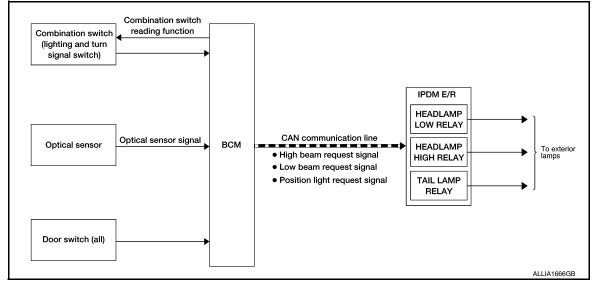
If No CAN Communication Is Available With BCM

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

AUTO LIGHT SYSTEM AUTO LIGHT SYSTEM : System Description

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SYSTEM DIAGRAM



OUTLINE

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

Control by BCM

- Combination switch (lighting and turn signal switch) reading function
- Headlamp control function
- Auto light function
- Delay timer function
- Auto light adjustment system

Control by IPDM E/R

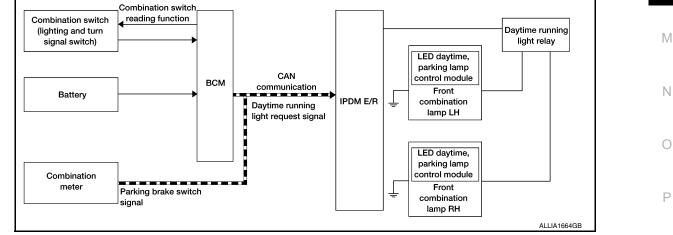
- Relay control function
- Auto light system has the auto light function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness.

EXL-12

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

- 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.	А
*: Headlamps (LO/HI), parking lamps, side marker lamps and tail lamps. Headlamp HI depends on the combi- nation switch (lighting and turn signal switch) condition.	В
AUTO LIGHT FUNCTION	
 BCM detects the combination switch (lighting and turn signal switch) condition with the combination switch (lighting and turn signal switch) reading function. BCM supplies voltage to optical sensor when the ignition switch is turned to ON or ACC. Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM. 	С
• BCM judges outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination according to the outside brightness.	D
 BCM transmits each request signal to IPDM E/R and combination meter via CAN communication according to ON/OFF condition by the auto light function. NOTE: 	_
ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to BCS-19, "HEADLAMP : CONSULT Function (BCM - HEADLAMP)".	E
AUTO LIGHT ADJUSTMENT SYSTEM	F
The auto light adjustment system automatically, dims/brightens the display, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to <u>INL-8</u> , <u>"ILLUMINATION CONTROL SYSTEM : System Description"</u> .	G
DELAY TIMER FUNCTION	0
BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the igni- tion switch is turned OFF.	Н
 Turns the exterior lamp OFF 5 minutes after detecting that any door opens. (Door switch ON). Turns the exterior lamp OFF a certain period of time* after closing all doors. (Door switch ON→OFF). 	
 Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF. *: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-19, "HEAD-LAMP : CONSULT Function (BCM - HEADLAMP)</u>". 	I
NOTE: When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.	J
DAYTIME RUNNING LIGHT SYSTEM	
DAYTIME RUNNING LIGHT SYSTEM : System Description	K
SYSTEM DIAGRAM	EXL
Combination switch	



OUTLINE

- Turns the front combination lamps on through the LED daytime, parking lamp control module as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch (lighting and turn signal switch) reading function of BCM, and relay control function of IPDM E/R.

< SYSTEM DESCRIPTION >

DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch (lighting and turn signal switch) condition by the combination switch (lighting and turn signal switch) reading function.
- · BCM detects the vehicle condition according to ignition switch
- BCM detects the parking brake condition by the parking brake switch signal received from combination meter using CAN communication.
- BCM transmits the daytime running light request signal to IPDM E/R using CAN communication according to the daytime running light ON condition.

Daytime running light ON condition:

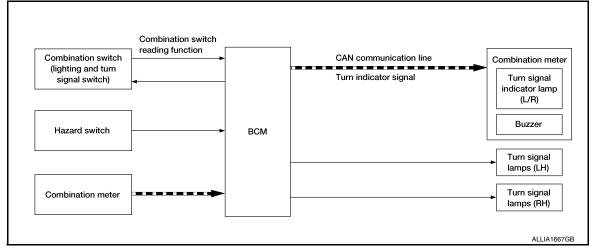
- Vehicle condition READY
- Lighting switch OFF or 1ST
- Lighting switch AUTO, and the auto light function OFF judgment
- Parking brake switch OFF
- IPDM E/R controls the daytime running light relay (ground-side) to turn ON according to the daytime running light request signal.
- Power is supplied from the daytime running light relay to front combination lamp RH and LH, and then daytime running lamps are illuminated.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

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SYSTEM DIAGRAM



OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

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

3-TIME FLASH FUNCTION

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

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

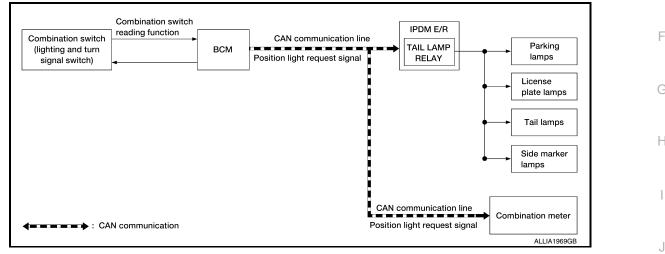
HIGH FLASHER OPERATION

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

The blinking speed is normal while operating the hazard warning lamp. PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

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

SYSTEM DIAGRAM



OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate, side marker and tail lamps ON according to the position light request signal.
- Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

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

INFOID:000000012875273

CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

< SYSTEM DESCRIPTION >

HEAD	
HEAD	

INFOID:000000012875274

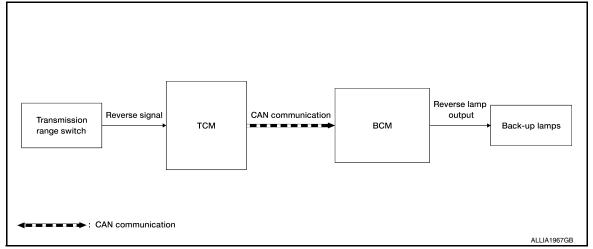
Control part	Fail-safe operation
Parking lampsLicense plate lamps	• Turns ON the tail lamp relay when the ignition switch is turned ON

- Turns ON the tail lamp relay when the ignition switch is turned ON
 Turns OFF the tail lamp relay when the ignition switch is turned OFF
- IlluminationTail lamps
- Side marker lamps

BACK-UP LAMP SYSTEM

BACK-UP LAMP SYSTEM : System Description

SYSTEM DIAGRAM



OUTLINE

Back-up lamp is controlled by back-up lamp control function of TCM.

BACK-UP LAMP OPERATION

- TCM detects the CVT shift selector position status from transmission range switch.
- TCM sends request signal via CAN communication and turns the back-up lamps on when back-up lamp conditions are satisfied.

Back-up lamp ON condition:

- Ignition switch ON

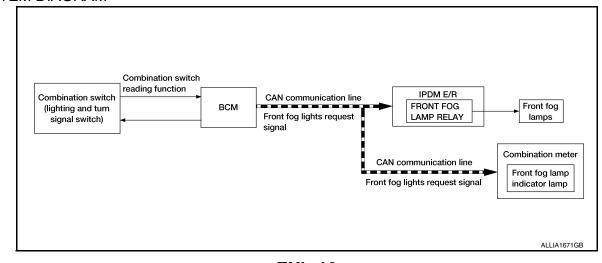
- CVT shift selector position R

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM : System Description

INFOID:000000012875275

SYSTEM DIAGRAM





[LED HEADLAMP]

OUTLINE Front fog lamp is controlled by combination switch (lighting and turn signal switch) reading function, front fog А lamp control function of BCM, and relay control function of IPDM E/R. FRONT FOG LAMP OPERATION BCM detects the combination switch (lighting and turn signal switch) condition by the combination switch (lighting and turn signal switch) reading function. BCM transmits the front fog lights request signal to IPDM E/R and the combination meter via CAN communication according to the front fog lamp ON condition. Front fog lamp ON condition: - Front fog lamp switch ON, and any of the following condition is satisfied (except for the high beam ON): Lighting switch 2ND D Lighting switch AUTO and the ignition switch ON IPDM E/R turns the integrated front fog lamp relay ON, and turns the front fog lamp ON according to the front fog lights request signal. Ε Combination meter turns the front fog lamp indicator lamp ON according to the front fog lights request signal. FRONT FOG LAMP SYSTEM : Fail-Safe INFOID:000000012875276 CAN COMMUNICATION CONTROL When CAN communication with BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control. If No CAN Communication Is Available With BCM Н Control part Fail-safe operation Front fog lamp Front fog lamp relay OFF EXTERIOR LAMP BATTERY SAVER SYSTEM EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description INFOID:000000012875277 SYSTEM DIAGRAM Κ IPDM E/R CAN communication line High beam request signal Low beam request signal HEADLAMP HIGH RELAY EXL To exterior Combination switch Combination switch reading function lamps HEADLAMP (lighting and turn BCM LOW RELAY signal switch) M Combination Ν meter ALLIA1673GB OUTLINE Exterior lamp battery saver system is controlled by each function of BCM and IPDM E/R.

Control by BCM

- Combination switch (lighting and turn signal switch) reading function
- Exterior lamp battery saver function

Control by IPDM E/R

Relay control function

< SYSTEM DESCRIPTION >

- BCM turns the exterior lamp OFF*, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.
- *: Headlamp (HI/LO).

Ρ

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM activates the timer and turns the exterior lamp OFF 45 seconds after the ignition switch is turned from ON→OFF with the exterior lamps ON.
- When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps can be turned ON:
- Ignition switch is turned from OFF \rightarrow ACC/ON
- Lighting switch is changed

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000013379462

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description	
ECU Identification	The BCM part number is displayed.	
Self Diagnostic Result	The BCM self diagnostic results are displayed.	
Data Monitor	The BCM input/output data is displayed in real time.	
Active Test	The BCM activates outputs to test components.	E
Work support	The settings for BCM functions can be changed.	
Configuration	 The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM. 	F
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.	

SYSTEM APPLICATION

BCM can perform the following functions:

				Direct [Diagnosti	ic Mode			
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr	- H I J
Door lock	DOOR LOCK		×	×	×	×			-
Rear window defogger	REAR DEFOGGER			×	×	×			K
Warning chime	BUZZER			×	×				
Interior room lamp timer	INT LAMP			×	×	×			EXL
Exterior lamp	HEADLAMP			×	×	×			EAL
Wiper and washer	WIPER			×	×	×			-
Turn signal and hazard warning lamps	FLASHER			×	×	×			Μ
Air conditioner	AIR CONDITIONER			×					-
Intelligent Key system	INTELLIGENT KEY		×	×	×	×			
Combination switch	COMB SW			×					N
BCM	BCM	×	×			×	×	×	-
Immobilizer	IMMU		×	×	×				0
Interior room lamp battery saver	BATTERY SAVER			×	×				-
Back door open	TRUNK			×					-
Vehicle security system	THEFT ALM			×	×	×			Р
RAP system	RETAINED PWR			×					-
Signal buffer system	SIGNAL BUFFER			×	×				-
TPMS	AIR PRESSURE MONITOR		×	×	×				-

FREEZE FRAME DATA (FFD)

< SYSTEM DESCRIPTION >

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

CONSULT screen item	Indication/Unit	Description				
Vehicle Speed	km/h	Vehicle speed at the moment a particular DTC is detected				
Odo/Trip Meter	km	Total mileage (Odometer value) at 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 stopped and selector lever is in P position.)			
	CRANK>RUN	-	While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)			
	RUN>URGENT	Power position status at the moment a particular DTC is detected*	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		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)*			
	OFF		Power supply position is "OFF" (Ignition switch OFF)			
	ACC		Power supply position is "ACC" (Ignition switch ACC)			
	ON	-	Power supply position is "IGN" (Ignition switch ON with engine stopped)			
	ENGINE RUN	Power supply position is "RUN" (Ignition switch ON with engine running)				
	CRANKING		Power supply position is "CRANKING" (At engine cranking)			
IGN Counter	0 - 39	 The number is 0 when The number increases whenever ignition is so 	t ignition switch is turned ON after DTC is detected a malfunction is detected now. s like $1 \rightarrow 2 \rightarrow 338 \rightarrow 39$ after returning to the normal condition witched OFF \rightarrow ON. 0 39 until the self-diagnosis results are erased if it is over 39.			

NOTE:

*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met:

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

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

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEADLAMP)

DATA MONITOR

INFOID-000000013379463

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description	
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.	
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates engine status received from ECM on CAN communication line.	
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.	
TURN SIGNAL R [On/Off]		
TURN SIGNAL L [On/Off]		
TAIL LAMP SW [On/Off]		
HI BEAM SW [On/Off]		
HEAD LAMP SW 1 [On/Off]	Indicates condition of combination switch.	
HEAD LAMP SW 2 [On/Off]		
PASSING SW [On/Off]		
AUTO LIGHT SW [On/Off]		
FR FOG SW [On/Off]		
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.	
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.	
DOOR SW-BK [On/Off]	Indicates condition of back door switch.	
OPTI SEN (DTCT) [V]	Indicates outside brightness voltage signal from optical sensor.	
OPTI SEN (FILT) [V]	Indicates outside brightness voltage signal from optical sensor filtered by BCM.	

ACTIVE TEST

Test Item	Description	
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].	J
DAYTIME RUNNING LIGHT	This test is able to check daytime running lamp operation [On/Off].	
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].	
		K

WORK SUPPORT

Support Item	Setting	Description	EXI
TWILIGHT ON	MODE2*	Auto lamp function ON.	
	MODE1	Auto lamp function OFF.	
	MODE4	This mode is not used.	M
	MODE3*	Wiper link function operates in INT, LOW and HI.	
WIPER LINK	MODE2	Wiper link function operates in LOW and HI.	
	MODE1	Wiper link function OFF.	N
	MODE4	Less sensitive than normal setting (turns ON later).	
	MODE3	More sensitive than MODE2.	0
CUSTOM A/LIGHT SETTING	MODE2	More sensitive than normal setting (turns ON earlier).	
	MODE1*	Normal setting.	

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Support Item	Setting	Description
	MODE 8	
	MODE 7	
	MODE 6	
ILL DELAY SET	MODE 4	Auto lamp delay timer.
	MODE 5	
	MODE 3	
	MODE 2	
	MODE 1*	

* : Initial setting FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:000000013379464

DATA MONITOR

Description
Indicates condition of door request switch LH.
Indicates condition of door request switch RH.
Indicates condition of push-button ignition switch.
Indicates condition of turn signal function of combination switch.
Indicates condition of hazard switch.
Indicates condition of lock signal from Intelligent Key.
Indicates condition of unlock signal from Intelligent Key.
Indicates condition of panic alarm signal from Intelligent Key.

ACTIVE TEST

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

WORK SUPPORT

Support item	Setting	Description		
3-TIME FLASHER SETTING	ON*	3-Time flasher setting ON.		
	OFF	3-Time flasher setting OFF.		

* : Initial setting

DIAGNOSIS SYSTEM (IPDM E/R)	А	
Diagnosis Description		
AUTO ACTIVE TEST	В	
Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation • Front wiper (LO, HI) • Front fog lamps • Parking lamps	n: C	
 Side marker lamps Tail lamps License plate lamps 	D	
 Daytime running lamps Headlamps (LO, HI) A/C compressor Cooling fans (LO, HI) 	E	
Operation Procedure CAUTION: Do not start the engine.	F	
NOTE: When auto active test is performed with hood opened, sprinkle water on windshield before hand.	G	
 NOTE: If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-202</u> <u>"Component Function Check"</u>. 	<u>2.</u> _H	
 When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wipe operation) 	er	
2. Turn ignition switch OFF.		
 Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn th ignition switch OFF. 	le J	
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once, and the auto active terstarts.		
5. After a series of the following operations is repeated 3 times, auto active test is completed.	K	
Inspection in Auto Active Test Mode When auto active test mode is actuated, the following operation sequence is repeated 3 times.	EYI	

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

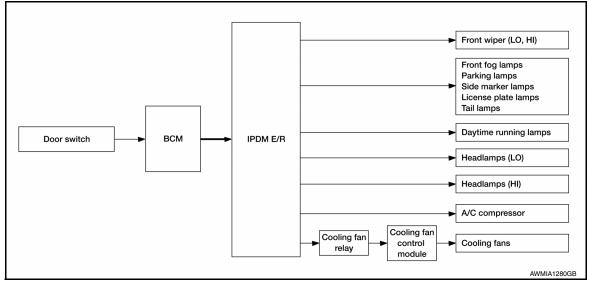
Operation se- quence	Inspection Location	Operation	D 4
1	Front wiper	LO for 3 seconds \rightarrow HI for 3 seconds	- M
2	 Front fog lamps Parking lamps Side marker lamps Tail lamps License plate lamps 	10 seconds	Ν
3	Daytime running lamps	10 seconds	0
4	Headlamps	LO ⇔ HI 5 times	_
5	A/C compressor	ON ⇔ OFF 5 times	_
6*	Cooling fans	LO for 5 seconds \rightarrow HI for 5 seconds	- P

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

DIAGNOSIS SYSTEM (IPDM E/R)

< 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

Symptom	Inspection contents		Possible cause
Any of the following components do not operate		YES	BCM signal input circuit
 Front fog lamps Parking lamps Side marker lamps License plate lamps Tail lamps Daytime running lamps Headlamp (HI, LO) Front wiper 	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
		YES	 ECM signal input circuit CAN communication signal between ECM and IPDM E/ R
Cooling fans do not operate	Perform auto active test. Do the cooling fans operate?	NO	 Cooling fans Harness or connectors be- tween cooling fans and cooling fan control module Cooling fan control module Harness or connectors be- tween cooling fan relay and cooling fan control module Cooling fan relay Harness or connectors be- tween IPDM E/R and cool- ing fan relay IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:000000013379468

CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF \rightarrow ON (for at least 5 seconds) \rightarrow OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

APPLICATION ITEM

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

Direct Diagnostic Mode	Description	-
ECU Identification	The IPDM E/R part number is displayed.	В
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.	_
Data Monitor	The IPDM E/R input/output data is displayed in real time.	C
Active Test	The IPDM E/R activates outputs to test components.	C

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-21, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [%]	×	Indicates cooling fan speed signal received from ECM on CAN communication line.
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN commu- nication line.
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communica- tion line.
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line.
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line.
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communica- tion line.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line.
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal.
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation.
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line.
IGN RLY [On/Off]	×	Indicates condition of ignition relay.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
INTER/NP SW [On/Off]		Indicates condition of CVT shift position.
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line.
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line.
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay.
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch).
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communica- tion line.
HOOD SW [On/Off]		Indicates condition of hood switch.
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN commu- nication line.
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line.
HOOD SW 2 [On/Off]		Indicates condition of hood switch 2.

Revision: December 2015

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [On].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/Tail/Off].

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

List of ECU Reference

INFOID:000000012875285

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ECU	Reference	
	BCS-30, "Reference Value"	
DOM	BCS-50. "Fail Safe"	
BCM	BCS-51, "DTC Inspection Priority Chart"	
	BCS-52, "DTC Index"	
	PCS-13, "Reference Value"	
IPDM E/R	PCS-20. "Fail Safe"	
	PCS-21, "DTC Index"	

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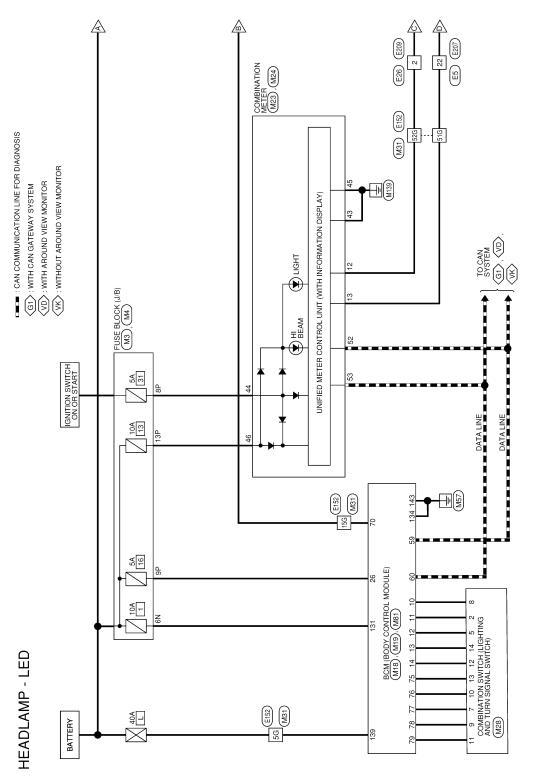
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WIRING DIAGRAM

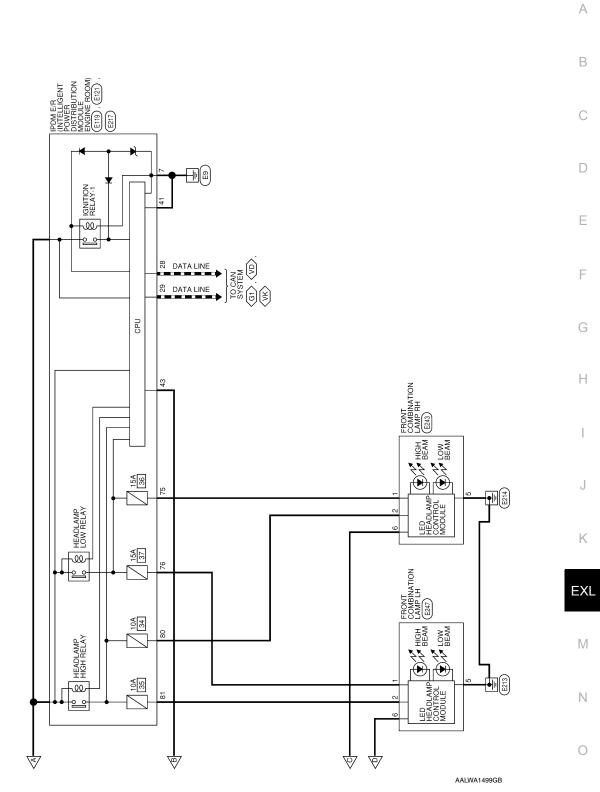
HEADLAMP

Wiring Diagram



AALWA1498GB

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Connoctor No M3	=	BG	COMBI SW IN 4	Connector No	ZCM
	12	œ	COMBI SW IN 3		
~	13	g	COMBI SW IN 2	Connector Name	COMBINATION METER
Connector Type CS06FW-M2	14	۵.	COMBI SW IN 1	Connector Type	TH40FW-NH
Connector Color WHITE	26	_	SHORTING INPUT	Connector Color	WHITE
	Connector No.		M19	서부사카기	
H.S. 3N 71 10 110	Connector Name		BCM (BODY CONTROL MODULE)	ΗS	
	Connector Type		TH40FB-NH	-	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
8N 7N 6N 5N 4N	Connector Color		BLACK	21 22 2	23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
	Ę				
Terminal Color of				Terminal Color of	
	2	60 59 58	57 56 55 54 53 57 50 49 48 47 46 45 44 43 42 41	No.	
6N W -		80 79 78	70 69 68	12 13 GR	LED HEAD LAMP-R LED HEAD LAMP-L
Connector No. M4				-	
Connector Name FUSE BLOCK (J/B)		a relev		Connector No.	M28
	No.	Wire	Signal Name	Connector Name	COMBINATION SWITCH
Connector Color WHITE	29	٩	CAN-L	Connector Type	TH16FW-NH
đ	09	_	CAN-H	Connector Color	WHITE
	70	٩	IGN USM OUT 1	1	
	75	BG	COMBI SW OUT 5	(494)	
7P 6P 5P 4P 3P 2P 1P	76	٩	COMBI SW OUT 4	S I	
13P 12P 11P 10P 9P	77	œ	COMBI SW OUT 3	0.1	
	78	IJ	COMBI SW OUT 2		3 4 5
	79	>	COMBI SW OUT 1		
الحامة مؤ	Connotor		COM		
No Mire Signal Name			WIZS	Touniard Color	
	Connector Name		COMBINATION METER		Signal Name
	 Connector Type 		TH16FW-NH	+	
	 Connector Color 		WHITE		
-	Æ			-	
Connector No M18	AHAM			-	-
-	H			ڻ م	1
			41 42 43 44 45 46 47 48	10 P	1
			49 50 51 52 53 54 55 56		Т
Connector Color GREEN					-
				13 BG	1
H	Terminal	Color of	Signal Name	_	
	2 1 NO.		- Fund		
28 27 26 25 24 23	21	• 8	POWER (IGN)		
	1	6	GND2		
	46	3	POWER (BAT)		
Terminal Color of	52	٩	CAN-L		
	53	-	CAN-H		
+	Т				
~~~					



AALIA4437GB

Color of Wire         Signal Name         No.         Wire         Oglia           0         156         L         513         68         155         1
Signal Name 56 156 156 156 156 156 156 156 156 156
Color of Wire         Signal Name         15G           Vire         rsul         51G
Wire oglical value 51G GR 51G CAN-1
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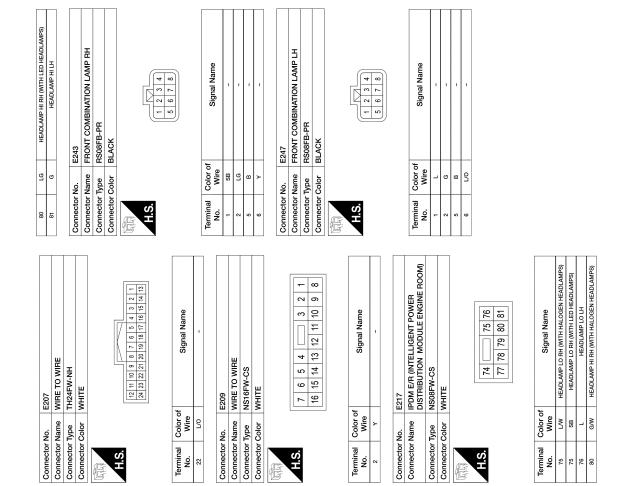
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[LED HEADLAMP]

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**EXL-32** 

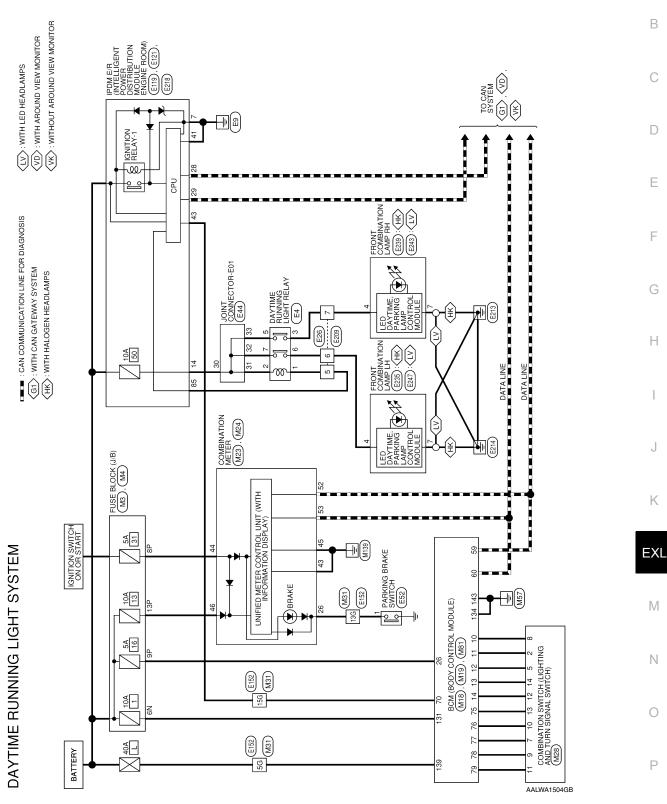


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< WIRING DIAGRAM >

# DAYTIME RUNNING LIGHT SYSTEM

# Wiring Diagram



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Connector No. M24	a			Connector Color WHITE					1         2         3         4         5         6         7         8         9         10         11         12         13         14         15         16         17         18         19         20	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40		0	Wire BR		Connector No. M28	Connector Name COMBINATION SWITCH	-		Connector Color WHITE					2 3 4 5	7 8 9 10 11 12 13 14			ninal Color of Signal Name	WILE	BG	<u>م</u>		: 0	5 0.		2 0		3 0	_								
Conne	Conne		ú no no	Conn	9	66		Ė				Terminal	26 26		Conne	Conne			Conn	Ŧ			Ë				H	Terminal	ž	0	ι Ω	- α	σ	10	:   :	- -	1 5	2 7									
COMBLSW IN 4	COMBI SW IN 3	COMBI SW IN 2	COMBI SW IN 1	SHORTING INPUT		M19			TH40FB-NH	BLACK			59         58         55         54         53         52         51         50         49         48         47         46         45         44         43         42         41           79         78         77         75         27         71         70         69         68         67         66         65         64         63         62         61				Signal Name	0	CAN-L	CAN-H	IGN USM OUT 1	COMBI SW OUT 5	COMBI SW OUT 4	COMBI SW OUT 3	COMBI SW OUT 2	COMBI SW OUT 1		M23	COMBINATION METER	TH16FW-NH	WHITE					41 42 43 44 45 46 47 48	49 50 51 52 53 54 55 56			Signal Name	GND1	POWER (IGN)	GND2	POWER (BAT)	CAN-L	CAN-H	
ß	۳	σ	ч	-			+	+					60 59 58 80 79 78				Color of	wire	۹.	-	۹	ß	Р	œ	σ	×		-												Color of Wire	8	BG	в	×	٩	_	
2 = 9	12	13	14	26		Connector No	Connector Name		Connector Type	Connector Color		H.S.H		_		F	a	No.	59	99	70	75	76	77	78	79		Connector No.	Connector Name	Connector Type	Connector Color		시네시	S I	о Е				ŀ	Terminal No.	43	44	45	46	52	53	
				Color WHITE				3N 2N 1N		8N /N 5N 5N 4N	<u>判</u>	Color of Signal Name			No. M4	ELISE BLOCK (J/B)	NS16EW_CS	-	Color WHITE				7P 6P 5P 4P 3P 2P 1P	13P12P11P				Color of Signal Name			1			M18	Name BCM (BODY CONTROL MODULE)	Type TH40FG-NH	Color GREEN				20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21				Wire Signal Name	W COMBISW IN 5
Connector No.	Connector Name		Connector lype	Connector Color	9	पतन्त्र		Ъ. Г.				Terminal			Connector No.	Connector Name	Connector Type		Connector Color	F			0 E					Terminal	.0N	ď	<del>с</del> ,	10		Connector No.	Connector Name	Connector Type	Connector Color		E	H.S.					-	No.	10

# DAYTIME RUNNING LIGHT SYSTEM CONNECTORS

# 2016 Murano NAM

AALIA4448GB

E44	JOINT CONNECTOR-E01	BJ30FW	WHITE	11         10         8         7         6         5         4         3         2         1           22         21         20         19         17         16         15         14         12           33         32         31         30         28         27         26         25         24         32	Signal Name	1		-		E52 Parking rrake switch	P01FB-A	BLACK			•	_		Cional Namo	orginal Name	Ι							
Connector No.	Connector Name	-			Terminal Color of No. Wire	30 FG	31 LG 32 LG			Connector No.	-			H.S.				al	No.	-							
E4	DAYTIME RUNNING LIGHT RELAY	M06FBR-R-LC	BROWN	2	Signal Name	1		Ι	1 1		E26	WIRE TO WIRE	NS16MW-CS WHITE			2 3 - 4 5 6	8 9 10 11 12 13 14 15 16			Signal Name	1 1 1						
Connector No.	Connector Name		1.		Terminal Color of No. Wire		3 ER		6 SB	_			Connector Type Connector Color V			H.S.				No. Wire							
M31	WIRE TO WIRE	TH80FW-CS16-TM4	WHITE	16 20 36 46 56 60 70 86 86 10 116 120 140 140 140 140 140 140 140 140 140 14	31G32G33G34G35G36G37G38G39G40G41G 42G43G44G45G46G47G48G49G50G	51G52G53G54G55G58G57G58G59G60G61G	62G63G64G65G66G67G68G69G70G	716726736746756786776786786786806816	82G83G84G85G88G87G88G89G90G	910 00/2 00/2 05/2	96G 97G 98G 99G 100G		f Signal Name		1	-	M81	BCM (BODY CONTROL MODULE)	FEA09FW-FHA6-SA	WHITE	[127] [136] [136] [132] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123] [123]	f Signal Name	BAT BCM FUSE	GND2	BAT POWER F/L	GND1	
Connector No.	Connector Name											1	Terminal Color of No. Wire		13G BR	15G P	Connector No.			Connector Color	国 H.S.	Terminal Color of No. Wire	131 W	134 GR	139 L		

# DAYTIME RUNNING LIGHT SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

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AALIA4449GB

Connector No. E218	Connector Name IPDM E/R (INTELLIGENT POWER			Connector Color WHITE	L. C.	22 53 64 55 56 56 57 55 58 54 55 56 57 55 59 57 55 50 57 55 59 57 55 50 57 55 50 57 55 50 57 55 50 57 55 50 57 55 50 57 55 50 57 55 50 57 55 50 50 57 55 50 50 50 50 50 50 50 50 50 50 50 50	F	Terminal Color of Signal Name No. Wire	85 Y/V DTRL RLY		Connector No. E235 Connector Name FRONT COMBINATION LAMP LH		Connector Color BLACK		H.S.	~ ~			Terminal Color of Signal Name No. Wire	G	- BB -	Connector No. E230	e		Connector Color BLACK	HS	1         2         3         4           5         6         7         8		Terminal Color of Signal Name	
E152	WIRE TO WIRE	TH80MW-CS16-TM4	WHITE		56 46 36 26 16 106 96 86 76 66	2162061961161176166156146126126116 300296286276256256256256226	416406396386376386356346336326316	50G49G48G47G46G45G44G43G42G	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 770 600 600 600 600 600 600 600 600 600		81G 80G 79G 78G 77G 76G 75G 74G 73G 72G 71G 90G 89G 88G 87G 86G 85G 84G 83G 82G		956 946 936 926 916 1006 996 986 976 966		if Signal Name	, 1	1		E209	WIRE TO WIRE	NS16FW-CS	WHITE		7661	0         3         4         5           15         14         13         12         11         10		f Signal Name	1 1		
		Connector Type	Connector Color		HIS.										alo	5G P	13G LG		Connector No.	Connector Name		Connector Color	E	H.S.			Terminal Color of No. Wire	5 Y/V 6 GR/BR		
E119	IPDM E/R (INTELLIGENT POWER	DISTRIBUTION MODULE ENGINE ROOM)	TH32FW-NH	WHITE		19 20 21 22 23 44 25 26 27 28 29 30 31 23 33 34 35 26 35 37 34 48 47 48 48 5	-	f Signal Name	CAN-L	CAN-H S-GND	IGN SIGNAL	E1 01	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NS12FW-CS	WHITE			α 10 10 10 10 10	12 13 14 15 16 17 18			Signal Name	P-GND DTRI							
	Connector Name			Connector Color	AA H.S.		F	Terminal Color of No. Wire	28 P	29 L 41 B		Connector No	e	Connector Type	Connector Color		H.S.				Terminal Color of		7 B 14	-						

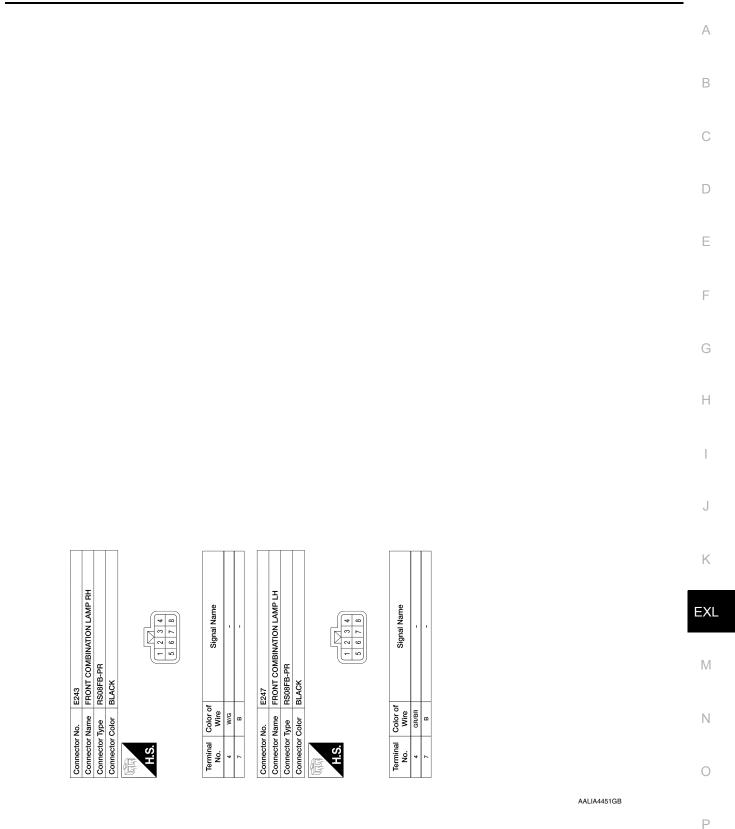
# DAYTIME RUNNING LIGHT SYSTEM

< WIRING DIAGRAM >

AALIA4450GB

## DAYTIME RUNNING LIGHT SYSTEM

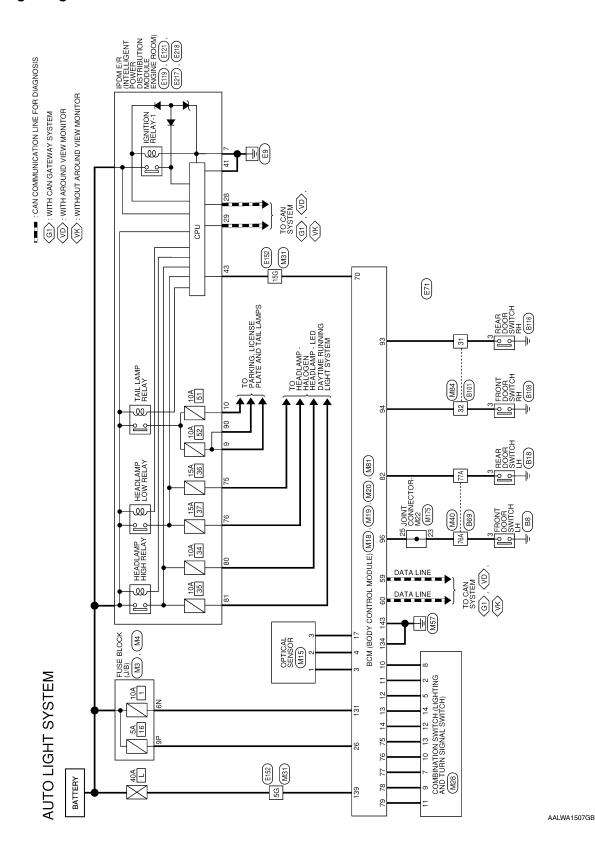
< WIRING DIAGRAM >



## AUTO LIGHT SYSTEM

Wiring Diagram

INFOID:000000012875288



Revision: December 2015

Connector No. M20		Connector lype IH24FGY-NH			НС				Color of	Wire		93 R R DOOR SW	, 2	Connector No M28	4		Connector Color WHITE			H.S.	2 3	7 8 9 10 11 12 13 14		_	No. Wire Signal Name	2	، ع ۱ م	× × ~ ∞	-	G.	w	12 P -	-	14 G – –									
۰ د	M18		e TH40FG-NH	or GREEN			19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1	40 39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21		-	Color of Signal Name	W AIL POWER SUPPLY 5V		BG COMBI SW IN 4			R GND RF A/L	L SHORTING INPUT	Ī	-			or BLACK			50 58 57 58 57 54 53 50 51 50 40 48 47 48 45 44 43 43 43	80 79 78 77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61		-	Color of Signal Name	Ð							W COMBLSW OUL 2					
3	Connector No.	Connector Name	Connector Type	Connector Color		H.S.		40		ŀ	Terminal Col	+	-		_	14	17	26		Connector No.	Connector Name	Connector Type	Connector Color	E	Ч	_	8 8			al	+		09	+	75	76	77	-					
Connector No. M3		Connector lype CSU6FW-M2				8N 7N 6N 5N 4N			Color of	No. Wire Juguran Manife	6N W -	Ī			Connector Color WHITE			7P 6P 5P 4P 3P 2P	16P 15P 14P 13P 12P 11P 10P 9P 8P	•		Color of Color of	No. Wire Signal Name	9P L –			Connector Type TK03FW				H		1 2 3				Terminal Color of Signal Name	Wire	1 W -	2 G –			

#### AALIA4457GB

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# **AUTO LIGHT SYSTEM**

## [LED HEADLAMP]

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Connector No. M31 Connector Name WIRE TO WIRE	Connector No.	M40 WIRF TO WIRF	Connector No.	M84 WIRE TO WIRE
	Connector Type	TH80FDGY-CS16-TM4	Connector Type	
Connector Color WHITE	Connector Color	GRAY	Connector Color	WHITE
16 20 30 40 50 100 100 100 100 110 120 30 140 50 100 110 120 30 140 550 180 170 180 170 180 180 180 180 180 180 180 180 180 18	S:H	1A         2A         3A         4A         3A           6A         3A         9A         9A         9A           1A         2A         3A         9A         9A           1A         3A         9A         9A         9A           1A         3A         9A         9A         9A           2A         3A         1A         1A         1A           2A         2A         1CA         1CA         1CA         1CA	H.S.	16 16 14 13 12 11 10 9 8 7 6 5 4 3 2 2 11 10 10 11 18 17 2 11 20 10 10 18 17 10 10 10 18 17 10 10 10 110 110 110 110 110 110 110
3162203034054503406470380638064006410           3162203034054054064064703406380540641034036406410340044054           1203433034440347034061860548054703805180           5116320358054403477038051805           8510342034024054064070380051810           9101327321732173217321732173217321732173217		31.A         22A         32AA         32AA	Terminal Color of No. Wire 31 R 32 Gonnector No. Connector Name Connector Name Connector Type	of Signal Name Signal Name
Color of Color of		]	H.S.	11 10 9 8 7 6 5 4 3 2 1
Signa	Terminal Color of No. Wire	of Signal Name		22 21 20 19 18 17 16 15 14 13 12
	+	1		33 32 31 30 29 28 27 26 25 24 23 5
-	77A W	1		
	Connector No.	M81	Terminal Color of No.	of Signal Name
	Connector Name	BCM (BODY CONTROL MODULE)	+	1
	Connector Type	FEA09FW-FHA6-SA	25 BG	1
	Connector Color			
		112711361251411331221131120129 143 142 141 140 139 138		
	Terminal Color of No. Wire	of Signal Name		
	131 W	BAT BCM FUSE		
	134 GR	GND2		
		BAT POWER F/L		
	143 GR	GND1		

# AUTO LIGHT SYSTEM

#### < WIRING DIAGRAM >

[LED HEADLAMP]

AALIA4458GB

E218	IPDM E/R (INTELLIGENT POWER					82 83 84 85 86 87 88 89	92 93 94 95			olgital Nattie	CLEARANCE		B8	FRONT DOOR SWITCH LH	TH04FW-NH	WHITE				1 2 3 4	- 1			Signal Name	-		B18	THEAR DOOR SWITCH LH	I H04FW-NH WHITE			K	1 2 3 4			of Signal Name		-			A B C D	
Connector No.	Connector Name	Connector Tuno	Connector Type Connector Color		H.S.				Terminal Color of	No. Wire	90 GR	]	Connector No.	Connector Name	Connector Type	Connector Color	E		H.S.				Terminal Color of		3		Connector No.	Connector Name	Connector Type		(FIG)	H.S.				Terminal Color of	No. Wire	3			E	
E152	WIRE TO WIRE	TH80MW-CS16-TM4	WHITE	56 46 36 26 16	8G 7G	216206196136126156156146136126116	300296286276266246236226	416/406/396/386/376/366/356/346/336/326/316	50G 49G 48G 47G 46G 45G 44G 43G 42G		616 606 596 586 576 566 556 546 536 526 516	/00/09/09/09/09/09/09/09/09/09/09/09/09/	81G80G79G78G77G76G75G74G73G72G71G	90G 89G 88G 87G 86G 85G 84G 83G 82G		956 946 936 936 ⁹¹⁶	1000 3390 380 300		If Signal Name	0	1	1	E217	IPDM E/R (INTELLIGENT POWER	DISTRIBUTION MODULE ENGINE ROOM)	NS08FW-CS Multre	WHILE			75	77 78 79 80 81			_	HEADLAMP LO RH (WITH HALOGEN HEADLAMPS)	HEADLAMP LO RH (WITH LED HEADLAMPS) HEADLAND LO TH	HEADLAMP HI RH (WITH HALOGEN HEADLAMPS)	HEADLAMP HI RH (WITH LED HEADLAMPS)	HEADLAMP HI LH		G	Ì
Connector No.	Connector Name	Connector Type	Connector Color		5														al	5	_	15G L	Connector No.	Connector Name		Connector Type	Connector Color	ED.		0.E			Terminal Color of	-	75 L/W	75 SB	0	80 FG			J	
E119	IPDM E/R (INTELLIGENT POWER		I H3ZFW-NH WHITF			19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 25 25 25 26 27 28 29 30 31 32 33 34	35 36 37 38 39 40 41 41 42 43 44 45 46 47 48 49 50					CAN-H		IGN SIGNAL	E1.01			NS12FW-CS	WHITE				13 14 15 16	=			e Signal Name		TAIL RH	IMIT FLI											K EX M	
Connector No.	Connector Name	Connector Time	Connector Type	Æ	H.S.				Terminal Color of	No. Wire	28 P	29 L	+	43 L	Connector No	Connector Name		Connector Type	Connector Color			H.S.				Terminal Color of			6 0,	2											N	

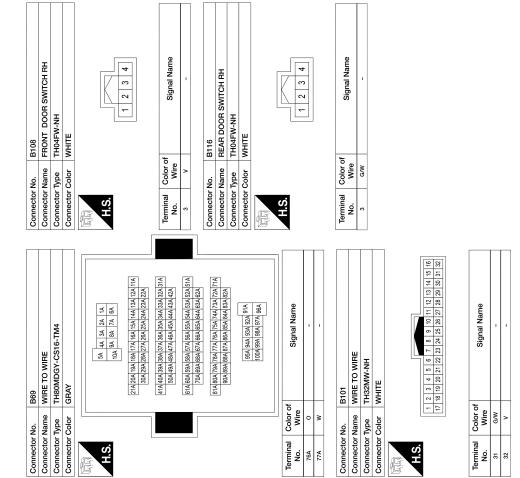
**AUTO LIGHT SYSTEM** 

AALIA4459GB

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[LED HEADLAMP]

**Revision: December 2015** 



< WIRING DIAGRAM >

AALIA4460GB

## FRONT FOG LAMP SYSTEM

#### А Wiring Diagram INFOID:000000012875289 PDM E/R INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E119).(E12). Image: Can communication line for diagnosis Gi>: with can gateway system VD:: with around view moniton VK : without around view moniton В TO CAN SYSTEM (G1), (VD), **-**112 С IGNITION RELAY-1 D ÷ СРU Ε Ω. F FRONT FOG LAMP RH E241 ω ത E FRONT FOG LAMP RELAY FRONT FOG LAMP LH E242 Н 15A 49 DATA LINE DATA LINE 6 METER METER M23 FUSE BLOCK (J/B) M3, M4 Eog Light J UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) IGNITION SWITCH ON OR START 5A 31 ≰ 4 Κ H. g 20 10A 46 EXL 43 BCM (BODY CONTROL MODULE) (M1B), (M19), (M81) 5A 16 1 9 7 10 13 12 14 5 2 8 COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) (M2B) Μ 20 E152 ĝ FRONT FOG LAMP Ν 50 4 2 10A ų 131 20 5 Ο EI152 ₽ ₽ ₽ 20 BATTERY 68 Ρ

AALWA1502GB

Connector No. M28	e			Connector Color WHITE					1 2 3 4 5 6	7 8 9 10 11 12 13 14		Terminal Color of Sized Name	No. Wire	65 64 63 67 61 2 BG -	- B -	 5	10 P	11 W -		13 BG -	14 G																						
COMBI SW IN 4	COMBI SW IN 3	COMBI SW IN 2	COMBI SW IN 1	SHORTING INPUT		M19	BCM (BODY CONTROL MODILLE)		TH40FB-NH	BLACK			7 56 55 51 52 57 51 50 40 48 47 46 4	20 20 20 20 20 20 20 20 20 20 20 20 20 2		Signal Name	0.00	CAN-L	CAN-H	IGN USM OUT 1	COMBI SW OUT 5	COMBI SW OUT 4	COMBI SW OUT 3	COMBI SW OUT 2	COMBI SW OUT 1	M23	COMBINATION METER	TH16FW-NH						41 42 43 44 45 46 47 48	49 50 51 52 53 54 55 56		Signal Name	GND1	POWER (IGN)	GND2	POWER (BAT)	CAN-L	CAN LI
-		_	14 P	26 L		Connector No. M	ç	+		Connector Color B	INTER INTERIOR	SH	BU RD	80 79 78 7		al O	No. Wire	59 P			_				M 62	Connector No.	e	-	1.		E		H.S.				No. Wire	┢	44 BG		46 W	52 P	-
M3			CSU6FW-M2	WHITE				3N 2N 1N		NH NC NO N/ N8		Of Circuid Name	ົ 	1	M4		NST6FW-CS	WHITE				7P 6P 5P 4P 3P 2P 1P	16P 15P 14P 13P 12P 11P 10P 9P 8P	-			Signal Name	-	'	-		M18	BCM (BODY CONTROL MODULE)	TH40FG-NH	GREEN			7 6 5 4 3	8 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21		1		Signal Name
Connector No.	eu			Connector Color	Ţ	14M	S II	0 L				al	No. Wire	6N W	Connector No			Connector Color	1	р¥ И	ЧC					Terminal Color of	No. Wire	8P BG	9P L	13P W		Connector No.	Connector Name			44 1	H.S.		40 39 38			erminal Color of	

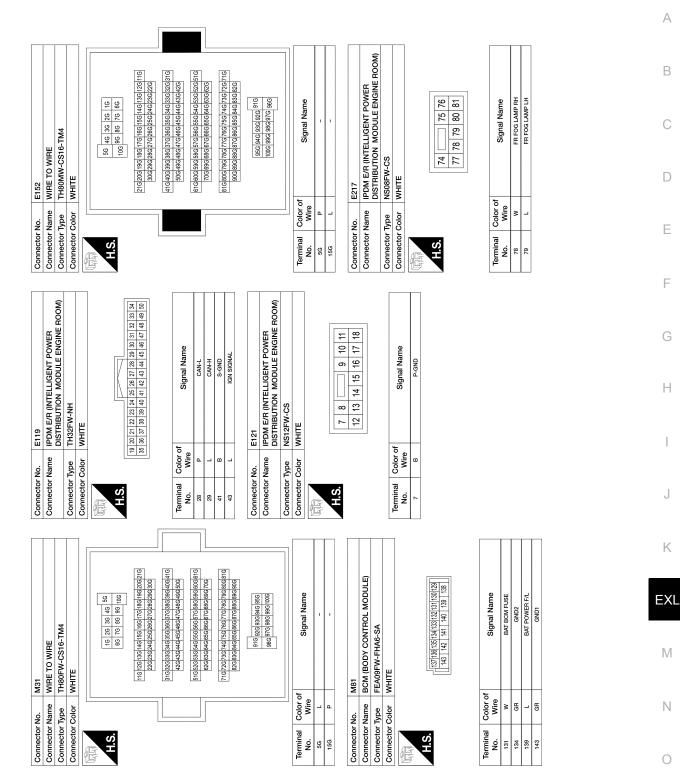
FRONT FOG LAMP CONNECTORS

AALIA4444GB

#### < WIRING DIAGRAM >

### FRONT FOG LAMP SYSTEM

#### [LED HEADLAMP]



AALIA4445GB

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Connector No.	No.	E241
Connector Name	Name	FRONT FOG LAMP RH
Connector Type	Type	FHZ02FB
Connector Color	Color	BLACK
H.S.		
Terminal No.	Color of Wire	f Signal Name
-	×	1
2	8	1
Connector No.	No.	E242
Connector Name	Name	FRONT FOG LAMP LH
Connector Type	Type	FHZ02FB
Connector Color	Color	BLACK
H.S.		
Terminal	Color of	

Signal Name	1	1
Color of Wire	L	8
Terminal No.	-	2

**EXL-46** 

AALIA4446GB



#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

#### < WIRING DIAGRAM >

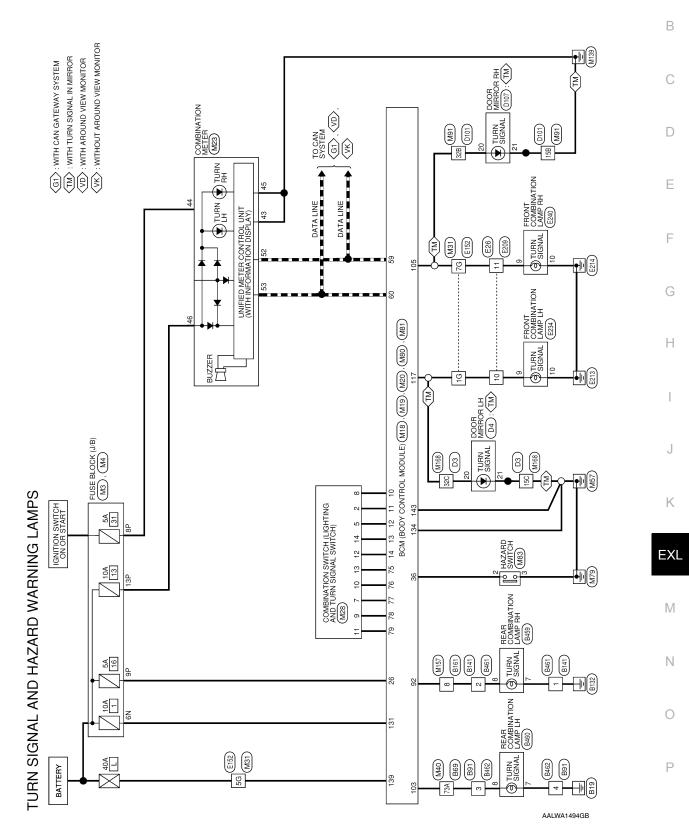
## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

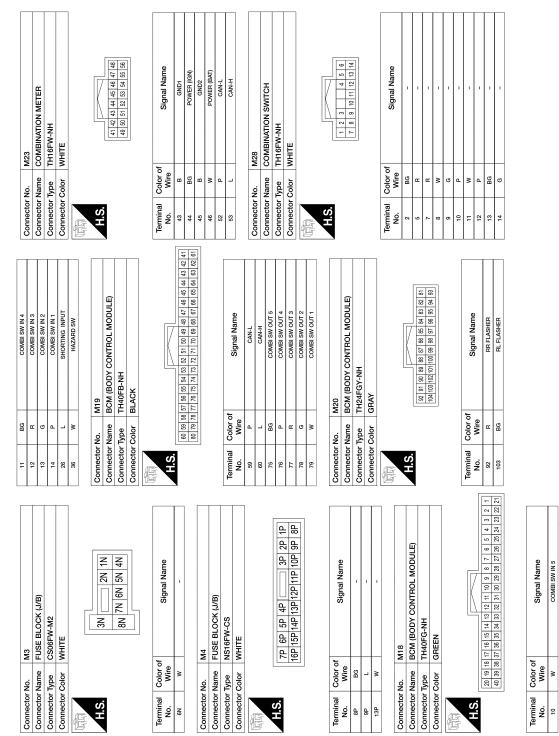
## Wiring Diagram

INFOID:000000012875290

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[LED HEADLAMP]





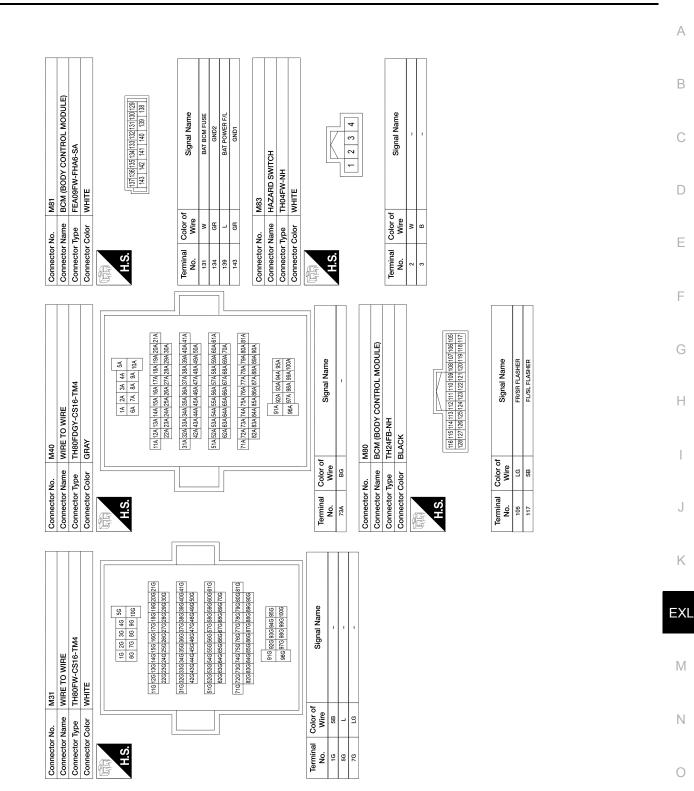
TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

**Revision: December 2015** 

#### 2016 Murano NAM

AALIA4425GB

[LED HEADLAMP]



AALIA4426GB

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#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM [LED HEADLAMP]

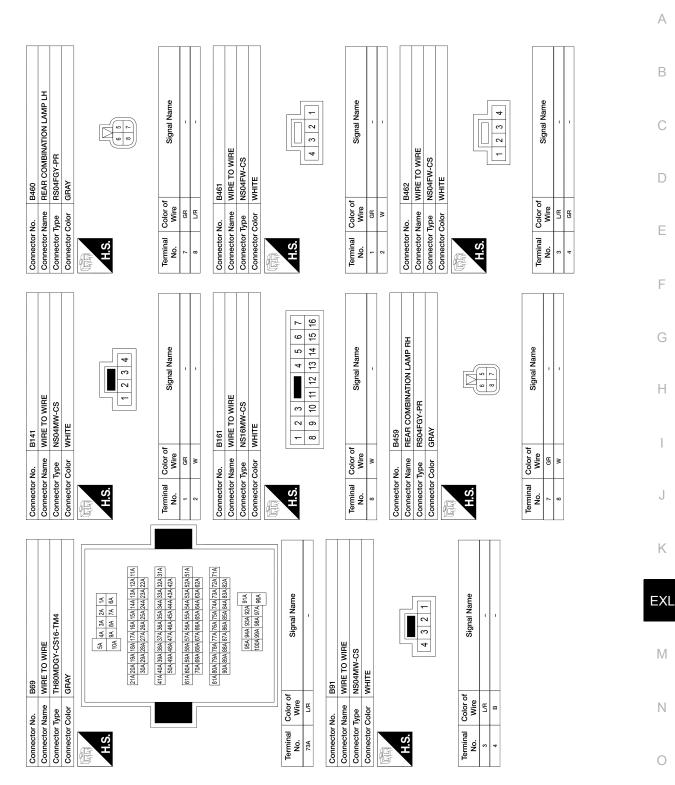
< WIRING DIAGRAM >

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < WIRING DIAGRAM > [LED HEADLAMP]

ω ი 2 FRONT COMBINATION LAMP RH FRONT COMBINATION LAMP LH 15 14 13 12 11 10 ო Name Signal Name Signal Name Signal 1 ter ter 7 6 5 4 WIRE TO WIRE NS16FW-CS **HS03FGY** HS03FGY WHITE GRAY GRAY E209 E240 16 E234 Color of Wire Color of Wire Color of Wire В Connector Name 띪뜅 В ۵ Connector Name Connector Name Connector Color Connector Type Connector Color Connector Color Connector Type Connector Type Connector No. Connector No. Connector No. Terminal No. Terminal No. Terminal No. H.S. H.S. H.S. 5 თ ç E ~ 16 416406396386376366356346336326316 216 206 196 186 176 166 156 146 136 126 116 306 296 286 276 286 256 246 236 226 61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 816 806 796 776 766 756 746 736 726 716 906 896 856 876 866 856 846 836 826 15 506496486476466456446436426 9 70G 69G 68G 67G 66G 65G 64G 63G 62G 956 946 936 926 916 1006 996 986 976 966 5G 4G 3G 2G 1G 10G 9G 8G 7G 6G 2 14 Signal Name Signal Name 4 13 11 12 TH80MW-CS16-TM4 WIRE TO WIRE NS16MW-CS WIRE TO WIRE 2 9 10 WHITE WHITE E152 ω -E26 Color of Wire Color of Wire Connector Name G Connector Name ≥ ⊡ Ø Connector Color Connector Color Connector Type Connector Type Connector No. Connector No. Terminal No. Terminal No. H.S. H.S. 1G 5G 7G E 
 1B
 2B
 3B
 4B
 5B
 6B
 7B
 8B
 9B
 10B
 11B
 13B
 14B
 15B
 1C 2C 3C 4C 5C 6C 7C 8C 9C 10C 11C 12C 13C 14C 15C <del>~</del> ∞ 2 6 11 3 Signal Name Signal Name Signal Name 12 4 13 WIRE TO WIRE TH40MW-CS15 WIRE TO WIRE WIRE TO WIRE TH40MW-CS15 ß 14 NS16FW-CS 9 15 WHITE WHITE WHITE M157 M168 2 16 M91 Color of Wire Color of Wire Color of Wire g Connector Name ۵ BB Connector Name Connector Color Connector Name Connector Type Connector Color Connector Color Connector Type Connector Type Connector No. Connector No. Connector No. Terminal No. Terminal No. H.S. H.S. Terminal H.S. 15C 32C 15B 32B

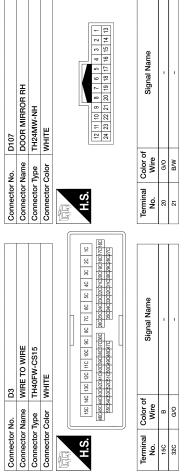
AALIA4427GB

#### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < WIRING DIAGRAM > [LED HEADLAMP]



AALIA4428GB

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	-	Connector No. D4	Connector Name DOOR MIRROR LH	Connector Type TH24MW-NH	Connector Color WHITE	<u>त</u> ्रीक्र	H.S.
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			_				
	-	33					
	~						
	m	24 23 22 21 20 19 18 17 16 15 14		۵			
_	4	16		Ē			
l	ŝ	1		Signal Name	Ι.		
	9	10		a	l '	· ·	
	2	19		jg.			
١	œ	20					
	6	21					
	12 11 10 9	22					
	=	23					
	12	24					
				Color of Wire	G/O	B/W	
				Terminal No.	20	21	

Connector No.		۵	D101												
Connector Name	me		Ĕ	P	3	WIRE TO WIRE									
Connector Type	e	F	4	Ϋ́	ő	TH40FW-CS15									
Connector Color	P	3	WHITE	щ											
L L															
						Γ			h						
H.S.	158	15B 14B 13B 12B 11B 10B 9B	13B	12B	11B	10B	86	8B	8B 7B 6B	68	58	4B 3B	38	2B 1B	8

Signal Name	Т	Т	
I Color of Wire	8	G/O	
Terminal No.	15B	32B	

4684-684484/2847846865986286286248238228218208198148178168 5565485385285185285185084989488478 5565485385285185185084989488478

AALIA4429GB

< WIRING DIAGRAM >

[LED HEADLAMP]

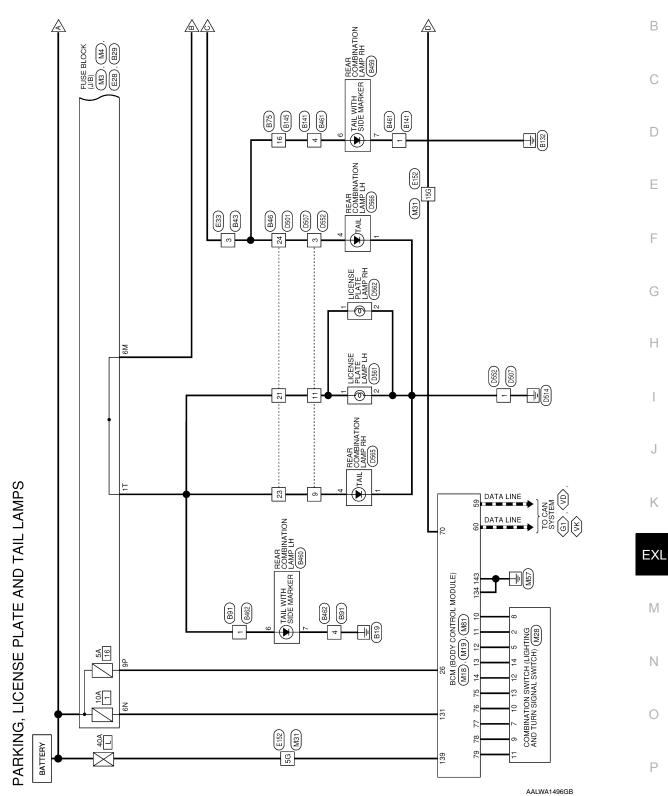
# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

## Wiring Diagram

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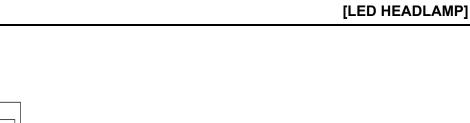
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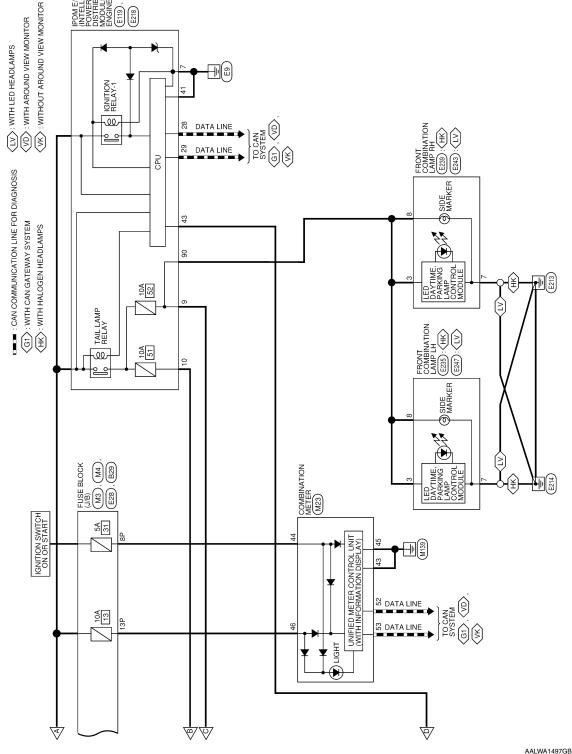


## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

#### < WIRING DIAGRAM >

IPDM E/R (INTELLGENT INTELLGENT DISTRIBUTION MODULE MODULE (E119) , (E121) , (E218)





		A
		В
	Signal Namine Si	С
		D
	Connector No. Connector No. Connec	E
		F
	BG         COMBISWIN 4           R         COMBISWIN 2           0         COMBISWIN 2           1         L           400         M19           400         BCM (BODY CONTROL MODULE)           400         COM (BODY CONTROL MODULE)           400         COM (BODY CONTROL MODULE)           400         BCM (BODY CONTROL MODULE)           400         COM (BODY CONTSOL MODU	G
	COMBISWIN 4         COMBISWIN 3           COMBISWIN 3         COMBISWIN 3           COMBISWIN 3         COMBISWIN 3           M19         SHORTING INPUT           BCM (BODY CONTROL MODULE)         THAOFE-INH           THAOFE-INH         BLACK           M19         Signal Name           Signal Name         CANL           COMBISW OUT 1         COMBISW OUT 3           M19         Signal Name           M16         Signal Name           M17         Signal Name           COMBISW OUT 3         COMBISW OUT 3           M16         Signal Name           M23         COMBISW OUT 3           COMBISW OUT 3         COMBISW OUT 3           M23         COMBISW OUT 3           M116         Signal Name           M23         COMBISW OUT 3           M01         M01           M02         M01           M03         Signal Name           M0	Н
TORS	Bit         M19           R         M19           L         M19           Vipe         TH40FB-NH           Dior         BLACK           Dior         B1ACK           M19         M19           Dior         BLACK           M19         M19           M19         M11           M11         M23           M11         M11           M11         M11           M11         M11	I
CONNEC	11         12         13         0           13         14         1         1           14         1         1         1         1           260mector Name         Connector Name         Connector Name         1           Connector Type         Connector Vame         1         1           1         7         9         9         1           1         7         9         9         9           1         7         9         9         9           7         9         9         9         9           7         7         9         4         8           7         7         9         4         8           7         7         9         4         8           7         7         9         4         8           8         4         8         8         8           8         8         8         8         8           8         8         8         8         8           8         8         9         1         1	J
LAMPS		К
AND TAIL	ж (J/B) 2	EXL
PLATE /	MS EUSE BLOCK (J/B) CS06FW-M2 CS06FW-M2 CS06FW-M2 CS06FW-M2 CS06FW-M2 CS06FW-M2 Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name Signal Name COMBISM Signal Name Signal Name	Μ
PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS		Ν
RING, L	Connector No. Connector Name Connector Name Connector No. No. No. Connector No. Connector	0
ΡA	AALIA4432GB	

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# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

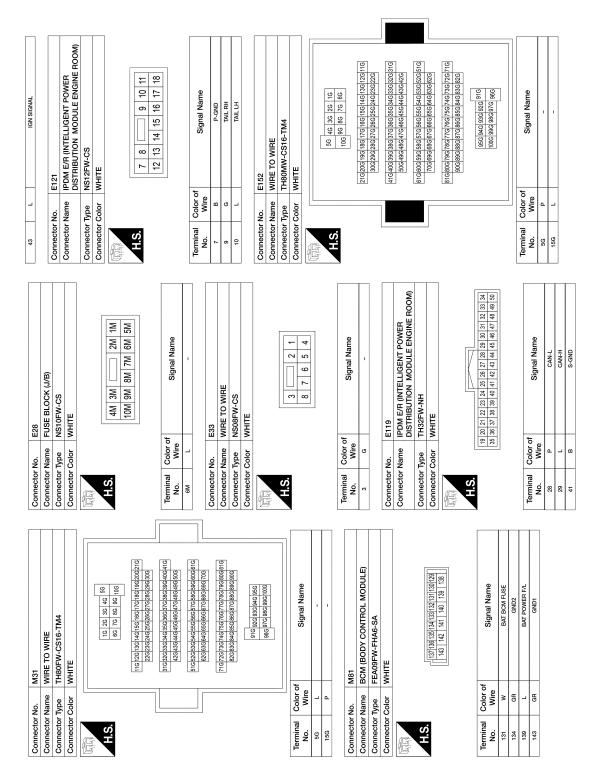
< WIRING DIAGRAM >

## [LED HEADLAMP]

**Revision: December 2015** 

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

#### < WIRING DIAGRAM >



AALIA4433GB

PARKING, LICENSE PLATE AND TAIL LAMPS SYS	STEM
< WIRING DIAGRAM >	[LED HEADLAMP]

	e a	Connector Color WHITE		H.S. 6T 5T 4T 3T	Terminal Color of Signal Name No. Wire	Connector No. B43	Connector Type NS08MW-CS			1 2 <b>3</b> 4 5 6 7 8	H	Terminal Color of Signal Name No. Wire Signal Name 3 W -	Connector No	e	 Connector Color WHITE	H.S.	1         2         3         4         1         6         7         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 <th1< th=""> <th1< th=""> <th1< th=""> <th1< th=""></th1<></th1<></th1<></th1<>	Terminal Color of Signal Name Mires of Signal Name	- M		
													Color of	Wire							
		Connecto	Connecto					Connecto	Connecto		H.S.	nal Name					3 4	28	nal Name	1 1	Ε

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	Connector Name WIRE TO WIRE	Connector Type Noverw-CS Connector Color WHITE	<u>ित</u> न्तु	H.S.		Terminal Color of Signal Name		M			Connector Name WIRE TO WIRE		Connector Color WHITE	HHF H.S.	1 2 3 4		No. Wire Signal Name		- GK						
B145	WIRE TO WIRE	GRAY		1         2         3         4         5         6         7           8         9         10         11         12         13         14         15         16		Signal Name			B459	REAR COMBINATION LAMP RH	RS04FGY-PR	GRAY			<u>1</u> 8	signal Name	1	1	BAGO	BEAR COMBINATION I AMP I H	RS04FGY-PR	GRAY		signal Name	-
		Connector Color		H.S.		Terminal Color of	16 WIE		Connector No.			Connector Color		H.S.		Terminal Color of No.		7 GR	Connector No	٩			H.S.	Terminal Color of No. Wire	
B75	WIRE TO WIRE	GRAY		7         6         5         4         3         2         1           16         15         14         13         12         11         10         9         8		Signal Name		_	B91	WIRE TO WIRE		WHITE			4 3 2 1	Signal Name	-	Ι	8111	WIRE TO WIRE	NS04MW-CS	WHITE		Signal Name	
Connector No. E	Connector Name V			H.S.	1	Terminal Color of	16 WIE					Connector Color V	번번	H.S.		Terminal Color of No. Wire		4 B	Connector No	þ	-		Щ. Н.S.	Terminal Color of No. Wire	

Revision: December 2015

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TH32EW-NH WHITE		Connector No. 2000 Connector Name REAR COMBINATION LAMP RH Connector Type NS04MW-CS Connector Color WHITE
6         15         41         12         11         10         0         7         6         6         4         3         2         1           28         31         30         28         27         26         25         24         2         2         1           20         31         30         28         27         26         25         24         23         22         22         12         13         16         17           e         f         Signal Name         -         -         -         -         -         -	Connector Type RC2FBR	Terminal Color of Signal Name
	Terminal No.     Color of Wire     Signal Name       1     0     -       2     B     -       2     B     -       Connector No.     D562     Connector Name       Connector Name     LICENSE PLATE LAMP RH       Connector Name     LICENSE PLATE LAMP RH       Connector Color     BROWN	Connector No. D566 Connector Name REAR COMBINATION LAMP LH Connector Type NS04MV-CS Connector Color WHITE
Signal Name	Terminal Color of Signal Name	Terminal No     Color of Wire     Signal Name       1     B     -       4     w     -
D552 WIRE TO WIRE TH24MW-NH WHIE 1912 3 4 5 6 7 9 10 11 12 1914 16 16 17 9 19 10 11 12 1914 16 16 17 9 19 20 21 22 23 24 Signal Name	-	

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< WIRING DIAGRAM >

#### [LED HEADLAMP]

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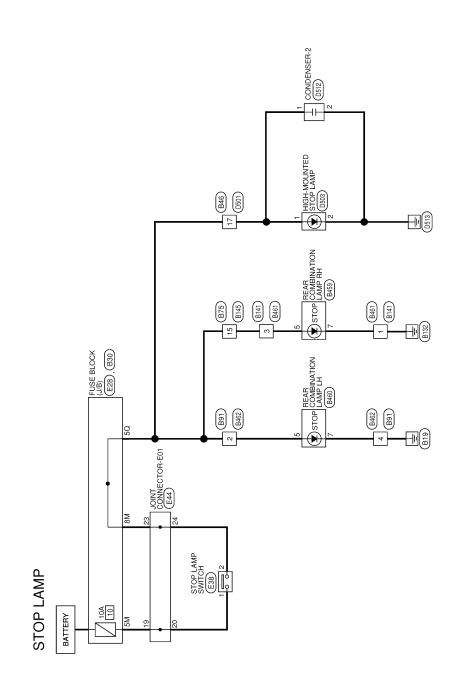
Revision: December 2015

AALIA4436GB

Wiring Diagram



[LED HEADLAMP]



AALWA1495GB

**STOP LAMP** 

< WIRING DIAGRAM >

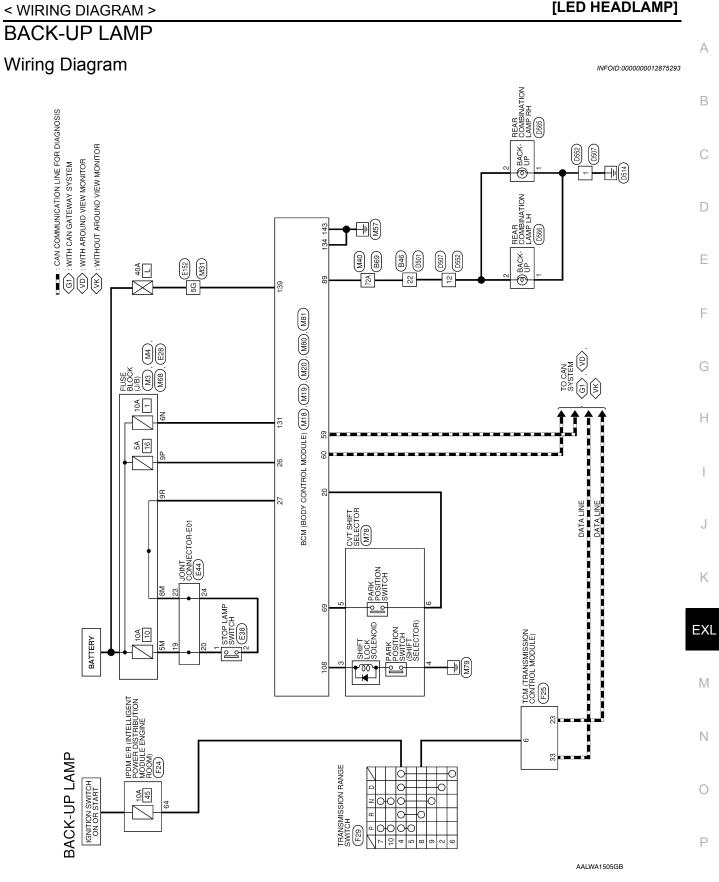
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	0	Connector Type TH32FW-NH	Connector Color WHITE	दिन् <u>म</u> े		16         15         14         13         12         11         10         9         8         7         6         5         4         3         2         1           22         31         30         29         28         27         28         28         25         23         22         21         20         9         16         17	Terminal Color of Signal Name No. Wire			Connector No. D503	Connector Name HIGH-MOUNTED STOP LAMP	Connector Type TK02MBR-P	Connector Color BROWN		H.S.	2 1		Terminal Color of	-	1 6W		Connector No. D512	Connector Name CONDENSER-2	Connector Type M02FW-GY-LC	Connector Color GRAY		H.S.		Terminal Color of Signal Name	. WIE	
B460	REAR COMBINATION LAMP LH	RS04FGY-PR	GRAY		Ŕ		f Signal Name	-	1		B461	WIRE TO WIRE	NS04FW-CS	WHITE			4 3 2 1		f Signal Name		1		B462	WIRE TO WIRE	NS04FW-CS	WHITE				f Signal Name	
		Connector Type	Connector Color	Let a	H.S.		Terminal Color of No.	+	7 GR			Connector Name	Connector Type	Connector Color		Ч. С. Ц.			al	- Wire	. e		Connector No.	Connector Name		hector Color	Ne terresta de la construcción d	H.S.	H	Terminal Color of	NO.
B141	WIRE TO WIRE	NS04MW-CS	WHITE			1 2 3 4	f Signal Name	1	-		B145	WIRE TO WIRE	NS16MGY-CS	GRAY		1 2 3 <b>•••</b> 4 5 6 7	8 9 10 11 12 13 14 15 16		f Signal Name	· · · · · · · · · · · · · · · · · · ·		B459	REAR COMBINATION LAMP RH	RS04FGY-PR	GRAY				f Signal Name		-
	~		Connector Color	EA M	H.S.		Terminal Color of No. Wire		9 8				Connector Type	Connector Color (		Ю.П			al	15 Wire	_	Connector No.	Connector Name	Connector Type	Connector Color	ÊÊ	H.S.		Terminal Color of	>	2

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#### **BACK-UP LAMP**

#### [LED HEADLAMP]



Connector No. M3	27	σ	BRAKE SW LAMP	Connector No.	M31	
Connector Name FUSE BLOCK (J/B)				Connector Name	WIRE TO WIRE	
	Connector No.	No.	M19	Connector Type	THR0FW-CS16-TM4	
	Connector Name	Name	BCM (BODY CONTROL MODULE)	Connector Color	WHITE	
	Connector Type	Type	TH40FB-NH			7
	Connector Color	Color	BLACK	E		
H.S.	E			H.S.	1G 2G 3G 4G 5G	
7N 6N 5N	S H				66 / / 6 86 96 106	
5	5	60 59 51 80 79 71	60         59         58         57         56         54         53         52         51         50         48         47         46         45         44         43         42         41           80         73         75         71         76         76         76         66         65         64         43         47         46         44         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41         43         42         41 </td <td></td> <td>116 126 136 146 156 166 176 186 136 196 216  226 236 246 256 266 276 286 236 306</td> <td>[</td>		116 126 136 146 156 166 176 186 136 196 216  226 236 246 256 266 276 286 236 306	[
Terminal Color of Signal Name No. Wire				1	316326336346356366376386396406416 42643646456466476486496506	
	Terminal No.	Color of Wire	f Signal Name		51652654655656657058659660616	
	59	٩	CAN-L		62G 63G 94G 65G 66G 67G 68G 69G 70G	
	60	-	CAN-H		710 730 730 740 750 750 770 780 700 000 010	
	69	σ	AT DEVICE OUT		/ 10/20/30/440/30/200/700/200/20000010 820.830.840.850.850.870.880.800.800.000	
Connector lype NS16FW-CS						
	Connector No.	No.	M20		91G 92G 93G 94G 95G	
	Connector Name	Name	BCM (BODY CONTROL MODULE)		96G 97G 98G 99G 100G	
	Connector Type	Type	TH24FGY-NH			
<b>F.S.</b> 7P 6P 5P 4P 3P 2P 1P	Connector Color	Color	GRAY	Terminal Color of		
16P 15P 14P 13P 12P 11P 10P 9P 8P	E			_	e Signal Name	
	H.S.			5G L	1	
Terminal Color of Signal Name without Signal Name			92         91         90         88         87         86         85         84         82         81           104         103         102         101         100         99         95         97         96         95         94         93			
	Terminal No.	Color of Wire	f Signal Name			
	89	ГG	REVERSE LAMP OUT			
Connector Type TH40FG-NH Connector Color GREEN						
HS						
20         19         18         17         16         15         14         12         11         10         9         8         7         6         5         4         3         2         1           40         39         38         37         36         36         34         33         23         31         30         28         27         28         26         28         22         22         21						
	1					
Terminal Color of Signal Name No.						

BACK-UP LAMP CONNECTORS

AALIA4452GB

SHORTING INPU

SHIFT

< WIRING DIAGRAM >

	143 GR GND1	Computer No E20	ą	Connector Color WHITE			H.S. 4M 3M 7M 1M	10M 9M 8M 7M 6M 5M			Terminal Color of Circuit Name	Wire		- d W8	Connector No F38	e		Connector Color WHITE		H.S.				al	1 W							11			
Mate Inter TO WIRE FIBOFDGY-CSI6-TM4           FIBOFDGY-CSI6-TM4           FIBOFDGY-CSI6-TM4           Start         Start           Start         Start         Start           Start         Start         Start         Start           Start         Start         Start         Start         Start           Start         Start         Start         Start         Start           Start         Start         Start         Start         Start           Start         Start         Start         Start         Start           Start         Start         Start         Start         Start           Start         Start         Start         Start         Start           Start         Start         Start         Start         Start         Start           Start         Start         Start         Start         Start         Start         Start           Start         Start         S	0				1 2 3 4 5	8 9 10 11		ŀ	Color of	+		J	M						L	_	128/12/128/128/128/128/128/128/128/128/1		Color of	Wire	IJ					Color of	Wire	м	GR		
	WIRE TO WIRE	TH80FDGY-CS16-TM4	GRAY	3A 4A	8A 9A		114 124 134 144 154 164 174 181 194 204 214 214 224 224 224 224 204 204 204	ZZA Z3A Z4A ZDA ZDA ZDA ZI A ZDA ZDA ZDA ZDA	31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A	42A 43A 44A 45A 46A 47A 48A 49A 50A	51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A	62A 63A 64A 65A 66A 67A 68A 69A 70A		/ 1 A / 2 A / 3 A / 4 A / 5 A / 5 A / 7 A / 6 A / 9 A 6 1 A 8 2 a 8 2 a 8 4 a 85 a 86 a 87 a 89 a 80 a 90 a		91A 93A 93A 94A 95A	96A 97A 98A 99A 100A	]		1	M68	FUSE BLOCK (J/B)	NS16FBR-CS	BROWN		3R	10R		1						

#### **BACK-UP LAMP**

### [LED HEADLAMP]

Revision: December 2015

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4 [G]	a         a         a           ctor No.         B46         ctor Name         WIRE TO WIRE           ctor Type         TH32MW-NH         ctor Type         TH32MW-NH           ctor Type         TH32MW-NH         ctor Type         TH32MW-NH           ctor Type         TH32MW-SUR         ctor Th32MM-NH           ctor Type         TH32MM-SUR         ctor NHE           ctor No.         B69         ctor NHE           ctor Type         TH32MM-SUR         ctor NHE           a.w.         a.w.         a.w.           a.w.         a.w.         a.w.           a.m.         ctor Type         fradealester           find and Standish (SM) (SM) (SM) (SM) (SM) (SM) (SM) (SM)	
Connector No.         F24           Connector Name         IPDM ErR (INTELLIGENT POWER           Connector Type         IPTI EPW-NH           Connector Type         TH12FW-NH           Connector Color         WHITE	Terminal       Color of Nine       Signal Name         Terminal       Color of Nine       Signal Name         in       uo       Uo         in	Terminal         Color of         Signal Name           No.         Wire         -           2         Y         -
Connector No. E44 Connector Name JOINT CONNECTOR-E01 Connector Type BJJOFW Connector Color WHITE	Image: Section of the sectio	

#### < WIRING DIAGRAM >

D565 REAR COMBINATION LAMP RH NS04MW-CS WHITE	2566 B566 ISO4MW-CS VHITE	Signal Name
Connector No. 1 Connector Name F Connector Type 1 Connector Color 1	Terminal Color of No. No. Write Write Connector No. Connector Name Connector Type Connector Type Connector Vane	Terminal     Color of Wire       No.     Wire       1     B       2     GW
Connector No.     D501       Connector Name     WIRE TO WIRE       Connector Type     TH32FW-NH       Connector Color     WHITE       Connector Color     WHITE       Image: State Sta	Terminal No.     Color of No.     Signal Name       22     GW     Signal Name       22     GW     -       Connector No.     D507     -       Connector Name     WIRE     -       Connector Name     H12EW-NH       Connector Name     TH2EW-NH       Connector Name     1121479-111       Connector Name     1121479-111	Terminal       Color of 1       Signal Name         No       B       -         12       B       -         12       aw       -         12       aw       -         12       aw       -         12       B       1         12       B       1         13       B       1         14       B       1         15       B       1         13       A       B         13       B       1         13       B       1         13       B       1         14       B       1         14       B       1         10       B       2         11       B       2         12       B       1         12       Color of Wine       Signal Name

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< WIRING DIAGRAM >

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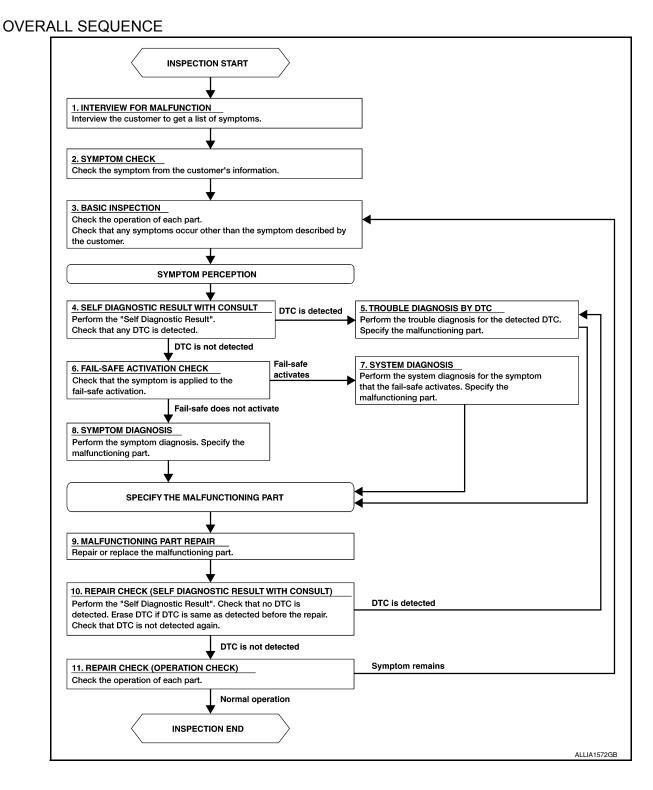
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# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

#### Work Flow

INFOID:000000012875294



### **DIAGNOSIS AND REPAIR WORK FLOW**

[LED	HEADLAMP]
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< BASIC INSPECTION >	[LED HEADLAMP]
DETAILED FLOW	
1.INTERVIEW FOR MALFUNCTION	
Find out what the customer's concerns are.	
>> GO TO 2.	
2. SYMPTOM CHECK	
Verify the symptom from the customer's information.	
>> GO TO 3.	
3.BASIC INSPECTION	
Check the operation of each part. Check any concerns that occur other than those interview.	mentioned in the customer
>> GO TO 4.	
<b>4.</b> SELF DIAGNOSTIC RESULT WITH CONSULT	
Perform the "Self Diagnostic Result". 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 par	t.
>> GO TO 9.	
6.FAIL-SAFE ACTIVATION CHECK	
Determine if the customer's concern is related to 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 in which the fail-safe activates. Speci	fv 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 DIAGNOSTIC RESULT WITH CONSULT)	
Perform the "Self Diagnostic Result". Verify that no DTCs are detected. Erase all repair. Verify that DTC is not detected again.	DTCs detected prior to the

Is any DTC detected?

< BASIC INSPECTION >

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.

#### LED HEADLAMP OPERATION INSPECTION

< BASIC INSPECTION >

## LED HEADLAMP OPERATION INSPECTION

#### Work Procedure

[LED HEADLAMP]

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	-5
1.CHECK START	В
1. In the cool LED status (wait for more than 10 minutes after turning headlamp OFF), turn ON and turn OFF	Ξ
<ul> <li>headlamp several times. Check that headlamp operates normally each time.</li> <li>In the cool LED status, turn headlamp ON, wait until headlamp enters the stable status (approximately status after turning headlamp ON) and then check that headlamp operates normally without blinking of fieldering.</li> </ul>	
<ol> <li>flickering.</li> <li>In the warm LED status (turn headlamp ON for more than 15 minutes and wait for 1 minute after turning OFF), turn ON and turn OFF the headlamp several times. Check that headlamp operates normally each time.</li> </ol>	
<ol> <li>Turn headlamp ON for approximately 30 minutes and then check that headlamp operates normally with out difference in brightness between LH and RH, blinking or flickering.</li> </ol>	- E
Is the inspection result normal?	
YES >> Inspection End. NO >> Refer to <u>EXL-98, "Symptom Table"</u> .	F
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# DTC/CIRCUIT DIAGNOSIS HEADLAMP (HI) CIRCUIT

**Component Function Check** 

INFOID:000000012875296

INFOID:000000012875297

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

#### With CONSULT

I. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".

2. While operating the test items, check that the headlamp (HI) blinks.

# Hi : Headlamp (HI) blinks (ON/OFF is repeated 1 second each.)

#### Off : Headlamp (HI) OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the headlamp (HI) blinks.

#### Is the inspection result normal?

- YES >> Headlamp (HI) circuit is normal.
- NO >> Refer to EXL-72, "Diagnosis Procedure".

#### Diagnosis Procedure

## **1.**CHECK HEADLAMP (HI) FUSE

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

Unit	Location	Fuse No.	Capacity	
Headlamp HI (RH)	IPDM E/R	34	10A	
Headlamp HI (LH)		35		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

## 2. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

#### With CONSULT

- T. Disconnect applicable front combination lamp connector.
- 2. Turn ignition switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- While operating the test items, check voltage between applicable front combination lamp harness connector and ground.

+		_	Test item		Voltage	
Front combination lamp						
Coni	nector	Terminal	-			
RH	E243	2	Ground	EXTERNAL LAMPS	Hi	Battery voltage
	E243				Off	0
LH	E247				Hi	Battery voltage
					Off	0

#### Is the inspection result normal?

YES >> Perform the LED headlamp diagnosis. Refer to EXL-79, "Diagnosis Procedure".

NO >> GO TO 3.

 ${
m 3.}$ CHECK HEADLAMP (HI) POWER SUPPLY CIRCUIT

# **HEADLAMP (HI) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### [LED HEADLAMP]

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- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector.

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

	IPDM E/R			ination lamp	Front comb
Continuity	Terminal	Connector	Terminal	nector	Coni
Yes	80	E217	2	E243	RH
res (	81	EZIT	2	E247	LH

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".

NO >> Repair or replace harness.

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< DTC/CIRCUIT DIAGNOSIS >

# HEADLAMP (LO) CIRCUIT

# Component Function Check

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

#### With CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON

#### Off : Headlamp (LO) OFF

#### Without CONSULT

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

#### Is the inspection result normal?

- YES >> Headlamp (LO) circuit is normal.
- NO >> Refer to EXL-74. "Diagnosis Procedure".

# Diagnosis Procedure

# **1.**CHECK HEADLAMP (LO) FUSE

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	36	15A
Headlamp LO (LH)		37	134

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

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

#### (D) With CONSULT

- 1. Disconnect applicable front combination lamp connector.
- 2. Turn ignition switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- While operating the test items, check voltage between applicable front combination lamp harness connector and ground.

	+							
Fr	Front combination lamp		Front combination lamp		-		Test item	
Coni	nector	Terminal						
RH	E243				Lo	Battery voltage		
КП	L245	1	Ground	EXTERNAL	Off	0		
	E247			LAMPS	Lo	Battery voltage		
LH	⊏247					0		

#### Is the inspection result normal?

YES >> Perform the LED headlamp diagnosis. Refer to EXL-79. "Diagnosis Procedure".

NO >> GO TO 3.

**3.**CHECK HEADLAMP (LO) POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

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

# **HEADLAMP (LO) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### [LED HEADLAMP]

Fr	Front combination lamp		IPDM E/R		Continuity
Conne	ector	Terminal	Connector	Terminal	Continuity
RH	E243	- 1	E217	75	Yes
LH	E247			76	103
ne inspection resu					
ES >> Replace	IPDM E/R. Refe	er to <u>PCS-36, "Re</u>	moval and Installat	<u>tion"</u> .	
) >> Repair o	r replace harnes	S.			

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

### **Component Function Check**

### **1.**CHECK DAYTIME RUNNING LIGHT OPERATION

#### 

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check daytime running light operation.

#### On : EXTERNAL LAMPS Hi

#### Off : EXTERNAL LAMPS Off

#### Is the inspection result normal?

- YES >> Daytime running light relay circuit is normal.
- NO >> Refer to <u>EXL-76, "Diagnosis Procedure"</u>.

#### **Diagnosis** Procedure

INFOID:000000012875301

Regarding Wiring Diagram information. Refer to EXL-33, "Wiring Diagram".

# 1. CHECK DAYTIME RUNNING LIGHT RELAY FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuse is not blown:

Unit	Fuse No.	Capacity
Daytime running light relay	50	10A

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

2. CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

1. Remove daytime running light relay.

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

	(+)		
Daytime run	Daytime running light relay		Voltage (Approx.)
Connector	Terminal		(
	2		
E4	7	Ground	Battery voltage
	5		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK DAYTIME RUNNING LIGHT RELAY

Check daytime running light relay. Refer to EXL-77, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace daytime running light relay.

 ${f 4}.$ CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OUTPUT

#### CONSULT

1. Install daytime running light relay.

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

### [LED HEADLAMP]

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INFOID:000000012875302

- 2. Turn ignition switch ON.
- Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 4. While operating the test item, check voltage between IPDM E/R harness connector and ground.

(	+)				Mallara	В
IPDN	M E/R	(-) Test item (Ap)	Test item		Voltage (Approx.)	
Connector	Terminal					
E218	85	Ground	EXTERNAL	On	0 V	С
EZIO	65	Ground	LAMPS	Off	Battery voltage	

Is the inspection result normal?

YES >> Daytime running light relay circuit is OK.

NO-1 (Fixed at 0 V)>>GO TO 5.

NO-2 (Fixed at battery voltage) >>Replace IPDM E/R. Refer to PCS-36. "Removal and Installation".

### ${f 5.}$ CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL (OPEN) CIRCUIT

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

	Continuity	Daytime running light relay		IPDM E/R	
Н	Continuity	Terminal	Connector	Terminal	Connector
	Yes	1	E4	85	E218

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

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

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

IPDM E/R			Continuity	-
Connector	Terminal	Ground	Continuity	K
E218	85		No	-
s the inspection result norma	12			

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-36. "Removal and Installation"</u>.

NO >> Repair or replace harness.

### Component Inspection

### 1. CHECK DAYTIME RUNNING LIGHT RELAY

- 1. Turn ignition switch OFF.
- 2. Remove daytime running light relay.

3. Apply battery voltage to daytime running light relay between terminals 1 and 2.

4. Check continuity between daytime running light relay terminals.

Daytime run	Daytime running light relay		dition	Continuity	P
Ter	minal	Condition		Continuity	P
7	6		Apply	Yes	
I	0	Valtaga	Not Apply	No	
5	5 3	Voltage	Apply	Yes	
5			Not Apply	No	

Is the inspection result normal?

# DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

### LED HEADLAMP

# [LED HEADLAMP]

INFOID:000000012875303

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# < DTC/CIRCUIT DIAGNOSIS >

# LED HEADLAMP

Diagnosis Procedure

Regarding Wiring Diagram information. Refer to EXL-28, "Wiring Diagram".

# 1.CHECK HEADLAMP (LO) GROUND CIRCUIT

#### 1. Turn ignition switch OFF.

- 2. Disconnect front combination lamp connector.
- 3. Check continuity between front combination lamp harness connector and ground.

	Front combination lamp	Continuity			- E
Connector		Terminal	Ground	Continuity	
RH	E243	5	Ground	Yes	
LH	E247			165	F

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

# 2. CHECK LED HEADLAMP CONTROL MODULE

Install the normal LED headlamp control module to the applicable headlamp. Check that the lighting switch is turned ON. Refer to EXL-10, "LED Headlamp Control Module".

Is the headlamp turned ON?

YES >> Replace LED headlamp control module. Refer to <u>EXL-111, "Removal and Installation"</u>.

NO >> GO TO 3.

**3.**CHECK HEADLAMP

Install the normal headlamp to the applicable headlamp. Check that the headlamp is turned ON. Refer to <u>EXL-</u> <u>79, "Diagnosis Procedure"</u>.

Is the headlamp turned ON?

- YES >> Replace headlamp. Refer to EXL-111, "Removal and Installation".
- NO >> LED headlamp is normal. Check headlamp control system.

#### < DTC/CIRCUIT DIAGNOSIS >

# PARKING LAMP CIRCUIT

### Component Function Check

### **1.**CHECK PARKING LAMP OPERATION

#### CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check that the parking lamp is turned ON.

#### TAIL : Parking lamp ON

#### Off : Parking lamp OFF

#### Is the inspection result normal?

- YES >> Parking lamp circuit is normal.
- NO >> Refer to EXL-80, "Diagnosis Procedure".

#### **Diagnosis** Procedure

INFOID:000000012875305

Regarding Wiring Diagram information. Refer to EXL-53, "Wiring Diagram".

# **1.**CHECK PARKING LAMP FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuse is not blown:

Unit	Location	Fuse No.	Capacity
<ul><li>Parking lamps</li><li>Front side marker lamps</li></ul>	IPDM E/R	52	10A

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

### 2.CHECK PARKING LAMP CIRCUIT

- 1. Disconnect the following connectors:
- IPDM E/R
- Front combination lamps
- Rear combination lamps
- 2. Check continuity between IPDM E/R harness connector and ground.

IPDN	/IE/R		Continuity
Connector	Terminal	Ground	No
E218	90		NO

#### Is the inspection result normal?

- YES >> Replace fuse. (Replace IPDM E/R if blown fuse is found again.)
- NO >> Replace the blown fuse after repairing the affected circuit.

**3.**CHECK PARKING LAMP

Check applicable LED lamp.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace applicable LED lamp.

**4.**CHECK PARKING LAMP OUTPUT VOLTAGE

#### 

1. Disconnect front combination lamp connector.

# PARKING LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### 2. Turn ignition switch ON.

- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 4. While operating the test items, check voltage between IPDM E/R harness connector and ground.

(	+)					В
IPDI	M E/R	(-)	Test	item	Voltage (Approx.)	
Connector	Terminal					
E218	90	Ground	EXTERNAL	TAIL	Battery voltage	С
L210	90	Ground	LAMPS	Off	0 V	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to <u>PCS-36. "Removal and Installation"</u>.

5. CHECK PARKING LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

l	Front combination larr	ıp	IPDN	/I E/R	Continuity	
Coni	nector	Terminal	Connector	Terminal	Continuity	G
RH	E243	2	E218	90	Yes	
LH	E247		EZIO	90	Tes	
						-

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

**6.**CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

	Front combination lamp			Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E243	7	Ground	Yes
LH	E247	I		165

#### Is the inspection result normal?

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

NO >> Repair or replace harness.

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[LED HEADLAMP]

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< DTC/CIRCUIT DIAGNOSIS >

# FRONT SIDE MARKER LAMP CIRCUIT

**Component Function Check** 

1. CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check parking lamp circuit. Refer to <u>EXL-80, "Component Function Check"</u>.

2. CHECK FRONT SIDE MARKER LAMP OPERATION

#### CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check that the front side marker lamp is turned ON.

TAIL : Front side marker lamp ON

#### Off : Front side marker lamp OFF

Is the inspection result normal?

YES >> Front side marker lamp circuit is normal.

NO >> Refer to <u>EXL-82, "Diagnosis Procedure"</u>.

**Diagnosis** Procedure

INFOID:000000012875307

Regarding Wiring Diagram information. Refer to EXL-53, "Wiring Diagram".

# 1.CHECK FRONT SIDE MARKER LAMP BULB

Check applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

2.CHECK FRONT SIDE MARKER LAMP POWER SUPPLY CIRCUIT

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

I	Front combination lamp			IPDM E/R	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E243	0	E218	90	Yes
LH	E247	0	L210	30	Tes

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# $\mathbf{3}$ .check front side marker lamp ground circuit

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

	Front combination lamp			Continuity
Con	nector	Terminal	Ground	
RH	E243	7	Ground	Yes
LH	E247	Ι		Tes

Is the inspection result normal?

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	FRONT SIDE MARKER LAMP CIRCUIT	
< DTC/	CIRCUIT DIAGNOSIS >	[LED HEADLAMP]
YES NO	<ul> <li>&gt;&gt; Check corresponding bulb socket and harness. Repair or replace if necess</li> <li>&gt;&gt; Repair or replace harness.</li> </ul>	ary.
NO		

### < DTC/CIRCUIT DIAGNOSIS >

# TAIL LAMP CIRCUIT

# Component Function Check

# **1.**CHECK TAIL LAMP OPERATION

### 

- i. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check that the tail lamp is turned ON.
  - TAIL : Tail Lamp ON

# Off : Tail lamp OFF

Is the inspection result normal?

YES >> Tail lamp circuit is normal.

NO >> Refer to EXL-84, "Diagnosis Procedure".

# **Diagnosis** Procedure

INFOID:000000012875309

Regarding Wiring Diagram information. Refer to EXL-53. "Wiring Diagram".

# 1. CHECK PARKING LAMP OPERATION

Check that the parking lamp is turned ON.

Is the inspection result normal?

YES [When tail lamp RH or LH does not turn ON.]>>GO TO 2.

NO >> Check parking lamp circuit. Refer to EXL-80, "Component Function Check".

# 2. CHECK TAIL LAMP (LH) FUSE

1. Turn ignition switch OFF.

2. Check that the following fuses are not blown:

Unit	Location	Fuse No.	Capacity
Tail lamp RH	IPDM E/R	52	10A
Tail lamp LH		51	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the affected circuit.

### 3.CHECK TAIL LAMP OUTPUT VOLTAGE

#### CONSULT

T. Disconnect rear combination lamp RH or LH connector.

2. Turn ignition switch ON.

3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".

 While operating the test items, check voltage between applicable rear combination lamp harness connector and ground.

R	(+) Rear combination lar	np	(-)	Test	item	Voltage (Approx.)
Con	nector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
RH	D565				TAIL	Battery voltage
КП	0565	4	Ground	EXTERNAL	Off	0 V
	DECC	4	Ground	LAMPS	TAIL	Battery voltage
LH	D566				Off	0 V

# **TAIL LAMP CIRCUIT**

< DTC/CIRCUIT DIA	AGNOSIS >				[LED HEADLA
s the inspection resu	ult normal?				
YES >> GO TO 6					
	IP POWER SUPPLY				
	I E/R connector and r between IPDM E/R h				:
				ground.	
	(+)				
IPD	M E/R		(-)		Continuity
Connector	Terminal				
E121	9		Ground		No
	10		Clound		No
Is the inspection resu					
YES >> GO TO S					
	r replace harness.				
	IP POWER SUPPLY	(UPEN) CIR	CUII		
<ol> <li>Turn ignition swi</li> <li>Disconnect IPDN</li> </ol>	tch OFF. /I E/R connector and r	ear combine	tion lamp o	connector	
	between IPDM E/R h				mp harness connect
			1		•
R	ear combination lamp			IPDM E/R	Continuity
Conne		Terminal	Connec		Yes
RH	B459	6	E121	9	Yes
LH	B460			10	
s the inspection resu					
	IPDM E/R. Refer to P r replace harness.	<u>CS-36, "Rer</u>	noval and l	installation"	
	IP GROUND CIRCUI	г			
	ween rear combination	n lamp name	ess connec	tor and ground.	
	Rear combination lam	р			
C	onnector	Terr	minal	Crowned	Continuity
RH	B459		7	Ground	N
LH	B460		7		Yes
s the inspection resu	ult normal?				
	rear combination lam	p.Refer to 🗄	<u>XL-119, "R</u>	emoval and Installa	ation".
NO >> Repair o	r replace harness.				

< DTC/CIRCUIT DIAGNOSIS >

# LICENSE PLATE LAMP CIRCUIT

Component Function Check

1. CHECK TAIL LAMP LH OPERATION

Check that the tail lamp LH is turned ON.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check tail lamp circuit. Refer to EXL-84, "Component Function Check".

2. CHECK LICENSE PLATE LAMP OPERATION

#### CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the lighting switch, check that the license plate lamp is turned ON.

TAIL: License plate lamp ONOff: License plate lamp OFF

Is the inspection result normal?

- YES >> License plate lamp circuit is normal.
- NO >> Refer to EXL-86, "Diagnosis Procedure".

**Diagnosis** Procedure

INFOID:000000012875311

Regarding Wiring Diagram information. Refer to EXL-53, "Wiring Diagram".

# 1. CHECK LICENSE PLATE LAMP BULB

Check the applicable lamp bulb.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace bulb.

2.CHECK LICENSE PLATE LAMP POWER SUPPLY CIRCUIT

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

Continuity	IPDM E/R		License plate lamp		
Continuity	Terminal	Connector	Terminal	onnector	Co
Yes	10	E121	1	D562	RH
165	10	EIZI		D561	LH

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# **3.**CHECK LICENSE PLATE LAMP GROUND CIRCUIT

Check continuity between license plate lamp harness connector and ground.

	License plate lam	p		Continuity
	Connector	Terminal	Ground	
RH	D562	0	Ground	Yes
LH	D561	2		

Is the inspection result normal?

# LICENSE PLATE LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

NO >> Repair or replace harness.

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< DTC/CIRCUIT DIAGNOSIS >

# FRONT FOG LAMP CIRCUIT

Component Function Check

# 1.CHECK FRONT FOG LAMP OPERATION

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check that the front fog lamp is turned ON.

Fog : Front fog lamp ON

#### Off : Front fog lamp OFF

Is the inspection result normal?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-88, "Diagnosis Procedure".

### **Diagnosis** Procedure

INFOID:000000012875313

Regarding Wiring Diagram information. Refer to EXL-43, "Wiring Diagram".

# **1.**CHECK FRONT FOG LAMP FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuse is not blown:

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	49	15A

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

#### 

- 1. Disconnect front fog lamp connector.
- 2. Turn ignition switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".

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

	(+)					Voltage		
	Front fog lamp		(–) Test item		(–) Test item		Test item	
Con	nector	Terminal	*			(Approx.)		
RH	E241				EXTERNAL	Fog	Battery voltage	
КП	E241	4	1	Ground		Off	0 V	
	5242	I	Ground	LAMPS	Fog	Battery voltage		
LH	E242					Off	0 V	

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

 ${f 3.}$  CHECK FRONT FOG LAMP POWER SUPPLY (SHORT) CIRCUIT

1. Disconnect applicable front fog lamp connector and IPDM E/R connector.

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

# FRONT FOG LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# [LED HEADLAMP]

	IPDM E/R					
Connector		Terminal	Ground	Ground		
E217		78 79	-		No	
e inspection result S >> GO TO 4. >> Repair or re HECK FRONT FO	eplace harnes		PEN) CIRCUIT			
Turn ignition switch Disconnect IPDM E Check continuity be	E/R connector.	E/R harness con	nector and front fo	og lamp harness	s connector.	
Front fog la	imp		IPD	M E/R	Continuity	
Connecto	or	Terminal	Connector	Terminal	- Continuity	
RH	E241	1	E217	78	Yes	
LH	E242	I	LZII	79	163	
		UND CIRCUIT	ector and ground			
ck continuity betwe		mp harness conn	ector and ground		Continuity	
ck continuity betwe	en front fog la	mp harness conn	ector and ground		Continuity	
ck continuity betwe Conr	en front fog la Front fog la nector E241	mp harness conn	minal	Ground –	Continuity Yes	
Conr Conr RH LH e inspection result	en front fog la Front fog la nector E241 E242 normal?	mp harness conn mp Ter	minal			
k continuity betwe Conr RH LH e inspection result	en front fog la Front fog la nector E241 E242 normal? Ilb. Refer to E	mp harness conn mp Ter	minal			

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# TURN SIGNAL LAMP CIRCUIT

Component Function Check

### **1.**CHECK TURN SIGNAL LAMP

CONSULT

- 1. Select "FLASHER" in "Active Test" mode of "BCM (FLASHER)".
- 2. While operating the test items, check that the turn signal lamp blinks.
  - LH : Turn signal lamp LH blinking
  - RH : Turn signal lamp RH blinking

#### OFF : The turn signal lamp OFF

#### Is the inspection result normal?

- YES >> Turn signal lamp circuit is normal.
- NO >> Refer to EXL-90, "Diagnosis Procedure".

### **Diagnosis** Procedure

INFOID:000000012875315

Regarding Wiring Diagram information, refer to EXL-47, "Wiring Diagram".

### **1.**CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open. <u>Is the bulb OK?</u>

YES >> GO TO 2.

NO >> Replace the bulb.

# 2.check turn signal lamp output voltage

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

	Front combinat	tion lamp	()	Voltage	
Со	nnector	Terminal	(-)		
LH	E234				
RH	E240	9	Ground	(V) 15 10 5 0 •••••••••••••••••••••••••••••	

5. With turn signal switch operating, check the voltage between the door mirror harness connector and ground.

Door mir	ror	()	Voltage
Connector	Terminal	(-)	voitage

# **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

LH	D4			Λ
RH	D107	20	Ground	В

6. With turn signal switch operating, check the voltage between the rear combination lamp harness connector and ground.

		Rear combination lamp		
Voltage	- (-)	Terminal	nector	Con
			B460	LH
$ \begin{array}{c} (V)\\ 15\\ 10\\ 5\\ 0\\ \hline \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1$	Ground	8	B459	RH
PKID0926E				

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

# ${\it 3.}$ CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.

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

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	Front combination lamp			BCM		
	Connector	Terminal	Connector	Terminal	Continuity	
LH	E234	0	M80	117	Yes	K
RH	E240	9	MOO	105		

4. Check continuity between the BCM harness connector and the door mirror connector.

_		BCM		Door mirror lamp		
	Continuity	Terminal	Connector	Terminal	Connector	
-	Vee	117	M90	20	D4	LH
	Yes	105	M80	20	D107	RH

5. Check continuity between the BCM harness connector and the rear combination lamp connector.

Continuity O	M	BC		Rear combination lamp		
	Terminal	Connector	Terminal	Connector		
Yes	103	M20	Q	B460	LH	
P	92	IVI20		B459	RH	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness or connector.

4. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

Check continuity between the front combination lamp harness connector and ground. 1.

[LED HEADLAMP]

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# **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

	Front combin	ation lamp		Continuity	
Conr	Connector Terminal		· —	Continuity	
LH	E234	10	Ground	Yes	
RH	E240	10	Ground	163	

2. Check continuity between the door mirror harness connector and ground.

	Door mirre	or lamp		Continuity	
Conr	Connector Terminal		*	Continuity	
LH	D4	21	Ground	Yes	
RH	D107	21	Ground	165	

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

	Rear combin	ation lamp		Continuity	
Conr	Connector Terminal			Continuity	
LH	B460	7	Ground	Yes	
RH	B459	I	Ground	res	

Is the inspection result normal?

YES >> Replace the malfunctioning lamp.

NO >> Repair the harness or connector.

# **OPTICAL SENSOR**

	NOSIS >		[LED HEADLAMF
PTICAL SENS	OR		
Component Functi	on Check		INFOID:000000012875
CHECK OPTICAL S	ENSOR SIGNAL BY	CONSULT	
. Turn lighting switch	P" in "Data Monitor" r ⊨AUTO.	node of "BCM". eck the monitor status.	
Monitor item		Condition	Voltage (Approx.)
		When illuminating	3.1 V or more *
OPTISEN (DTCT)	Optical sensor	When shutting off light	0.6 V or less
Illuminates the optical sens	or. The value may be less	s than the standard value if brightness is	weak.
iagnosis Procedu		er to <u>EXL-38, "Wiring Diagram"</u> .	INFOID:000000012875
<ul> <li>Turn ignition switch</li> <li>Turn lighting switch</li> <li>Check voltage betw</li> </ul>	ON. AUTO.		
. Turn lighting switch . Check voltage betw	ON. AUTO. veen optical sensor h	JPPLY INPUT	Voltage (Approx.)
<ul> <li>Turn ignition switch</li> <li>Turn lighting switch</li> <li>Check voltage betw</li> </ul>	ON. AUTO. veen optical sensor h	JPPLY INPUT	Voltage (Approx.)
Turn ignition switch     Turn lighting switch     Check voltage betw     Optica     Connector     M15	ON. AUTO. veen optical sensor h (+) al sensor Terminal 1	JPPLY INPUT	5
Turn ignition switch     Turn lighting switch     Check voltage betw     Optice     Connector     M15     sthe inspection result I     YES >> GO TO 2.     NO >> GO TO 4.     CHECK OPTICAL S     Check voltage between	AUTO. veen optical sensor h (+) al sensor Terminal 1 normal? ENSOR GROUND II optical sensor harne	JPPLY INPUT harness connector and ground.	(Approx.)
. Turn ignition switch 2. Turn lighting switch 3. Check voltage betw Optica Connector M15 s the inspection result I YES >> GO TO 2. NO >> GO TO 4. 2. CHECK OPTICAL S Check voltage between	AUTO. veen optical sensor h (+) al sensor Terminal 1 normal? ENSOR GROUND II optical sensor harne	JPPLY INPUT  harness connector and ground.  (-)  Ground  NPUT ess connector and ground.	(Approx.) 5 V Voltage
. Turn ignition switch 2. Turn lighting switch 3. Check voltage betw Optica Connector M15 s the inspection result I YES >> GO TO 2. NO >> GO TO 4. 2. CHECK OPTICAL S Check voltage between	AUTO. veen optical sensor h (+) al sensor Terminal 1 normal? ENSOR GROUND II optical sensor harne	JPPLY INPUT harness connector and ground.  (-)  Ground NPUT	(Approx.) 5 V
. Turn ignition switch 2. Turn lighting switch 3. Check voltage betw Optica Connector M15 s the inspection result of YES >> GO TO 2. NO >> GO TO 4. CHECK OPTICAL S Check voltage between Optica	AUTO. veen optical sensor h (+) al sensor Terminal 1 normal? ENSOR GROUND II optical sensor harne (+) al sensor	JPPLY INPUT  harness connector and ground.  (-)  Ground  NPUT ess connector and ground.	(Approx.) 5 V Voltage

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

# **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

	(+) Optical sensor		Condition		Voltage (Approx.)	
Connector	Terminal				(	
M15	2	Ground	Optical sensor When illuminating When shutting off light		3.1 V or more *	
W15	2	Ground			0.6 V or less	

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

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace the optical sensor. Refer to EXL-116. "Removal and Installation".

#### 4. CHECK OPTICAL SENSOR (OPEN) CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

Optica	Optical sensor		BCM		
Connector	Terminal	Connector Terminal		- Continuity	
M15	1	M18	3	Yes	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

**5.**CHECK OPTICAL SENSOR (SHORT) CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optica	l sensor		Continuity
Connector	Terminal	Ground	Continuity
M15	1		No

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".

NO >> Repair or replace harness.

#### $\mathbf{6}$ .CHECK OPTICAL SENSOR GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

Optica	Optical sensor		BCM		
Connector	Terminal	Connector Terminal		Continuity	
M15	3	M18	17	Yes	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

NO >> Repair or replace harness.

# 7.CHECK OPTICAL SENSOR SIGNAL (OPEN) CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect optical sensor connector and BCM connector.

3. Check continuity between optical sensor harness connector and BCM harness connector.

# **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Connector	sensor	BC		Continuity
	Terminal	Connector	Terminal	
M15	2	M18	4	Yes
HECK OPTICAL	replace harness. SENSOR (SHORT)	CIRCUIT arness connector and	d around.	
	tical sensor			
Connector	Terminal	G	round	Continuity
M15	2			No
the inspection resul				

### < DTC/CIRCUIT DIAGNOSIS >

# HAZARD SWITCH

# Component Function Check

# 1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

- 1. Turn ignition switch ON.
- 2. Select "FLASHER" in "Data Monitor" mode of "BCM".
- 3. While operating the hazard switch, check the monitor status.

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

Is the inspection result normal?

- YES >> Hazard switch circuit is normal.
- NO >> Refer to <u>EXL-96. "Diagnosis Procedure"</u>.

# **Diagnosis** Procedure

INFOID:000000012875319

Regarding Wiring Diagram information. Refer to EXL-47, "Wiring Diagram".

### 1. CHECK HAZARD SWITCH SIGNAL INPUT

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

(+) Hazard switch		(-)	Voltage (Approx.)	
Connector	Connector Terminal		( ++ )	
M83	2	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

2.CHECK HAZARD SWITCH SIGNAL (OPEN) CIRCUIT

#### 1. Disconnect BCM connector.

2. Check continuity between hazard switch harness connector and BCM harness connector.

Hazard switch		BC	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M83	2	M18	36	Yes	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# 3.check hazard switch signal (short) circuit

Check continuity between hazard switch harness connector and ground.

Hazaro	1 switch		Continuity	
Connector	Terminal	Ground	Continuity	
M83	2		No	

# **HAZARD SWITCH**

# [LED HEADLAMP]

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#### < DTC/CIRCUIT DIAGNOSIS > Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

# 4. CHECK HAZARD SWITCH GROUND CIRCUIT

Check continuity between hazard switch harness connector and ground.

	Hazard switch			Continuity	C
	Connector	Terminal	- Continuity Ground	Continuity	0
	M83	3		Yes	
ls	the inspection result nor	mal?			D

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-118, "Removal and Installation".

NO >> Repair or replace harness.

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# SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

# Symptom Table

INFOID:000000012875320

#### NOTE:

Perform the "Self Diagnostic Result" with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Symp	otom	Possible cause	Inspection item
Headlamp (HI) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (HI) power supply circuit</li> <li>Front combination lamp internal circuit</li> <li>LED (headlamp high)</li> <li>LED headlamp control module</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-72, "Component</u> <u>Function Check"</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to <u>EXL-102</u> , "Diagnosis Procedure".	
High beam indicator lamp [Headlamp (HI) is turned C		Combination meter	<ul> <li>Combination meter</li> <li>"Data Monitor" "HI-BEAM IND"</li> <li>"BCM (HEAD LAMP)</li> <li>"Active Test" "HEAD LAMP"</li> </ul>
Headlamp (LO) is not turned ON	One side	<ul> <li>Fuse</li> <li>Headlamp (LO) power supply circuit</li> <li>Front combination lamp internal circuit</li> <li>LED (headlamp low)</li> <li>LED headlamp control module</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-74, "Component</u> <u>Function Check"</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) A Refer to EXL-103, "Diagnosis Proc	
Headlamp (HI) and (LO) is not turned ON		<ul> <li>LED headlamp ground circuit</li> <li>Front combination lamp internal circuit</li> <li>LED headlamp control module</li> <li>Harness</li> </ul>	LED headlamp Refer to <u>EXL-79, "Diagnosis Proce-</u> <u>dure"</u> .
Headlamp warning remains ON [Headlamp (LO) is turned ON]		<ul> <li>LED headlamp warning signal circuit</li> <li>Front combination lamp internal circuit</li> <li>LED headlamp control module</li> <li>Harness</li> <li>Combination meter</li> </ul>	Headlamp warning Refer to <u>MWI-15, "INFORMATION</u> <u>DISPLAY : System Description"</u> .
Each lamp is not turned ON/OFF with lighting switch AUTO		<ul> <li>Combination switch input/out- put signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-77, "Symptom Table"</u> .
		<ul> <li>Optical sensor power supply/ ground/signal circuit</li> <li>Optical sensor</li> <li>BCM</li> </ul>	Optical sensor Refer to <u>EXL-93, "Component</u> <u>Function Check"</u> .

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

# < SYMPTOM DIAGNOSIS >

# [LED HEADLAMP]

Symptom	Possible cause	Inspection item	
Parking lamp is not turned ON	<ul> <li>Fuse</li> <li>Parking lamp power supply/ ground circuit</li> <li>Front combination lamp internal circuit</li> <li>LED (parking lamp)</li> <li>Control circuit</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-80, "Component</u> <u>Function Check"</u> .	
Side marker lamp is not turned ON [Parking lamp is turned ON]	Front combination lamp internal circuit • Side marker lamp • Control circuit • Harness	Replace front combination lamp Refer to <u>EXL-111, "Removal and In-</u> stallation".	
Tail lamp is not turned ON	<ul> <li>Fuse</li> <li>Tail lamp power supply/ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>LED (tail lamp)</li> <li>Harness</li> <li>IPDM E/R</li> </ul>	Tail lamp circuit Refer to <u>EXL-84, "Component</u> <u>Function Check"</u> .	
License plate lamp is not turned ON [Tail lamp is turned ON]	<ul> <li>License plate lamp power sup- ply/ground circuit</li> <li>License plate lamp bulb</li> <li>License plate lamp bulb socket</li> <li>IPDM E/R</li> </ul>	License plate lamp circuit Refer to <u>EXL-86, "Component</u> <u>Function Check"</u> .	
Parking lamp, license plate lamp, side marker lamp and tail lamp are not turned ON	Symptom diagnosis "PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-104, "Diagnosis Procedure"</u> .		
Position lamp indicator is not turned ON (Parking lamp, license plate lamp, side marker lamp and tail lamp are turned ON)	Combination meter	<ul> <li>Combination meter "Data Monitor" "LIGHT IND"</li> <li>BCM (HEAD LAMP) "Active Test" "TAIL LAMP"</li> </ul>	
Daytime running light is not turned ON	<ul> <li>Fuse</li> <li>Daytime running light relay</li> <li>Daytime running light relay power supply/control signal circuit</li> <li>Daytime running light power supply/ground circuit</li> <li>Front combination lamp internal circuit</li> <li>LED (daytime running light)</li> <li>Control circuit</li> <li>Harness</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light circuit Refer to <u>EXL-76, "Component</u> <u>Function Check"</u>.</li> <li>BCM (HEAD LAMP) "Data Monitor" "ENGINE STATE"</li> <li>Combination meter "Data Monitor" "PKB SW"</li> </ul>	

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# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

# < SYMPTOM DIAGNOSIS >

# [LED HEADLAMP]

Symp	otom	Possible cause	Inspection item
Back-up lamp is not turned ON		<ul> <li>Fuse</li> <li>Back-up lamp relay</li> <li>Back-up lamp relay power sup- ply/control signal circuit</li> <li>Back-up lamp power supply/ ground circuit</li> <li>Rear combination lamp internal circuit</li> <li>Back-up lamp</li> <li>Harness</li> <li>Joint connector</li> <li>TCM</li> </ul>	Back-up lamp circuit Refer to <u>EXL-84, "Component</u> <u>Function Check"</u> .
Turn signal lamp does not blink	Indicator lamp is normal (Applicable side per- forms high flasher acti- vation)	<ul> <li>Front turn signal lamp</li> <li>Front turn signal lamp power supply/ground circuit</li> <li>Front turn signal lamp</li> <li>Side turn signal lamp</li> <li>Side turn signal lamp power supply/ground circuit</li> <li>Side turn signal lamp</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp power supply/ground circuit</li> <li>Bulb (rear turn signal lamp)</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp)</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp</li> <li>Rear turn signal lamp bulb socket/harness</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-90, "Component</u> <u>Function Check"</u> .
	Indicator lamp is includ- ed	<ul> <li>Combination switch input/out- put signal circuit</li> <li>Combination switch</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-77, "Symptom Table"</u>
	One side	Combination meter	_
Turn signal indicator lamp does not blink	Both sides (Always)	<ul> <li>Turn indicator signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter</li> <li>"Data Monitor" "TURN IND"</li> <li>BCM (FLASHER)</li> <li>"Active Test" "FLASHER"</li> </ul>
(Turn signal lamp is nor- mal)	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply/ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>BCS-72, "Diagnosis Proce</u> <u>dure"</u> .
<ul> <li>Hazard warning lamp does not activate (Turn signal is normal)</li> <li>Hazard warning lamp continues activating</li> </ul>		<ul> <li>Hazard switch signal/ground circuit</li> <li>Integral switch (hazard switch)</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-96, "Component</u> <u>Function Check"</u> .
Front fog lamp is not	One side	<ul> <li>Front fog lamp power supply/ ground circuit</li> <li>Front fog lamp</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-88, "Component</u> <u>Function Check"</u> .
turned ON	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-105, "Diagnosis Procedure".	
Front fog lamp indicator lamp is not turned ON (Front fog lamp is turned ON)		Combination meter	<ul> <li>Combination meter</li> <li>"Data Monitor" "FR FOG IND"</li> <li>BCM (HEAD LAMP)</li> <li>"Active Test" "FR FOG LAMP"</li> </ul>

# NORMAL OPERATING CONDITION

## Description

INFOID:000000012875321

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#### LED HEADLAMP

- LED brightness and color may slightly change until the temperature becomes stable. This is not a malfunction.
- Illumination time lag may occur between right and left. This is not a malfunction.
- Brightness may be reduced due to aged deterioration of LED.

#### AUTO LIGHT SYSTEM

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

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# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

### Description

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

#### Diagnosis Procedure

**1**.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-77, "Symptom Table"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

#### () With CONSULT

1. Select "HL HI REQ" in "Data Monitor" mode of "IPDM E/R".

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

Monitor item	Con	Monitor status	
HL HI REQ	Lighting switch	HI or PASS	On
	(2ND)	LO	Off

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".

NO >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

[LED HEADLAMP]

INFOID:000000012875322

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

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# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

		Δ
Description	INFOID:000000012875324	$\square$
Both side headlamps (LO) are not turned ON in any condition. Diagnosis Procedure	INFOID:000000012875325	В
1. CHECK COMBINATION SWITCH		С
Check combination switch. Refer to BCS-77, "Symptom Table".		
Is the inspection result normal?		D
YES >> GO TO 2.		D
NO >> Repair or replace the malfunctioning part.		
<b>2.</b> CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT		Е
With CONSULT     Select "HILLO REO" in "Data Manitor" made of "IRDM E/R"		

Select "HL LO REQ" in "Data Monitor" mode of "IPDM E/R". 1. 2. While operating the lighting switch, check the monitor status.

Monitor item	Condi	Monitor status		
	Linkting quitab	2ND	On	_
HL LO REQ	Lighting switch	OFF	Off	-

### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36. "Removal and Installation".

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

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[LED HEADLAMP]

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

< SYMPTOM DIAGNOSIS >

#### [LED HEADLAMP]

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

# Description

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

# Diagnosis Procedure

1. COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-77, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

()With CONSULT

- 1. Select "TAIL & CLR REQ" in "Data Monitor" mode of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

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

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-36. "Removal and Installation"</u>.

NO >> Replace BCM. Refer to <u>BCS-79. "Removal and Installation"</u>.

#### BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON [LED HEADLAMP] < SYMPTOM DIAGNOSIS > BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON А Description INFOID:000000012875328 Both side front fog lamps are not turned ON in any condition. В **Diagnosis** Procedure INFOID:000000012875329 **1**.COMBINATION SWITCH INSPECTION Check combination switch. Refer to BCS-77, "Symptom Table". Is the inspection result normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT Ε (P)With CONSULT Select "FR FOG REQ" in "Data Monitor" mode of "IPDM E/R". 1. 2. While operating the front fog lamp switch, check the monitor status. F

Monitor item	Condition		Monitor status	
	Front fog lamp switch	ON	On	
FR FOG REQ	(With lighting switch 1ST)	OFF	Off	_

#### Is the item status normal?

YES >> Perform the front fog lamp diagnosis. Refer to EXL-88, "Diagnosis Procedure".

NO >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

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INFOID:000000012875330

< PERIODIC MAINTENANCE >

# PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Inspection

#### PREPARATION BEFORE ADJUSTING

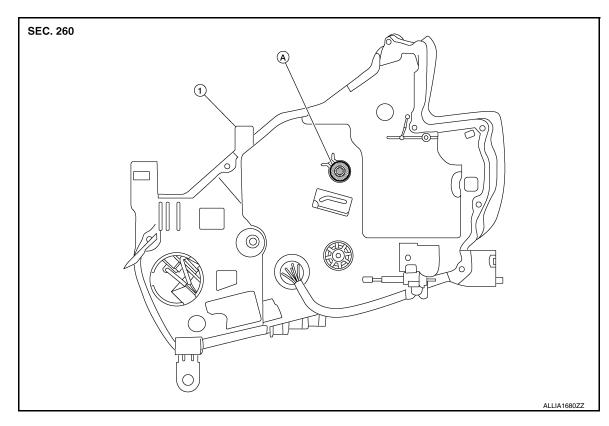
Before performing aiming adjustment, check the following:

- Make sure all tires are inflated to correct pressure.
- Place vehicle and screen on level surface.
- Make sure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Coolant and engine oil filled to correct level, and fuel tank full.
- Remove cargo and/or luggage to maintain an unloaded vehicle condition.
- Confirm spare tire, jack and tools are properly stowed.
- Carefully wipe off any dirt from headlamp lens.
- CAUTION: Do not use organic solvent (thinner, gasoline etc.)
- Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.
- By hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load.
- Place the front tires in the straight ahead position.
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.

#### NOTE:

- For headlamp aiming details, refer to regulations in your area.
- By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adjustable.
- Use adjusting screw to perform aiming adjustment.
- · Perform headlamp aiming if:
- The vehicle front body has been repaired;
- The front combination lamp has been removed or replaced;
- Any outfitting has been installed;
- The vehicle's standard load condition has been substantially increased.

#### AIMING ADJUSTMENT SCREW



# **HEADLAMP AIMING ADJUSTMENT**

#### < PERIODIC MAINTENANCE >

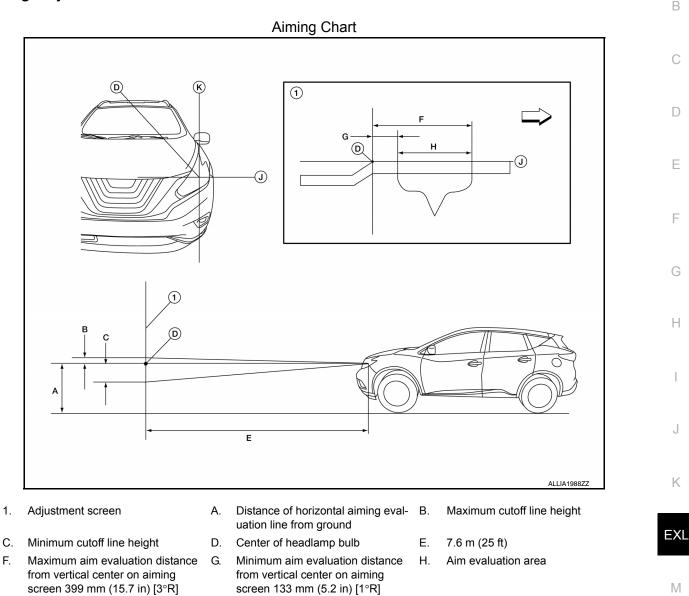
- 1. Front combination lamp (view from rear)
- A. Headlamp HI/LO (UP/DOWN) adjustment screw

[LED HEADLAMP]

INFOID:000000012875331

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Aiming Adjustment Procedure



J. Horizontal aiming evaluation line K.

LOW BEAM AND HIGH BEAM

# B: (Maximum cutoff line height) C: (Minimum cutoff line height)

13.3 mm (0.5 in)	0.1° up
53.2 mm (2.1 in)	0.4° down

Right

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- NOTE:
- Basic illuminating area for evaluation and/or adjustment should be within range shown on aiming chart.

Vertical aiming evaluation line

- 1. Use adjustment screw to perform aiming adjustment.
  - Ensure fog lamps are turned off.
- Block the opposite headlamp from projecting a beam pattern onto the adjustment screen, using a suitable object. Aim each headlamp individually.
   CAUTION:

#### Do not cover the lens surface with tape, etc.

3. Place the screen on the same level and flat surface as the vehicle. **NOTE:** 

#### < PERIODIC MAINTENANCE >

Surface should be free of any debris that would cause a difference between the headlamp center and the adjustment screen.

4. Face the front of the vehicle to the screen and measure distance between the headlamp center and the screen surface.

Distance between the headlamp center and the screen (E) : 7.6 m (25 ft)

- 5. Start the engine. Turn the headlamp on.
- 6. Determine the preferred vertical aim range dimensions, using the aiming chart.
- 7. Measure the projected beam within the aim evaluation segment on the screen.
- 8. Adjust the beam pattern of each headlamp until the aim evaluation segment (the area relative to both the highest and lowest cutoff line height) is positioned within the vertical aim range dimensions shown on the aiming chart.

# FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

# FRONT FOG LAMP AIMING ADJUSTMENT

FF	CONT FOG LAWP AIMING ADJUSTMENT	А
Air	ning Adjustment	A
PR	EPARATION BEFORE ADJUSTING	В
adji • E	e fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming ustment procedure, check the following: nsure all tires are inflated to correct pressure.	С
• E • C • R	lace vehicle and screen on level surface. nsure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position). oolant and engine oil filled to correct level, and fuel tank full. emove cargo and/or luggage to maintain an unloaded vehicle condition.	D
• C C	onfirm spare tire, jack and tools are properly stowed. arefully wipe off any dirt from headlamp lens. AUTION:	Ε
• P • B	o not use organic solvent (thinner, gasoline etc.) lace a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat. y hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load. lace the front tires in the straight ahead position.	F
• A NO	im each headlamp individually and ensure other headlamp beam pattern is blocked from screen. <b>TE:</b> or fog lamp aiming details, refer to regulations in your area.	G
• B a • U	y regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is djustable. se adjusting screw to perform aiming adjustment. erform fog lamp aiming if:	Н
- T - T - A	he vehicle front body has been repaired. he front fog lamp has been removed or replaced. ny outfitting has been installed. he vehicle's standard load condition has been substantially increased.	Ι
Ain	ning Adjustment Procedure	J
1.	<ul> <li>Place the screen.</li> <li>NOTE:</li> <li>Stop the vehicle facing the wall.</li> <li>Place the board on a plain road vertically.</li> </ul>	K
2.	Face the vehicle with the screen. Maintain 7.62 m (25.0 ft) between the front fog lamp center and the screen.	EXL
3.	Start the engine. Turn the front fog lamp ON. <b>NOTE:</b> Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. <b>CAUTION:</b>	M
	Do not cover the lens surface with a tape etc. The lens is made of resin.	
4.	Adjust aiming by turning the adjusting screw (A).	Ν
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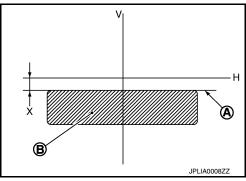
[LED HEADLAMP]

# FRONT FOG LAMP AIMING ADJUSTMENT

# < PERIODIC MAINTENANCE >

# [LED HEADLAMP]

- 5. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 100 mm (4 in).
  - A : Cutoff line
  - B : High illuminance area
  - H : Horizontal center line of front fog lamp
  - V : Vertical center line of front fog lamp
  - X : Cutoff line height



# < REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

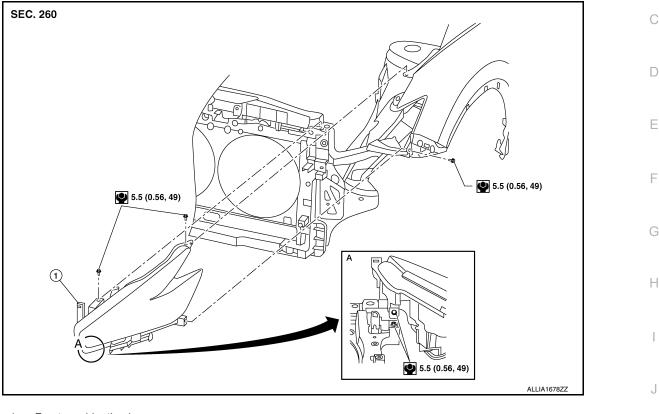
**Exploded View** 

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INFOID:000000012875334

[LED HEADLAMP]



1. Front combination lamp

# Removal and Installation

### REMOVAL EXL 1. Remove front bumper fascia. Refer to EXT-25, "Removal and Installation". Remove front combination lamp bolts. 3. Pull front combination lamp forward. Μ 4. Disconnect harness connectors from front combination lamp and remove. INSTALLATION Installation is in the reverse order of removal. Ν NOTE: After installation, perform headlamp aiming adjustment. Refer to EXL-106, "Inspection". Bulb Replacement INFOID:000000012875335 HEADLAMP BULB Ρ The headlamp bulb is LED and not serviced separately. Refer to EXL-111, "Removal and Installation". SIDE MARKER LAMP BULB Removal 1. Rotate bulb socket counterclockwise and remove from front combination lamp.

2. Remove bulb from bulb socket.

Installation

# EXL-111

# < REMOVAL AND INSTALLATION >

# CAUTION:

# After installing bulb, install bulb socket securely for watertightness.

# TURN SIGNAL LAMP BULB

# Removal

- 1. Remove front combination lamp. Refer to EXL-111. "Removal and Installation".
- 2. Rotate bulb socket counterclockwise and remove from front combination lamp.
- 3. Remove bulb from bulb socket.

### Installation

Installation is in the reverse order of removal. **CAUTION:** 

After installing bulb, install bulb socket securely for watertightness.

# FRONT FOG LAMP

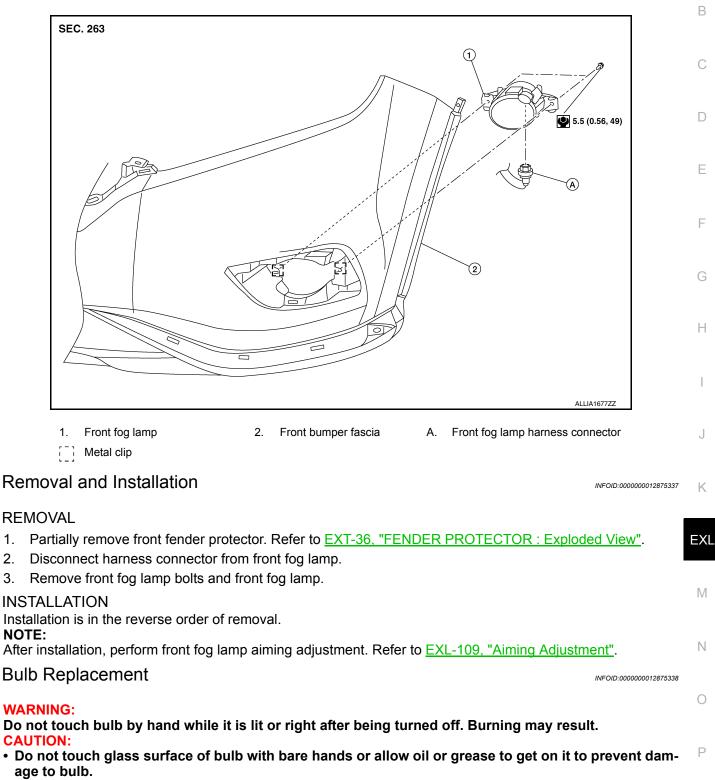
# < REMOVAL AND INSTALLATION >

# FRONT FOG LAMP

# Exploded View

INFOID:000000012875336

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 Do not leave bulb out of lamp reflector for a long time because dust, moisture, smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

# REMOVAL

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2.

3.

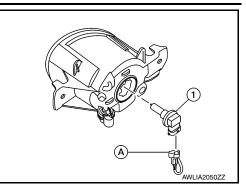
Partially remove front fender protector. Refer to EXT-38, "FRONT OVER FENDER : Removal and Installa-1. tion".

# FRONT FOG LAMP

# < REMOVAL AND INSTALLATION >

# [LED HEADLAMP]

- 2. Disconnect harness connector from front fog lamp (A).
- 3. Rotate bulb (1) counterclockwise and remove.



INSTALLATION Installation is in the reverse order of removal. CAUTION: Install bulb securely for watertightness.

# DOOR MIRROR TURN SIGNAL LAMP

# <u>CREMOVAL AND INSTALLATION > [LED HEADLAMP]</u> DOOR MIRROR TURN SIGNAL LAMP Removal and Installation Duble of the door mirror turn signal lamp is serviced as part of the door mirror. Refer to MIR-21, "Removal and Installation".

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# **OPTICAL SENSOR**

# < REMOVAL AND INSTALLATION >

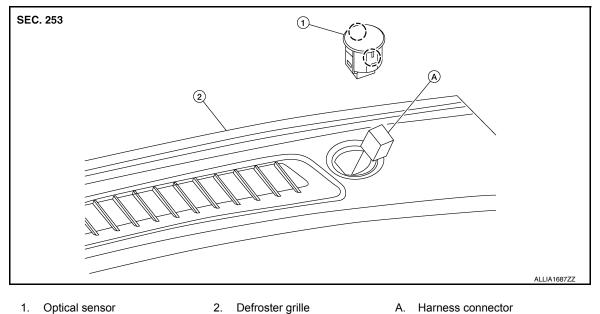
# **OPTICAL SENSOR**

**Exploded View** 

INFOID:000000012875340

INFOID:000000012875341

[LED HEADLAMP]



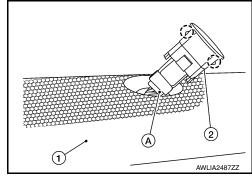
() Pawl

# Removal and Installation

# REMOVAL

Release pawls and remove optical sensor (2) from defroster grille (1) using a suitable tool.

(_): Pawl



INSTALLATION Installation is in the reverse order of removal.

# LIGHTING & TURN SIGNAL SWITCH

# < REMOVAL AND INSTALLATION >

# LIGHTING & TURN SIGNAL SWITCH

# Exploded View

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1. Combination switch     2. Combination switch harness connector	G
Removal and Installation	343 H
REMOVAL	
<ol> <li>Disconnect both the negative and positive battery terminals, then wait at least three minutes. Refer to <u>PC</u> <u>112, "Exploded View"</u>.</li> </ol>	<u>}-</u>
2. Remove the steering column covers. Refer to <u>IP-18, "Removal and Installation"</u> .	
<ol> <li>Remove the combination switch screws.</li> <li>Disconnect the harness connector from the combination switch and remove.</li> </ol>	J
INSTALLATION	
Installation is in the reverse order of removal. CAUTION:	K
<ul> <li>After the work is completed, make sure no system malfunction is detected by air bag warning lamp</li> <li>In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis functio and delete the memory with CONSULT.</li> </ul>	
• If a malfunction is still detected after the above operation, perform self-diagnosis to repair malfund	c-
tions. Refer to <u>SRC-17, "SRS Final Check"</u> .	M
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[LED HEADLAMP]

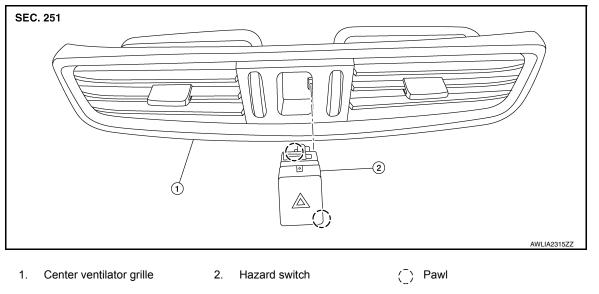
# HAZARD SWITCH

# < REMOVAL AND INSTALLATION > HAZARD SWITCH

# Exploded View

INFOID:000000012875344

[LED HEADLAMP]



# Removal and Installation

INFOID:000000012875345

# REMOVAL

- 1. Remove center ventilator grille. Refer to <u>VTL-10</u>, "CENTER VENTILATOR DUCT : Removal and Installation".
- 2. Release pawls and remove hazard switch.

# INSTALLATION

Installation is in the reverse order of removal.

# **REAR COMBINATION LAMP**

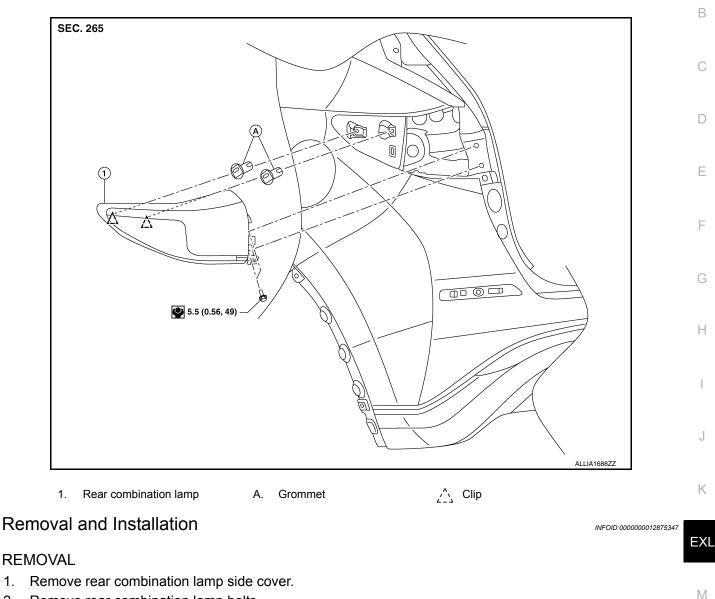
# < REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

# Exploded View

INFOID:000000012875346

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- 2. Remove rear combination lamp bolts.
- 3. Pull rear combination lamp sideward to release clip and locators.
- 4. Disconnect harness connector from rear combination lamp and remove.

# INSTALLATION

Installation is in the reverse order of removal.

# Bulb Replacement

# WARNING:

Do not touch bulb with bare hand while it is lit or right after being turned off. Burning may result. CAUTION:

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

# STOP LAMP BULB

The stop lamp bulb is LED and not serviced separately. Refer to EXL-119, "Removal and Installation".

Revision: December 2015

# **EXL-119**

### 2016 Murano NAM

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# < REMOVAL AND INSTALLATION >

# SIDE MARKER LAMP BULB

# Removal

- 1. Remove rear combination lamp. Refer to EXL-119, "Removal and Installation".
- 2. Rotate side marker bulb socket counterclockwise and remove.
- 3. Remove side marker bulb from bulb socket.

# Installation

Installation is in the reverse order of removal. **CAUTION:** 

# After installing bulb, install bulb socket securely for watertightness.

# TURN SIGNAL LAMP BULB

# Removal

- 1. Remove rear combination lamp. Refer to EXL-119, "Removal and Installation".
- 2. Rotate turn signal lamp bulb socket counterclockwise and remove.
- 3. Remove turn signal lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

**CAUTION:** 

# After installing bulb, install bulb socket securely for watertightness.

# **HIGH-MOUNTED STOP LAMP**

# < REMOVAL AND INSTALLATION >

# HIGH-MOUNTED STOP LAMP

**Exploded View** 

INFOID:000000012875349

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В SEC. 268 (1)Q D ٩. 60 Е A F 2 ALLIA1689ZZ 1. Rear spoiler 2. High-mounted stop lamp A. Harness connector Н Removal and Installation INFOID:000000012875350 REMOVAL Remove rear spoiler. Refer to EXT-51, "Removal and Installation". 1. 2. Remove nuts and remove high-mounted stop lamp. INSTALLATION Installation is in the reverse order of removal. **Bulb Replacement** Κ INFOID:000000012875351 HIGH-MOUNTED STOP LAMP BULB The high-mounted stop lamp bulb is LED and not serviced separately. Refer to EXL-121, "Removal and Instal-EXL lation". Μ Ν Ο

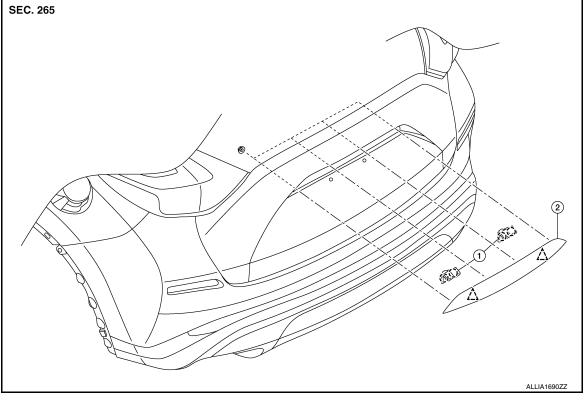
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# < REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

# Exploded View

INFOID:000000012875352



Back door outer finisher

🛆 Clip

1. License plate lamp

Pawl

# Removal and Installation

INFOID:000000012875353

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# REMOVAL

1. Remove back door outer finisher. Refer to EXT-53, "Removal and Installation".

2.

- 2. Disconnect harness connector from license plate lamp.
- 3. Release pawls and push license plate lamp forward.

# INSTALLATION

Installation is in the reverse order of removal.

# Bulb Replacement

# WARNING:

Do not touch bulb with your hand while it is on or right after being turned off. Burning may result. CAUTION:

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

# REMOVAL

- 1. Remove back door lower finisher. Refer to <u>INT-34. "BACK DOOR LOWER FINISHER : Removal and</u> <u>Installation"</u>.
- 2. Rotate license plate lamp bulb socket counterclockwise and remove.

# **EXL-122**

< REMOVAL AND INSTALLATION >	
3. Remove license plate lamp bulb from bulb socket.	
INSTALLATION Installation is in the reverse order of removal. CAUTION:	A
After installing bulb, install bulb socket securely for watertightness.	В
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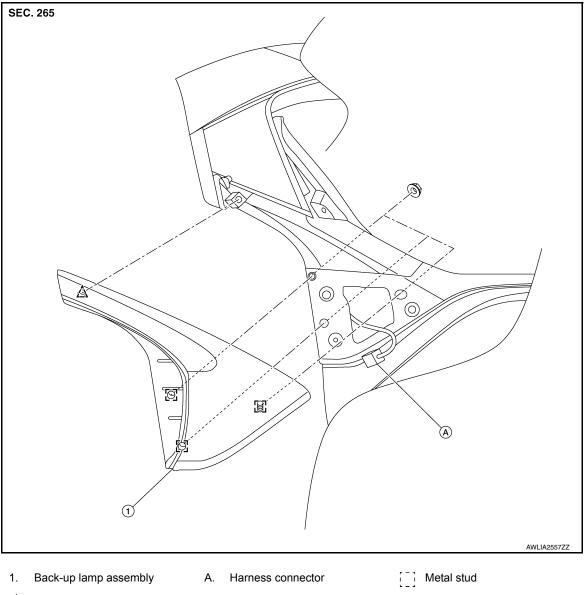
# < REMOVAL AND INSTALLATION >

# BACK-UP LAMP ASSEMBLY

# **Exploded View**

INFOID:000000012875355

[LED HEADLAMP]



Clip

# Removal and Installation

INFOID:000000012875356

# REMOVAL

- 1. Remove back door lower finisher. Refer to <u>INT-34, "BACK DOOR LOWER FINISHER : Removal and</u> <u>Installation"</u>.
- 2. Remove back-up lamp assembly nuts.
- 3. Disconnect harness connector, pull back-up lamp assembly rearward and remove.

# INSTALLATION

Installation is in the reverse order of removal.

# **Bulb Replacement**

# WARNING:

# Do not touch bulb with bare hand while it is lit or right after being turned off. Burning may result.

Revision: December 2015

**EXL-124** 

2016 Murano NAM

INFOID:000000012875357

# **BACK-UP LAMP ASSEMBLY**

# < REMOVAL AND INSTALLATION >

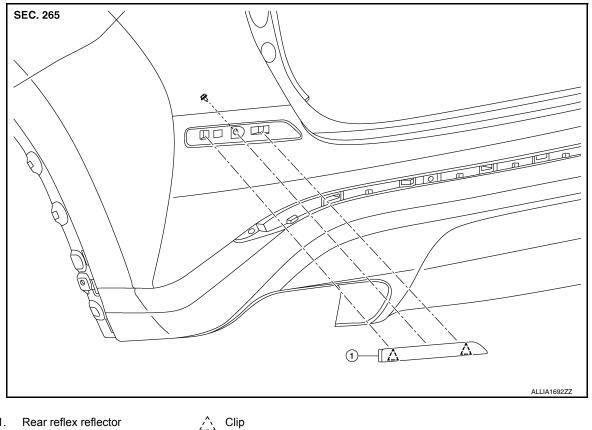
<ul> <li>CAUTION:</li> <li>Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.</li> </ul>	А
• Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.	В
REMOVAL	
<ol> <li>Remove back-up lamp assembly. Refer to <u>EXL-124, "Removal and Installation"</u>.</li> <li>Rotate back-up lamp bulb socket counterclockwise and remove.</li> <li>Remove back-up lamp bulb from bulb socket.</li> </ol>	С
INSTALLATION Installation is in the reverse order of removal.	D
CAUTION: After installing bulb, install bulb socket securely for watertightness.	E
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# < REMOVAL AND INSTALLATION >

# REAR REFLEX REFLECTOR

# **Exploded View**

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1. Rear reflex reflector

# **Removal and Installation**

INFOID:000000012875359

# REMOVAL

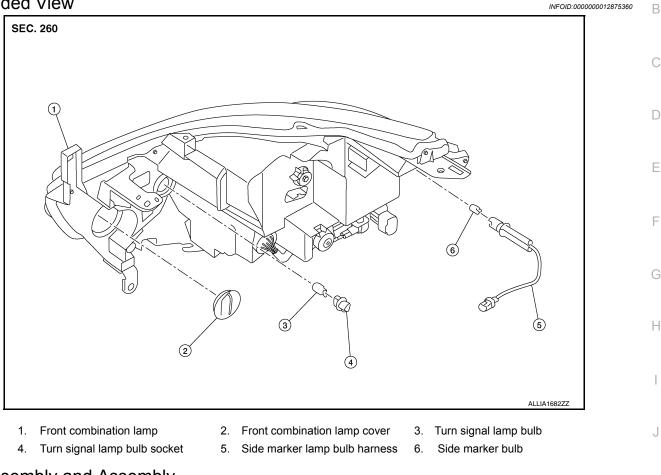
- 1. Remove rear bumper fascia. Refer to EXT-27, "Removal and Installation".
- Remove rear reflex reflector fixing screw and pawls and then remove rear reflex reflector. 2.

# **INSTALLATION**

Installation is in the reverse order of removal.

# UNIT DISASSEMBLY AND ASSEMBLY > UNIT DISASSEMBLY AND ASSEMBLY FRONT COMBINATION LAMP

**Exploded View** 



FRONT COMBINATION LAMP

# Disassembly and Assembly

# DISASSEMBLY

Remove front combination lamp. Refer to <u>EXL-111, "Removal and Installation"</u>.
 Rotate turn signal lamp bulb socket counterclockwise and remove.
 Remove turn signal lamp bulb from bulb socket.
 Rotate side marker lamp bulb from bulb socket.
 Remove side marker lamp bulb from bulb socket.
 Remove side marker lamp bulb from bulb socket.
 ASSEMBLY
 Assembly is in the reverse order of disassembly.
 CAUTION:
 During assembly, be sure to install bulb sockets securely to ensure watertightness.

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# **REAR COMBINATION LAMP**

# < UNIT DISASSEMBLY AND ASSEMBLY >

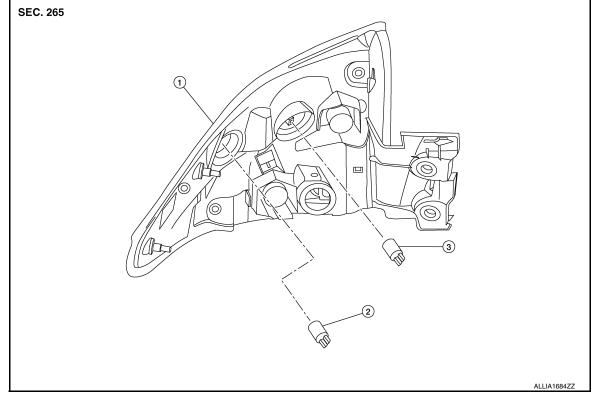
# REAR COMBINATION LAMP

# Exploded View

INFOID:000000012875362

INFOID:000000012875363

[LED HEADLAMP]



1. Rear combination lamp

2. Side marker lamp bulb

3. Turn signal lamp bulb

# **Disassembly and Assembly**

# DISASSEMBLY

- 1. Remove rear combination lamp. Refer to EXL-119. "Removal and Installation".
- 2. Rotate side marker lamp bulb socket counterclockwise and remove.
- 3. Remove side marker lamp bulb from bulb socket.
- 4. Rotate turn signal lamp bulb socket counterclockwise and remove.
- 5. Remove turn signal lamp bulb from bulb socket.

# ASSEMBLY

Assembly is in the reverse order of disassembly.

### CAUTION:

During assembly, be sure to install bulb sockets securely to ensure watertightness.

# SERVICE DATA AND SPECIFICATIONS (SDS)

# < SERVICE DATA AND SPECIFICATIONS (SDS)

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

# **Bulb Specifications**

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ltem		Туре	Wattage (W)
	High beam	LED	_
	Low beam	LED	
Front combination lamp	Turn signal lamp	7444NA	28/8
	Side marker lamp	W5W	5
	Daytime running lamp	LED	_
Front fog lamp (if equipped)		H11	55
Door mirror turn signal lamp		LED	_
	Stop lamp	LED	_
Rear combination lamp	Side marker lamp	W5W	5
	Turn signal lamp	WY21W	21
Back-up lamp		921	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_

*: Always check with the Parts Department for the latest parts info.

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[LED HEADLAMP]

# < PRECAUTION >

# PRECAUTION PRECAUTIONS

# 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 SR and SB section 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 SR section.
- 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 or batteries, and wait at least three minutes before performing any service.

# Precaution for Work

INFOID:000000012875366

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

# PREPARATION

# PREPARATION

# **Special Service Tool**

INFOID:000000012875367 B

The actual shape of the tools may differ from those illustrated here.
-----------------------------------------------------------------------

Tool number (TechMate No.) Tool name		Description	C
 (J-46534) Trim Tool Set		Removing trim components	E
	AWJIA0483ZZ		F

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[HALOGEN HEADLAMP]

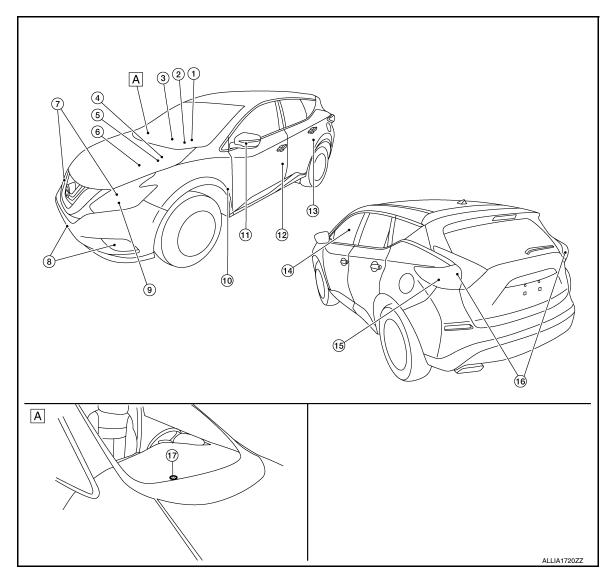
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# < SYSTEM DESCRIPTION > SYSTEM DESCRIPTION

# COMPONENT PARTS

**Component Parts Location** 

INFOID:000000012875368



A. Right hand side of instrument panel

No.	Part	Function
1.	Combination meter	Refer to MWI-7, "METER SYSTEM : Combination Meter".
2.	ВСМ	<ul> <li>Detects each switch condition by the combination switch reading function.</li> <li>Judges that the exterior lamps are turned ON according to the vehicle condition.</li> <li>Requests the headlamp (HI/LO), tail lamp and front fog lamp ON to IPDM E/R (via CAN communication).</li> <li>Requests high beam indicator lamp ON to the combination meter (via CAN communication).</li> <li>Judges the outside brightness from the optical sensor signal.</li> <li>Judges the ON/OFF timing according to the vehicle condition.</li> <li>Judges the ON/OFF status of the exterior lamp according to the outside brightness and the vehicle condition.</li> <li>Refer to <u>BCS-4. "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed installation location.</li> </ul>

# **COMPONENT PARTS**

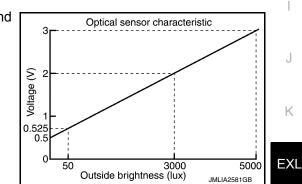
# [HALOGEN HEADLAMP]

No.	Part	Function
3.	Combination switch (Lighting and turn signal switch)	Refer to <u>MWI-5, "METER SYSTEM : Component Parts Location"</u> for detailed instal- lation location.
4.	IPDM E/R	<ul> <li>Supplies voltage to the load according to the request from BCM (via CAN communication).</li> <li>Refer to <u>PCS-5</u>, "Component Parts Location" for detailed installation location.</li> </ul>
5.	Front fog lamp relay	Supplies voltage to front fog lamps when operated by IPDM E/R.
6.	Daytime running lamp relay	Supplies voltage to the daytime running lamps according to request from IPDM E/R. Refer to EXL-133, "Daytime Running Light Relay".
7.	Front combination lamps	Refer to EXL-248, "Bulb Specifications".
8.	Front fog lamps	Refer to EXL-248, "Bulb Specifications".
9.	Front turn signal lamp LH	Refer to EXL-248, "Bulb Specifications".
10.	Parking brake switch	Transmits the parking brake switch signal to the combination meter to operate the daytime light system.
11.	Door mirror turn signal LH	Refer to EXL-248, "Bulb Specifications".
12.	Front door switch LH	Transmits the door open signal to the BCM to operate the autolight system.
13.	Rear door switch LH	Refer to <u>DLK-22, "Front Door Switch"</u> for front door switch or <u>DLK-22, "Rear Door</u> <u>Switch"</u> for rear door switch.
14.	Hazard switch	Refer to EXL-133. "Hazard Switch".
15.	Rear turn signal lamp LH	Refer to EXL-248. "Bulb Specifications".
16.	Rear combination lamps	Refer to EXL-248, "Bulb Specifications".
17.	Optical sensor	Refer to EXL-133, "Optical Sensor".

# **Optical Sensor**

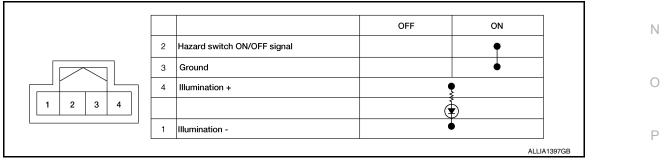
< SYSTEM DESCRIPTION >

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



# Hazard Switch

Inputs the hazard switch ON/OFF signal to BCM.



# Daytime Running Light Relay

Power is provided to the daytime running light relay according to request from IPDM E/R.

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INFOID:000000012875371

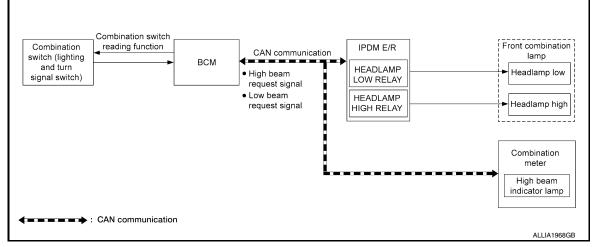
Revision: December 2015

# SYSTEM HEADLAMP SYSTEM

# HEADLAMP SYSTEM : System Description

INFOID:000000012875372

# SYSTEM DIAGRAM



# OUTLINE

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

# HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

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

# HEADLAMP (HI) OPERATION

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

# Headlamp (HI) ON condition

- Lighting switch HI with the lighting switch 2ND or AUTO (auto light function ON judgment)
- Lighting switch PASS
- Combination meter turns the high beam indicator lamp ON, according to the high beam request signal.
- IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal.

# HEADLAMP SYSTEM : Fail-safe

INFOID:000000012875373

# CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>

# < SYSTEM DESCRIPTION > AUTO LIGHT SYSTEM

# AUTO LIGHT SYSTEM : System Description

INFOID:000000012875374

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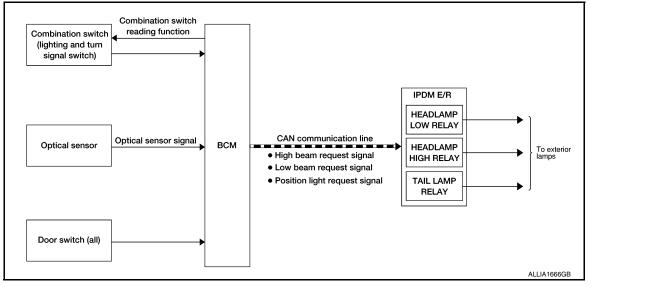
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# SYSTEM DIAGRAM



# OUTLINE

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

# Control by BCM

- Combination switch (lighting and turn signal switch) reading function
- Headlamp control function
- Auto light function
- Delay timer function
- Auto light adjustment system

# Control by IPDM E/R

- Relay control function
- · Auto light system has the auto light function and delay timer function.
- Auto light function automatically turns ON/OFF the exterior lamps* and each illumination automatically, depending on the outside brightness.
- When auto light system turns the exterior lamps ON with the ignition switch OFF, delay timer function turns the exterior lamps OFF, depending on the vehicle condition with the auto light function after a certain period of time.

*: Headlamps (LO/HI), parking lamps, side marker lamps and tail lamps. Headlamp HI depends on the combination switch (lighting and turn signal switch) condition.

# AUTO LIGHT FUNCTION

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

# NOTE:

ON/OFF timing differs based on the sensitivity from the setting. The setting can be set by CONSULT. Refer to <u>BCS-19, "HEADLAMP : CONSULT Function (BCM - HEADLAMP)"</u>.

# AUTO LIGHT ADJUSTMENT SYSTEM

The auto light adjustment system automatically, dims/brightens the display, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to <u>INL-8</u>. <u>"ILLUMINATION CONTROL SYSTEM : System Description"</u>.

# EXL-135

# < SYSTEM DESCRIPTION >

# DELAY TIMER FUNCTION

BCM turns the exterior lamp OFF depending on the vehicle condition with the auto light function when the ignition switch is turned OFF.

- Turns the exterior lamp OFF 5 minutes after detecting that any door opens. (Door switch ON).
- Turns the exterior lamp OFF a certain period of time* after closing all doors. (Door switch ON→OFF).
- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-19, "HEAD-LAMP : CONSULT Function (BCM - HEADLAMP)"</u>.

# NOTE:

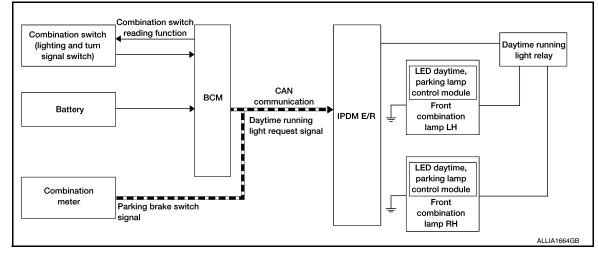
When any position other than the light switch AUTO is set, the auto light system function switches to the exterior lamp battery saver function.

# DAYTIME RUNNING LIGHT SYSTEM

# DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000012875375

# SYSTEM DIAGRAM



# OUTLINE

- Turns the front combination lamps on through the LED daytime, parking lamp control module as the daytime running light.
- Daytime running light is controlled by daytime running light control function and combination switch (lighting and turn signal switch) reading function of BCM, and relay control function of IPDM E/R.

# DAYTIME RUNNING LIGHT OPERATION

- BCM detects the combination switch (lighting and turn signal switch) condition by the combination switch (lighting and turn signal switch) reading function.
- BCM detects the vehicle condition according to ignition switch
- BCM detects the parking brake condition by the parking brake switch signal received from combination meter using CAN communication.
- BCM transmits the daytime running light request signal to IPDM E/R using CAN communication according to the daytime running light ON condition.

Daytime running light ON condition:

- Vehicle condition READY
- Lighting switch OFF or 1ST
- Lighting switch AUTO, and the auto light function OFF judgment
- Parking brake switch OFF
- IPDM E/R controls the daytime running light relay (ground-side) to turn ON according to the daytime running light request signal.
- Power is supplied from the daytime running light relay to front combination lamp RH and LH, and then daytime running lamps are illuminated.

# TURN SIĞNAL AND HAZARD WARNING LAMP SYSTEM

# SYSTEM

# < SYSTEM DESCRIPTION >

# [HALOGEN HEADLAMP]

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

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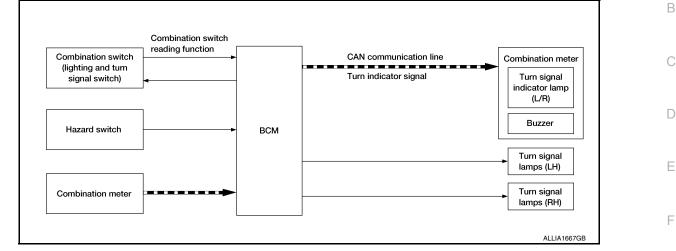
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# SYSTEM DIAGRAM



# OUTLINE

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

# TURN SIGNAL LAMP OPERATION

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

# HAZARD WARNING LAMP OPERATION

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

# TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

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

# **3-TIME FLASH FUNCTION**

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

# HIGH FLASHER OPERATION

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

# NOTE:

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

# PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System De-

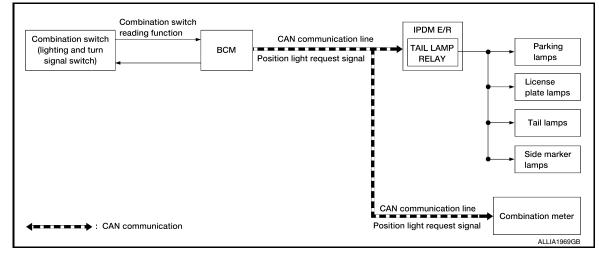
# < SYSTEM DESCRIPTION >

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INFOID:000000012875377

[HALOGEN HEADLAMP]

# SYSTEM DIAGRAM



# OUTLINE

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

# PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

- Lighting switch 1ST
- Lighting switch 2ND
- Lighting switch AUTO, and the auto light function ON judgment
- Lighting switch AUTO, with the front fog lamp switch ON and the ignition switch ON
- IPDM E/R turns the integrated tail lamp relay ON and turns the parking, license plate, side marker and tail lamps ON according to the position light request signal.
- Combination meter turns the tail lamp indicator lamp ON according to the position light request signal.

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

INFOID:000000012875378

# CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

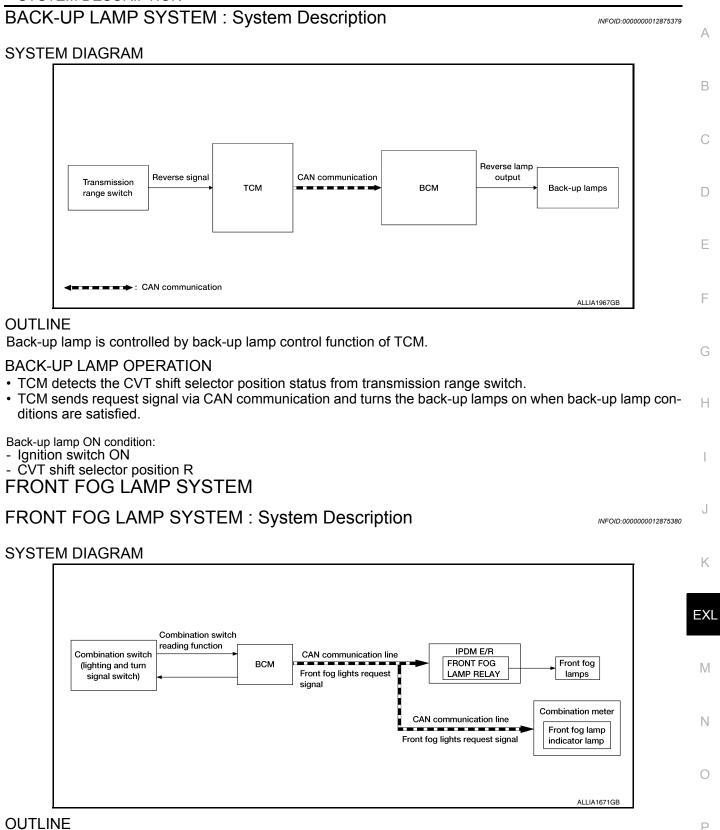
<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Illumination</li> <li>Tail lamps</li> <li>Side marker lamps</li> </ul>	Control part	Fail-safe operation
•	<ul><li>License plate lamps</li><li>Illumination</li><li>Tail lamps</li></ul>	

# BACK-UP LAMP SYSTEM

# SYSTEM

# < SYSTEM DESCRIPTION >

# [HALOGEN HEADLAMP]



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

# FRONT FOG LAMP OPERATION

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

# SYSTEM

# < SYSTEM DESCRIPTION >

Front fog lamp ON condition:

- Front fog lamp switch ON, and any of the following condition is satisfied (except for the high beam ON):
- Lighting switch 2ND
- · Lighting switch AUTO and the ignition switch ON

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

Combination meter turns the front fog lamp indicator lamp ON according to the front fog lights request signal.

# FRONT FOG LAMP SYSTEM : Fail-Safe

# CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With BCM

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

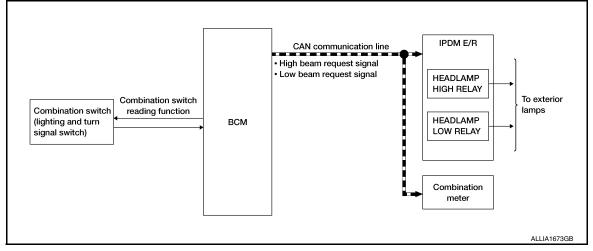
# EXTERIOR LAMP BATTERY SAVER SYSTEM

# EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000012875382

INFOID:000000012875381

# SYSTEM DIAGRAM



# OUTLINE

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

Control by BCM

- Combination switch (lighting and turn signal switch) reading function
- Exterior lamp battery saver function

# Control by IPDM E/R

- Relay control function
- BCM turns the exterior lamp OFF*, according to the vehicle status when ignition switch is turned OFF while exterior lamp is ON, for preventing battery discharge.
- *: Headlamp (HI/LO).

# EXTERIOR LAMP BATTERY SAVER ACTIVATION

- BCM activates the timer and turns the exterior lamp OFF 45 seconds after the ignition switch is turned from ON→OFF with the exterior lamps ON.
- When in any of following conditions (after the exterior lamp battery saver is activated), exterior lamps can be turned ON:
- Ignition switch is turned from OFF $\rightarrow$ ACC/ON
- Lighting switch is changed

# < SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000013385260

# APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description			
ECU Identification	The BCM part number is displayed.			
Self Diagnostic Result	The BCM self diagnostic results are displayed.			
Data Monitor	The BCM input/output data is displayed in real time.			
Active Test	The BCM activates outputs to test components.	E		
Work support	The settings for BCM functions can be changed.			
Configuration	<ul><li>The vehicle specification can be read and saved.</li><li>The vehicle specification can be written when replacing BCM.</li></ul>			
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.			

# SYSTEM APPLICATION

BCM can perform the following functions:

				Direct [	Diagnosti	ic Mode			- н
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr	I J
Door lock	DOOR LOCK		×	×	×	×			•
Rear window defogger	REAR DEFOGGER			×	×	×			K
Warning chime	BUZZER			×	×				
Interior room lamp timer	INT LAMP			×	×	×			EXL
Exterior lamp	HEADLAMP			×	×	×			
Wiper and washer	WIPER			×	×	×			-
Turn signal and hazard warning lamps	FLASHER			×	×	×			M
Air conditioner	AIR CONDITIONER			×					-
Intelligent Key system	INTELLIGENT KEY		×	×	×	×			
Combination switch	COMB SW			×					N
BCM	BCM	×	×			×	×	×	-
Immobilizer	IMMU		×	×	×				0
Interior room lamp battery saver	BATTERY SAVER			×	×				-
Back door open	TRUNK			×					-
Vehicle security system	THEFT ALM			×	×	×			Р
RAP system	RETAINED PWR			×					-
Signal buffer system	SIGNAL BUFFER			×	×				-
TPMS	AIR PRESSURE MONITOR		×	×	×				-

FREEZE FRAME DATA (FFD)

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# **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

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

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

### NOTE:

*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met:

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

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

# HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEADLAMP)

DATA MONITOR

INFOID:000000013385261

# **DIAGNOSIS SYSTEM (BCM)**

# < SYSTEM DESCRIPTION >

# [HALOGEN HEADLAMP]

Monitor Item [Unit]	Description			
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.			
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates engine status received from ECM on CAN communication line.			
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.			
TURN SIGNAL R [On/Off]				
TURN SIGNAL L [On/Off]	-			
TAIL LAMP SW [On/Off]	-			
HI BEAM SW [On/Off]	-			
HEAD LAMP SW 1 [On/Off]	Indicates condition of combination switch.			
HEAD LAMP SW 2 [On/Off]				
PASSING SW [On/Off]	-			
AUTO LIGHT SW [On/Off]	-			
FR FOG SW [On/Off]	-			
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.			
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.			
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.			
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.			
DOOR SW-BK [On/Off]	Indicates condition of back door switch.			
OPTI SEN (DTCT) [V]	Indicates outside brightness voltage signal from optical sensor.			
OPTI SEN (FILT) [V]	Indicates outside brightness voltage signal from optical sensor filtered by BCM.			

# ACTIVE TEST

Test Item	Description	
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].	J
DAYTIME RUNNING LIGHT	This test is able to check daytime running lamp operation [On/Off].	
ILL DIM SIGNAL	This test is able to check head lamp illumination dimming operation [On/Off].	
		K

# WORK SUPPORT

Support Item	Setting	Description	EXL
TWILIGHT ON	MODE2*	Auto lamp function ON.	
	MODE1	Auto lamp function OFF.	
	MODE4	This mode is not used.	M
	MODE3*	Wiper link function operates in INT, LOW and HI.	
WIPER LINK	MODE2	Wiper link function operates in LOW and HI.	
	MODE1	Wiper link function OFF.	N
CUSTOM A/LIGHT SETTING	MODE4	Less sensitive than normal setting (turns ON later).	
	MODE3	More sensitive than MODE2.	0
	MODE2	More sensitive than normal setting (turns ON earlier).	
	MODE1*	Normal setting.	

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# **DIAGNOSIS SYSTEM (BCM)**

# < SYSTEM DESCRIPTION >

Support Item	Setting	Description
	MODE 8	
	MODE 7	
	MODE 6	
ILL DELAY SET	MODE 4	Auto lamp delay timer.
	MODE 5	
	MODE 3	
	MODE 2	
	MODE 1*	

# * : Initial setting

# FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:000000013385579

# DATA MONITOR

Monitor Item [Unit]	Description	
REQ SW -DR [On/Off]	Indicates condition of door request switch LH.	
REQ SW -AS [On/Off]	Indicates condition of door request switch RH.	
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.	
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch	
TURN SIGNAL L [On/Off]	Indicates condition of turn signal function of combination switch.	
HAZARD SW [On/Off]	Indicates condition of hazard switch.	
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.	
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.	
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.	

# ACTIVE TEST

Test Item	Description
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].

# WORK SUPPORT

Support item	Setting	Description
3-TIME FLASHER SETTING	ON*	3-Time flasher setting ON.
	OFF	3-Time flasher setting OFF.

* : Initial setting

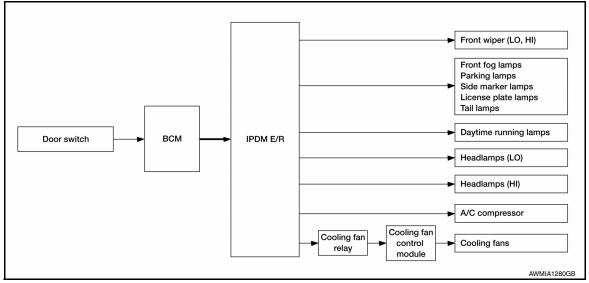
DIAGNOSIS SYSTEM (IPDM E/R)	А
Diagnosis Description	
AUTO ACTIVE TEST	В
Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation: • Front wiper (LO, HI) • Front fog lamps • Parking lamps	С
<ul> <li>Side marker lamps</li> <li>Tail lamps</li> </ul>	D
<ul> <li>License plate lamps</li> <li>Daytime running lamps</li> </ul>	
<ul> <li>Headlamps (LO, HI)</li> <li>A/C compressor</li> </ul>	Е
Cooling fans (LO, HI)	
Operation Procedure CAUTION:	F
Do not start the engine. NOTE: When auto active test is performed with hood opened, sprinkle water on windshield before hand. NOTE:	G
<ul> <li>If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-202</u>, <u>"Component Function Check"</u>.</li> <li>When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.</li> </ul>	Н
1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)	I
<ol> <li>Turn ignition switch OFF.</li> <li>Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the</li> </ol>	
ignition switch OFF.	J
<ol> <li>Turn the ignition switch ON within 10 seconds. After that the horn sounds once, and the auto active test starts.</li> </ol>	
5. After a series of the following operations is repeated 3 times, auto active test is completed.	К
Inspection in Auto Active Test Mode When auto active test mode is actuated, the following operation sequence is repeated 3 times.	EXL

Operation se- quence	Inspection Location	Operation	D. 4
1	Front wiper	LO for 3 seconds $\rightarrow$ HI for 3 seconds	M
2	<ul> <li>Front fog lamps</li> <li>Parking lamps</li> <li>Side marker lamps</li> <li>Tail lamps</li> <li>License plate lamps</li> </ul>	10 seconds	Ν
3	Daytime running lamps	10 seconds	0
4	Headlamps	LO ⇔ HI 5 times	
5	A/C compressor	$ON \Leftrightarrow OFF 5 times$	
6*	Cooling fans	LO for 5 seconds $\rightarrow$ HI for 5 seconds	Р

*: 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

Symptom	Inspection contents		Possible cause
Any of the following components do not operate		YES	BCM signal input circuit
<ul> <li>Front fog lamps</li> <li>Parking lamps</li> <li>Side marker lamps</li> <li>License plate lamps</li> <li>Tail lamps</li> <li>Daytime running lamps</li> <li>Headlamp (HI, LO)</li> <li>Front wiper</li> </ul>	Perform auto active test. Does the applicable system operate?	NO	<ul> <li>Lamp or motor</li> <li>Lamp or motor ground circuit</li> <li>Harness or connector between IPDM E/R and applicable system</li> <li>IPDM E/R</li> </ul>
		YES	<ul> <li>ECM signal input circuit</li> <li>CAN communication signal between ECM and IPDM E/ R</li> </ul>
Cooling fans do not operate	Perform auto active test. Do the cooling fans operate?	NO	<ul> <li>Cooling fans</li> <li>Harness or connectors be- tween cooling fans and cooling fan control module</li> <li>Cooling fan control module</li> <li>Harness or connectors be- tween cooling fan relay and cooling fan control module</li> <li>Cooling fan relay</li> <li>Harness or connectors be- tween IPDM E/R and cool- ing fan relay</li> <li>IPDM E/R</li> </ul>

### CONSULT Function (IPDM E/R)

INFOID:000000013385586

### CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

< SYSTEM DESCRIPTION >

### APPLICATION ITEM

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

Direct Diagnostic Mode	Description	
ECU Identification	The IPDM E/R part number is displayed.	В
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.	
Data Monitor	The IPDM E/R input/output data is displayed in real time.	C
Active Test	The IPDM E/R activates outputs to test components.	C

### ECU IDENTIFICATION

The IPDM E/R part number is displayed.

### SELF DIAGNOSTIC RESULT

Refer to PCS-21, "DTC Index".

### DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [%]	×	Indicates cooling fan speed signal received from ECM on CAN communication line.
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN commu- nication line.
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communica- tion line.
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line.
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line.
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communica- tion line.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line.
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal.
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation.
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line.
IGN RLY [On/Off]	×	Indicates condition of ignition relay.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
INTER/NP SW [On/Off]		Indicates condition of CVT shift position.
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line.
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line.
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay.
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch).
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communica- tion line.
HOOD SW [On/Off]		Indicates condition of hood switch.
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN commu- nication line.
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line.
HOOD SW 2 [On/Off]		Indicates condition of hood switch 2.

Revision: December 2015

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< SYSTEM DESCRIPTION >

### ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [On].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/Tail/Off].

### < ECU DIAGNOSIS INFORMATION >

## ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

### List of ECU Reference

INFOID:000000012875388

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ECU	Reference	
	BCS-30, "Reference Value"	
ВСМ	BCS-50, "Fail Safe"	
BCM	BCS-51, "DTC Inspection Priority Chart"	
	BCS-52, "DTC Index"	
	PCS-13, "Reference Value"	
IPDM E/R	PCS-20, "Fail Safe"	
	PCS-21, "DTC Index"	

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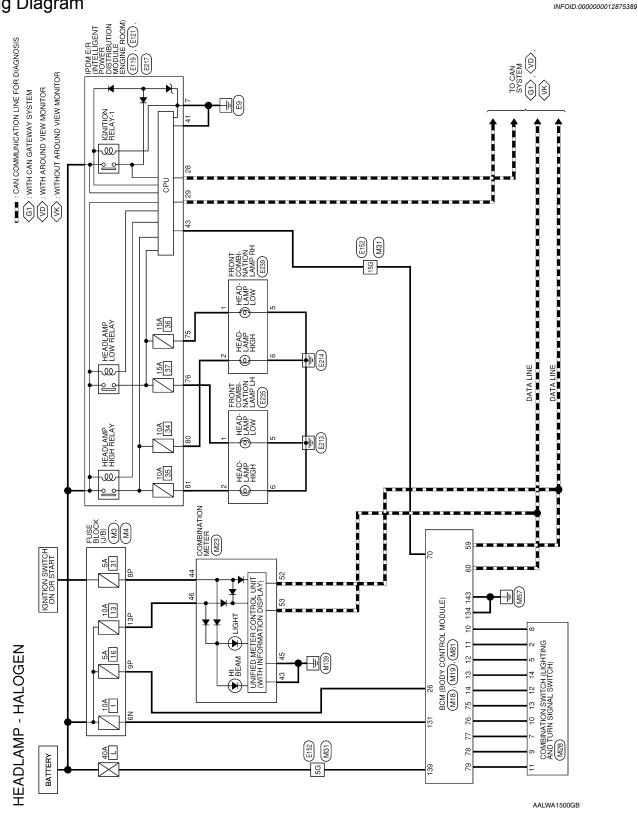
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# < WIRING DIAGRAM > WIRING DIAGRAM HEADLAMP

Wiring Diagram



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			N SWITCH								4 5	9 10 11 12 13 14				Signal Name		•	-		1					1	ı																																		С	
		M28	COMBINATION SWITCH	TH16FW-NH	WHITE						1 2	7 8 9												-																																					D	
		Connector No.	Connector Name	Connector Type	Connector Color				U	5					F		+	+	œ	W	σ	4		-			ۍ ۲																																		E	
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ALOGEN										2N 1N	5N AN					Name												3P 2P 1P					omel								MODULE)						7	9 8 7 6 5 4 3 2	29 28 27 26 25				ameN	INALLIE	SW IN 5					=	X	
HEADLAMP CONNECTORS - HAI			CK (J/B)	A2				Γ			7N GN	5				Signal Name		1				S						7P 6P 5P 4P		1 721 761 74			Signal Mamo	minBio	1						BCM (BODY CONTROL MODULE)	н					/ \ 	20 19 18 17 16 15 14 13 12 11 10 9	33 32 31 30 2				Signal Nama	olylia	COMBI SW IN 5						M	
NECT		M3	FUSE BLOCK (J/B)	CS06FW-M2	WHITE			L	<u>с</u>	<u> </u>		0				5.			M4			NS16FW-CS	WHITE					7P 6P 5		1 101 101			of							M18	BCM (BOD	TH40FG-N	GREEN					18 17 16 15 14	38 37 36 35 34				of									
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### [HALOGEN HEADLAMP]

Revision: December 2015

	Connector Name WIRE TO WIRE		Connector Color WHILE	1412. 56 46 32 26 16 98 80 76 66	21G20619611761861761861361461362116	306239627625622662562266236	41640633638637638633633463336326316	50G48G447G48G47G48G44G44G44G43G42G	61 G 60 G 59 G 58 G 57 G 56 G 55 G 54 G 53 G 52 G 51 G 7777 1677 1677 1677 1677 1677 1677 1677	1/06/0306/0306/0306/0306/0206	81G 80G 79G 78G 77G 76G 75G 74G 73G 74G	200000000000000000000000000000000000000	9560 (946) (930) (930) (930) 10000 (990) (930) (930) (930) (930)		Terminal Color of Signal Name No. Wire	15G L –	Connector Name IPDM F/8 (INTELLIGENT POWER	 Connector Type NS08FW-CS	Connector Color WHITE	H.S. 77 78 79 80 81	Terminal Color of 2000		L/W HE	75 SB HEADLAMP LO RH (WITH LED HEADLAMPS)	-	G/W HE	80 LG HEADLAMP HI RH (WITH LED HEADLAMPS) 81 G HEADLAMP HI LH	
	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type TH32FW-NH	+	5 H	Image: Second state         Image: Second state		F	Terminal Color of Signal Name No. Wire	a.		41 D 3-GNU 43 L IGN SIGNAL		Connector No. E121 Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type NS12FW-CS			12 13 14 15 16 1/ 18	F	Terminal Color of Signal Name									
M31			Connector Color WHILE	16 26 36 46 ⁵⁶ 66 76 86 96 hrs			316326336346356386376386396406416	42044303446145094806470948094905500	51G52G53G54G55G56G57G58G59G60G61G	500 10 000 000 000 000 000 000 000 000 0	716726736746756766776776786796806816		916 2026 302 0440 9850 966 9776 3880 9860 1000		Color of Signal Name Wire	-	Connector Name BCM (BODY CONTROL MODULE)			142 142 144 149 143 129 143 143 143 143 143 143 143 143 143 143	Color of Signal Name Wire	W BAT BCM FUSE		L BAT POWER F/L	GR GND1			

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### < WIRING DIAGRAM >

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E235	FRONT COMBINATION LAMP LH	RS08FB-PR	BLACK		$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Signal Name		-	-	1	E239	FRONT COMBINATION LAMP RH	RS08FB-PR	BLACK			Signal Name	Т	T	1	1
	1					Color of Wire	-	IJ	8	в		-				Color of	Wire	LW	G/W	8	8
Connector No.	Connector Name	Connector Type	Connector Color	H.S.		Terminal No.	-	2	£	9	Connector No.	Connector Name	Connector Type	Connector Color	RTA H.S.	Terminal	No.	-	2	5	9

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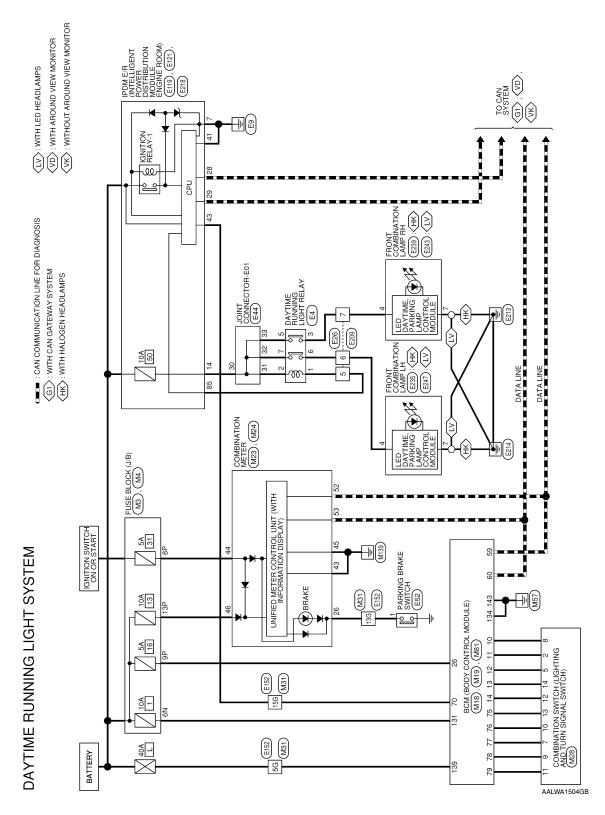
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< WIRING DIAGRAM >

### DAYTIME RUNNING LIGHT SYSTEM

### Wiring Diagram

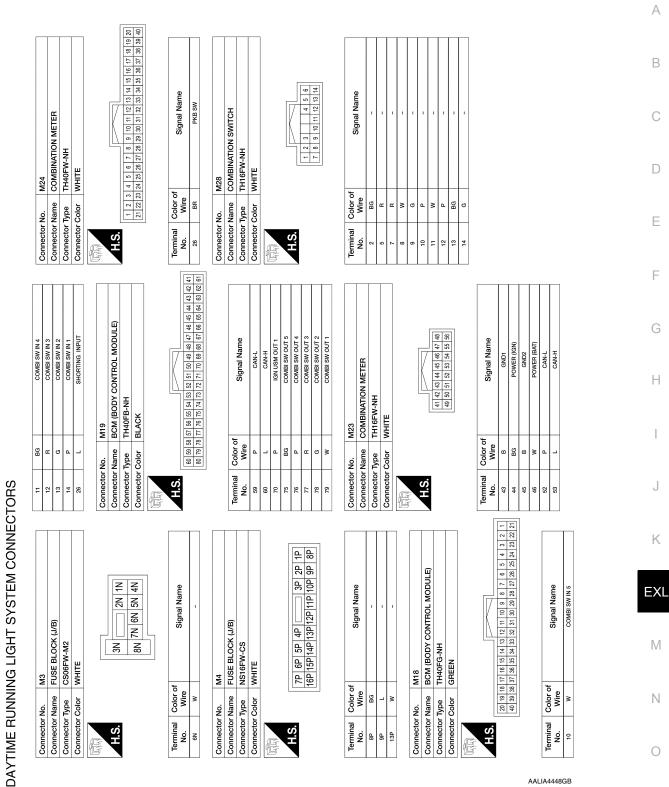
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### DAYTIME RUNNING LIGHT SYSTEM

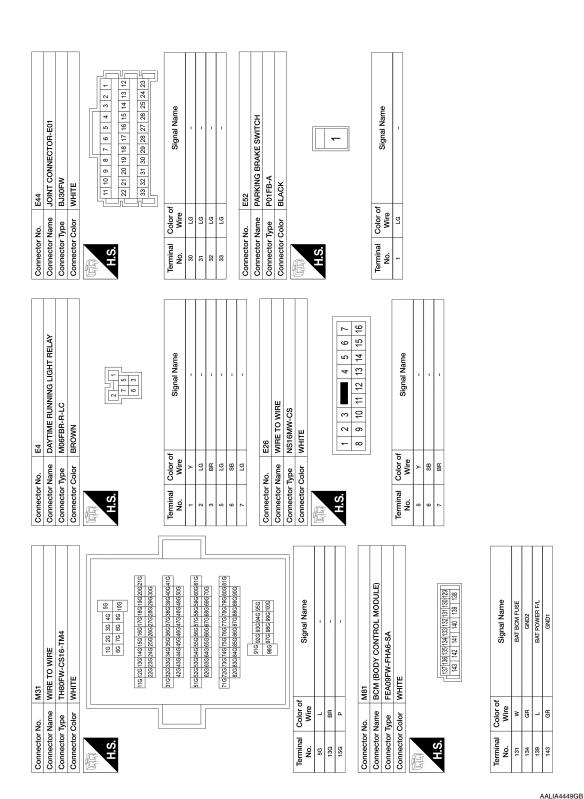
### < WIRING DIAGRAM >

### [HALOGEN HEADLAMP]



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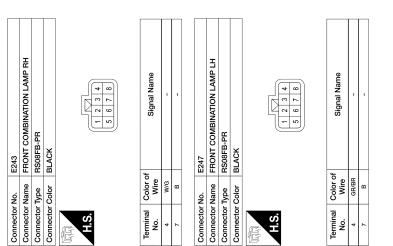
DAYTIME RUNNING LIGHT SYSTEM [HALOGEN HEADLAMP]

Connector Name IPDM E/R (INTELLIGENT POWER	DISTRIBUTION MODULE ENGINE ROOM)	Connector Type TH16FW-NH	Connector Color WHITE	LES.	22 23 24 55 56 78 68 28 68 27 20 91 92 23 94 55 66 97	- F	lerminal Color of Signal Name No. Wire	85 Y/V DTRL RLY		Connector No. E235 Connector Name FRONT COMBINATION LAMP LH		Connector Color BLACK		H.S.	2		alC	No.         Wire        3           4         GR/BR         -	7 B -	Connector No. E239	e	Connector Type RS08FB-PR Connector Color BLACK		H.S.	6 7			5	4 W/G –	7 8 -		
ပိ		ပိ	ප ]	F			<u> </u>		,	පි	ပိ	8 1					<u>۳</u>			Ğ	ပိ	ပိပိ	je					<u> </u>				
WIRE TO WIRE	TH80MW-CS16-TM4	WHITE		56         46         36         26         16           106         96         86         76         66	21G20G196 186 176 186 156 146 136 126 11G 306296286270286256246236226	416406396386376366356346336326316 FED IAO AO AO AO AO AO AO AO AO	000 400 400 400 400 400 400 400 400	610 600 590 580 570 560 550 540 530 520 510 700 600 690 670 660 660 640 640 640 640		81G 80G 79G 776 776 776 776 776 746 736 772 716 90G 89G 88G 87G 86G 85G 84G 83G 82G	220 000 000 016	9304 1344 93.04 92.04 97.0 1000 9906 9806 97.05 96.0	]	of Signal Name		1 1	-	E209 WIRE TO WIRE	NS16FW-CS	WHITE		7 6 5 4 3 2 1	16 15 14 13 12 11 10 9 8		or Signal Name							
Connector Name	Connector Type	Connector Color		H.S.										al	5G WIG	13G LG 15G L		Connector No. Connector Name	Connector Type	Connector Color		H.S.			No. Wire	5 Y/V	2 W/G					
	(MO				3 34 9 50							WO																				
IPDM E/R (INTELLIGENT POWER	DISTRIBUTION MODULE ENGINE ROOM)	TH32FW-NH	WHITE		19         20         21         22         23         24         25         26         29         30         31         33         34           35         36         37         38         39         40         41         42         43         44         46         47         48         49         50		Signal Name	CAN-L	CAN-H S-GND	IGN SIGNAL	E121	IPDM E/R (INTELLIGENT POWER DISTRIBITION MODILI F FNGINF ROOM)	/-CS	WHITE		7 8 9 10 11	13 14 15 16			ŝ	P-GND DTRL											E
e		Connector Type	Connector Color				U Color of Wire	٩			Connector No.	e	Connector Type	Connector Color					d Color of		в 5	_										
Connector Nan		nnect	nnect	H.S.			lerminal No.	28	41	43	necto	nnect	nect	nectu	E	H.S.			Terminal	Š	7	:										

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### < WIRING DIAGRAM >

### [HALOGEN HEADLAMP]



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#### **AUTO LIGHT SYSTEM** Wiring Diagram INFOID:000000013364372 IPDM E/R INTELLGENT INTELLGENT DISTRIBUTION MODULE MODULE (E119), (E121), (E213), (E213), CAN COMMUNICATION LINE FOR DIAGNOSIS WITHOUT AROUND VIEW MONITOR WITH AROUND VIEW MONITOR (G1) : WITH CAN GATEWAY SYSTEM √UD) : WITH AROUND VIEW MONITOR ⟨VK⟩ : WITHOUT AROUND VIEW MONI' IGNITION RELAY-1 -W ÷ ₽ 0 TO CAN SYSTEM (G1), (VD), СРU W31 E152 20 5G E71 TO PARKING, LICENSE PLATE AND TAIL LAMPS B116 B116 B116 TO HEADLAMP -- HALOGEMP -DAYTIME RUNNING LIGHT SYSTEM g 0 31 TAIL LAMP RELAY FRONT M84 B108 B101 10A w 10A B18 B18 REAR HEADLAMP LOW RELAY BCM (BODY CONTROL MODULE) (M13) · (M19) · (M20) · (M81) 15A 36 2 LOINT CONNECTOR-M22 M175 15A 37 W M40 (698 88 <u>~ c</u> 52 HEADLAMP HIGH RELAY 10A 34 TO CAN SYSTEM (G1), (VD), DATA LINE 10A 35 W DATA LINE 80 43 FUSE BLOCK (J/B) M3, M4 4 OPTICAL SENSOR M15 134 5 11 9 7 10 13 12 14 5 2 6 COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) (M2B) x AUTO LIGHT SYSTEM 10A 2 ć 6 16 16 7 75 26 76 M31 E152 40A 1 BATTERY 78 $\sim$ 50 139 79 AALWA1507GB

Consister types for meter types			c	1	Connector No.	M20
Conservace       Miles					Connector Name	BCM (BODY CONTROL MODULE)
Minter       Connector faire       EMI GOY CONTICL.       Connector faire       EMI GOY CONTICL.         Image: Specific state       Image: Specific state <t< td=""><td></td><td>Connector</td><td></td><td>118</td><td>Connector Type</td><td>TH24FGY-NH</td></t<>		Connector		118	Connector Type	TH24FGY-NH
Nime       Nim       Nime       Nime		Connector		CM (BODY CONTROL MODULE)	Connector Color	GRAY
		Connector		H40FG-NH	4	
		Connector		REEN		
	2N	E			H.S.	
mining	7N 6N 5N	H.S.				86 85 84 83 82 88 97 96 95 94
0         Signal Name           1         Signal Name           1         No           1         No </td <td></td> <td></td> <td>20 19 18 40 39 38</td> <td>7</td> <td></td> <td></td>			20 19 18 40 39 38	7		
Terminal         Code of a w burne         Signal Name burne         Si	Color of Sig				_	
Mitty       Mitty <th< td=""><td>M</td><td>Terminal</td><td>Color of</td><td>Signal Name</td><td>Π</td><td></td></th<>	M	Terminal	Color of	Signal Name	Π	
Mathematical         Mathematical<						RR DOOR SW
FUSE BLOCK (J/B)         FUSE BLOCK (J/B)           NHITE         NHITE           NHITE         NHITE           (P) (EP) (2P) (2P) (2P) (2P) (2P) (2P) (2P) (2			3	A/L POWER SUPPLY 5V	+	
Nisterwics     Nisterwics       WITE     WITE       Image: Segma number of the segment of th		4	5 3			
Milter       Connector No.       M33         (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (17)       (11)       (11)       (11)       (11)       (11)       (11)       (11)       (11)       (11)       (11)       (11) </td <td></td> <td></td> <td>A 0</td> <td></td> <td></td> <td></td>			A 0			
			22 0	COMBLSW IN 4	Connector No.	M28
		12	r	COMBI SW IN 3	Connector Name	
Image: Signal Name       Image: Si		13	5	COMBI SW IN 2	Connector Type	
T       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F       F		14	-	COMBI SW IN 1		
TP (6) [2) [4 P [32] 20 [10]       30 [20 [10]         (6) [15] [14P [13P [12P [14P [13P [13P [13P [13P [13P [13P [13P [13		12	-	GND RF A/L	Connector Color	WHILE
Mile         Signal Name         Connector No.         M19         Connector No.         M19           of         Signal Name         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -         -	7P 6P 5P 4P 72 3P 2P 46P 45P 44P 73P 47P 40P 0P		-	SHORTING INPUT	EB	
of       Signal Name       Signal Name       Signal Name       Signal Name         of       Signal Name       Connector Type       TH40FE-NH       Connector Type       TH40FE-NH         Ometor Color       BLACK       Connector Type       TH40FE-NH       Connector Type       TH40FE-NH         Ometor Color       BLACK       Connector Type       TH40FE-NH       Connector Type       TH40FE-NH         Ometor Color       BLACK       Connector Type       TH40FE-NH       Connector Type       TH40FE-NH         M15       OPTICAL SENSOR       M15       M15       M18       M18       M18       M18         M15       M17       M17       M17       M18				119		
of       Signal Name         of       Signal Name         n       Signal Name         n       Omector Type         H15       Connector Type         M15       Connector Signal Name         OPTICAL SENSOR       Exct         WH1E       M15         M15       M16         M15       M16         M16       M16         M16       M16         M17       M17         M11E       M1         M1       M1         M1       M1         M1       M1         M1       M1         M1       M1         M1		Connector		CM (BODY CONTROL MODULE)	011	
of NI5       Signal Name         Omector Color       BLACK         M15       M15         OPTICAL SENSOR       OPTICAL SENSOR         M15       M15         M15       M16         M15       OPTICAL SENSOR         M16       M16         M17       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M17         M11E       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M17         M11E       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M16         M11E       M17         M11E       M16         M11E       M17         M11E       M16         M11E       M16         M11E       M17         M11E       M16         M17       M17         <	-	Connector		H40FB-NH		з 1011
Mis       Mis         Mis       OPTICAL SENSOR         Mis       OPTICAL SENSOR         Noise       Noise         WHIE       Noise         Number       Noise         Noise       Noise	Color of Sig	Connector		LACK		
M15         Terminal         Color of 10/30/30/30         Terminal         Color of 10/30/30         Terminal         Color of 10/30/30 <td>+</td> <td>E</td> <td></td> <td></td> <td></td> <td></td>	+	E				
M15       OPTICAL SENSOR       M15         OPTICAL SENSOR       OPTICAL SENSOR       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0 <t< td=""><td></td><td></td><td></td><td>(</td><td></td><td></td></t<>				(		
OPTICAL SENSOR         0000 500 500 500 500 500 500 500 500 50		0.E			+	
TK03FW         18/13/17/16/13/12/17/16/16/16/16/16/16/16/16/16/16/16/16/16/			59 58	2 51 50 49		
WHIE       Terminal Color of Number			62 28	2 71 70 69		
Ferminal No.         Color of Wire         Signal Name         9         G           No.         Wire         Signal Name         11         W           0         P         CAN-L         11         W           1         2         3         P         CAN-L           0         P         CAN-L         13         BG           70         P         IoN USI NOUT 1         13         BG           Wire         75         BG         COMBI SW OUT 3         14         G           77         R         R         COMBI SW OUT 3         14         G           77         R         R         COMBI SW OUT 3         14         G           77         R         R         COMBI SW OUT 3         14         G           77         R         R         COMBI SW OUT 3         14         G						1
Terminal No.         Terminal Wire         Color of Nire         Signal Name         10         P         11         W           No.         Wire         Ool of Nire         P         Color of Nire         Signal Name         11         W         11         W           0         L         CAN-L         13         BG         13         BG         14         G           75         BG         COMBISW OUT 1         14         G         14         G         14         G           Wire         75         BG         COMBISW OUT 3         14         G         15         15         15         15         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16         16 <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td>						-
No.         Wire         Operation         11         W         11<		Terminal	Color of	Signal Name		1
Picture         Contr         12         P         Contr         12         P         13         Ba           70         P         100 USMUT         14         0         13         Ba         14         0           75         P         COMBISWOUTS         77         P         0         14         0         0           Wite         Signal Name         75         P         COMBISWOUTS         74         0         0           75         P         COMBISWOUTS         74         0         0         14         0         0           Wite         Signal Name         77         P         COMBISWOUTS         14         0         0           75         P         COMBISWOUTS         74         C         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0         0 <td></td> <td>No.</td> <td>Wire</td> <td>Olyna Hanne</td> <td></td> <td>1</td>		No.	Wire	Olyna Hanne		1
Image: Legence les control la		28	٩	CAN-L		1
Total         Total <th< td=""><td></td><td>60</td><td>٦</td><td>CAN-H</td><td></td><td></td></th<>		60	٦	CAN-H		
75         8G           75         8G           76         P           77         R           Wire         77           8         77           73         8           79         79		70	٩	IGN USM OUT 1		1
Color of Wire         Signal Name         76         P           0         77         R         77         R           0         77         77         R         77		75	BG	COMBI SW OUT 5		
Color of Wire         Signal Name         77         R           w         78         6         78         79         70		76	Р	COMBI SW OUT 4		
Wire         Signal Name         78         G           w         -         79         W	Color of	22	н	COMBI SW OUT 3		
M 62 - M	Wire	78	9	COMBI SW OUT 2		
	+	62	8	COMBI SW OUT 1		

AUTO LIGHT SYSTEM CONNECTORS

Revision: December 2015

AALIA4457GB

		Connector Type TH8	Connector Color WH	ЦЦ К.H					Terminal Color of	No. Wire	+										
	WIRE TO WIRE	TH80FW-CS16-TM4	WHITE	16 26 36 46 56 86 76 86 96 40 56 116 126 136 146 16 146 146 149 146 149 146 149 146 146 146 146 146 146 146 146 146 146	229429292929292929292929292929292929292	510520530540550560570580580540 620830640650666706806990700	716/726/726/746/756/766/776/76/76/76/76/76/76/76/76/76/76/	91G 92G 93G 94G 95G 96G 97G 98C 99C 100G	Circl Mone	olgnal Name	1										
CONNECTOR NO.	Connector Name	Connector Type	Connector Color	.S.H					-	Terminal Color of No. Wire	76A BG		Connector No. Connector Name	Connector Type Connector Color	UT UT	H.S.	Terminal Color of	131 W		143 GR	
		TH80FDGY-CS16-TM4	GRAY	1A         2A         3A         4A         5A           6A         7A         8A         9A         10A           11A         12A         13A         13A         13A	22A 23A 24A 25A 25A 25A 25A 28A 23A 30A 31A 22A 33A 34A 35A 35A 35A 38A 39A 40A 41A 42A 43A 44A 45A 46A 47A 48A 49A 50A	51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A 62A 63A 64A 55A 66A 67A 69A 70A	71.14.724.734.744.754.754.754.774.734.794.804.814 824.834.844.854.854.854.854.894.894.804	91A 92A 93A 94A 95A 96A 93A 99A 100A						FEA09FW-FHA6-SA WHITE	1	137/136/136/136/138/133/131/130/129 142 142 141 140 139 138					
				44 54 94 10A 774184194204214	27A 28A 29A 30A 37A 38A 39A 40A 41A 17A 48A 49A 50A	57A 58A 59A 60A 61A 57A 68A 69A 70A	77 784 794 804 814 574 884 894 904	1 94A 95A 1 99A 100A		Signal Name	1		IL MODULE)			32[131[130[129]		BAT BCM FUSE	BAT POWER F/L	GND1	
CONNECTOR NO.	Connector Name	Connector Type	Connector Color	H.S.	Terminal Color of No. Wire		Connector No. Connector Name	Connector type	H.S.			Terminal Color of	_	25 BG							
M64	WIRE TO WIRE	TH32FW-NH	WHITE	15 11 12 11 10 22 31 30 29 28 27 28	of a		M175 JOINT CONNECTOR-M22	WHITE	11 10 9 8	22 21 20 19 1	33 32 31 30 2										
				31         30         29         32         22         23         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1 </td <td>Signal Name</td> <td>1 1</td> <td>FOR-M22</td> <td></td> <td>7 6 5 4 3 2 1</td> <td>22 21 20 19 18 17 16 15 14 13 12</td> <td>33 32 31 30 29 28 27 26 25 24 23</td> <td></td> <td>Signal Name</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Signal Name	1 1	FOR-M22		7 6 5 4 3 2 1	22 21 20 19 18 17 16 15 14 13 12	33 32 31 30 29 28 27 26 25 24 23		Signal Name	1							

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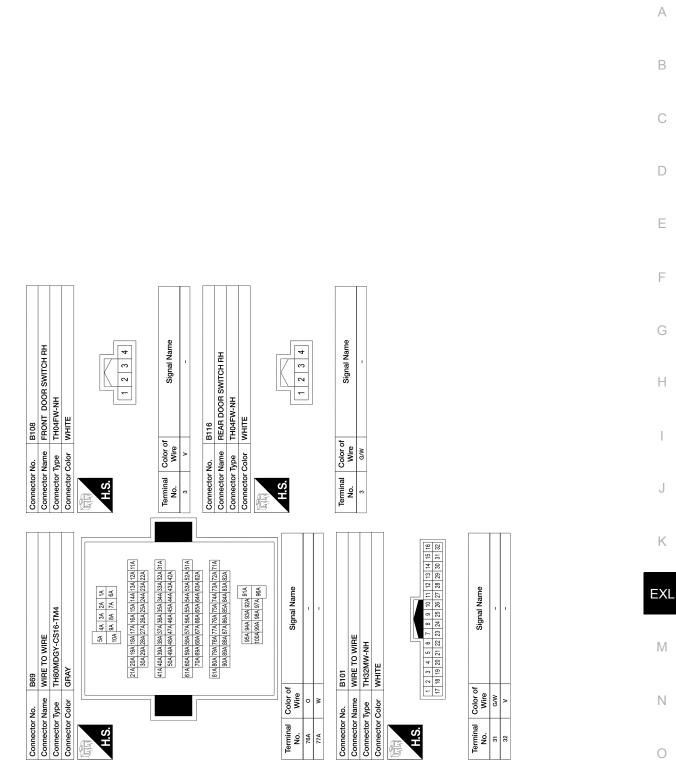
### < WIRING DIAGRAM >

### [HALOGEN HEADLAMP]

Connector No. E218	Connector Name IPDM E/R (INTELLIGENT POWER			Connector Color WHITE	H.S.	22 [52] 844 [65] [66] 77] [26] [36] [36] [36] [36] [36] [36] [36] [3	Terminal Color of		90 GR CLEARANCE		Connector No. Bo Connector Name FRONT DOOR SWITCH LH		Connector Color WHITE		H.S.	1 2 3 4			Ierrinida Oolor of Signal Name No. Wire 3	-	Connector No. B18			Connector Color WHITE	H.S.	1 2 3 4			al	. Wire	3 W -
E152	WIRE TO WIRE	TH80MW-CS16-TM4	WHITE		56 46 36 26 16 106 96 86 76 66	2162061961186117618615614613361220116 3002862862762865262462332226	41G40G39G38G37G36G35G34G33G32G31G 50G49G48G47G46G45G44G43G42G		61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G		81G 80G / 9G / 8G / 7/G / 6G / 7G / 4G / 3G / 2G / 7G 90G 89G 87G 86G 87G 86G 85G 84G 83G 82G		966 946 936 926 916 1006 996 386 976 966		of Signal Name	-	-	E017	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NS08FW-CS	WHITE			74 75 76	77 78 79 80 81	of Cinnal Name	_	HEADLAMP LO RH (WITH HALOGEN HEADLAMPS)	HEADLAMP LO RH (WITH LED HEADLAMPS) HEADLAMPIOIH	HEADLAMP HI RH (WITH HALOGEN HEADLAMPS)	HEADLAMP HI RH (WITH LED HEADLAMPS)
Connector No.	Connector Name	Connector Type	Connector Color		H.S.										Terminal Color of	+	15G L	Conceptor No.	Connector Name	Connector Type	Connector Color			H.S.		Terminal Color of	No. Wire	_	75 SB 76 I	G	$\square$
E119	IPDM E/R (INTELLIGENT POWER	DISTRIBUTION MODULE ENGINE ROOM)	TH32FW-NH	WHITE		19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50		Signal Name	CAN-L	CAN-H S-GND	IGN SIGNAL	101	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NS12FW-CS	WHITE			8 9 10	81 /1 91 61 81 71		Signal Name	P-GND	TAIL RH	TAIL LH							
	Connector Name IF			Connector Color V	대한 H.S.		Terminal Color of		28 P	29 L 41 B			ше	Connector Type N	Connector Color V	ED.	SH				Terminal Color of No. Wire		9	10 L							

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### < WIRING DIAGRAM >



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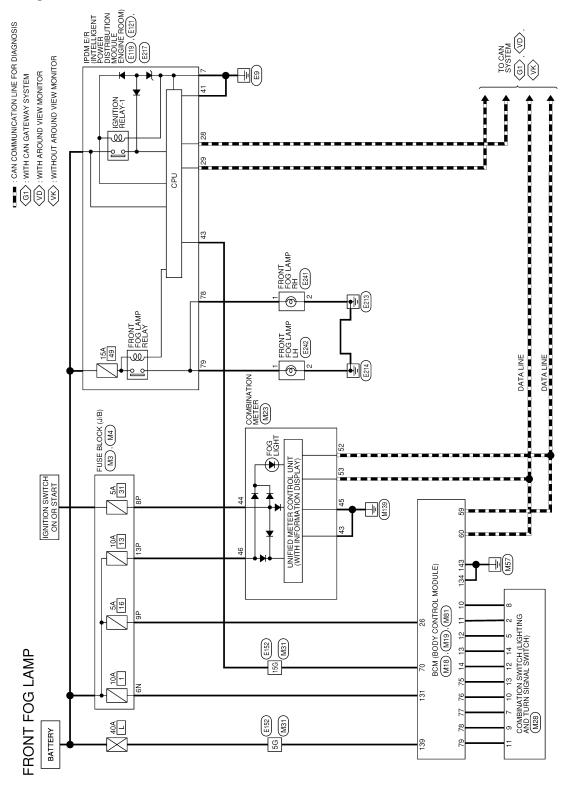
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### [HALOGEN HEADLAMP]

### FRONT FOG LAMP SYSTEM

Wiring Diagram

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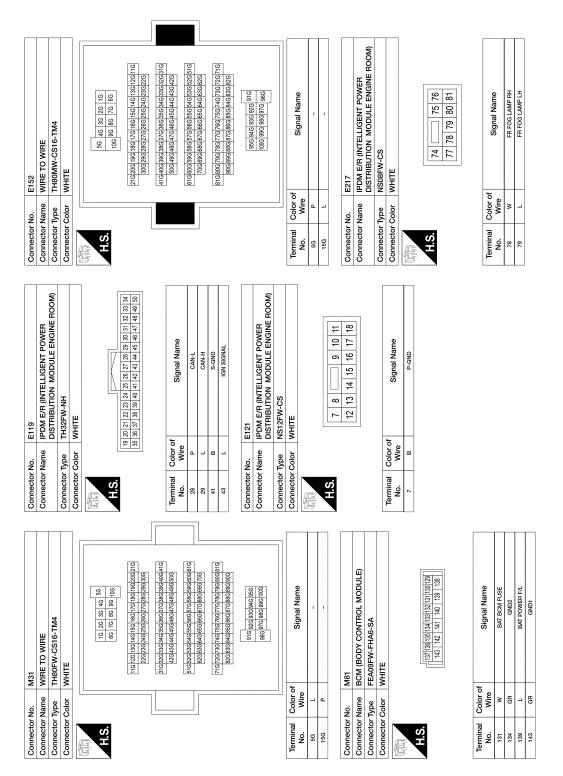
			А
			В
			С
	M28 COMBINATION SWITCH THIFEW-NH WHITE Signal N Signal N		D
	Connector No. Connector No. Connector Name C Connector Name C Connector No. Connector No.		Е
			F
	VIN 4 VIN 8 VIN 8 VIN 8 VIN 4 VIN 1 VIN 1	BRAN) H H F	G
	Bit         COMBI SW IN 4           R         COMBI SW IN 4           R         COMBI SW IN 4           I         COMBI SW IN 1           I         L         SHORTING INPUT           IO.         M19         COMBI SW IN 1           IAIme         BCM (BODY CONTROL MODULE)           Ype         TH40FB-NH           Dolor         BLACK           II.         R           Color of         BS(B) (B) (B) (B) (B) (B) (B) (B) (B) (B)	AND1 POWER (GN) AND2 POWER (BAT) CAN-L CAN-L	Н
			I
		A 5 5 6 6 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	J
		28         2         1           28         28         28         23           21         21         21         21	K
rors	(B) (B) (B) 5N 4N Signal Name Signal Name Signal Name NTROL MODULE)	2/ 1	EXL
CONNEC ⁻		Color of Wire Color of Wire Color of Co	M
FRONT FOG LAMP CONNECTORS		20         19         16         17         16           40         38         37         35         37         35           Wire         Wire         Wire         Wire         16         17         16	Ν
NT FOG	Connector No. Connector No. Connector Type Connector Color No. Connector Name Connector Name		0
FRC		AALIA4444GB	

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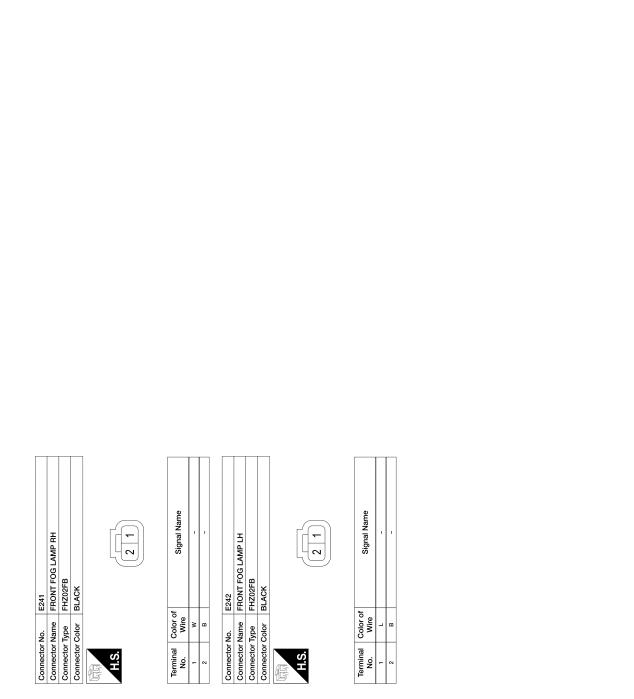
### < WIRING DIAGRAM >

### FRONT FOG LAMP SYSTEM

### [HALOGEN HEADLAMP]



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### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

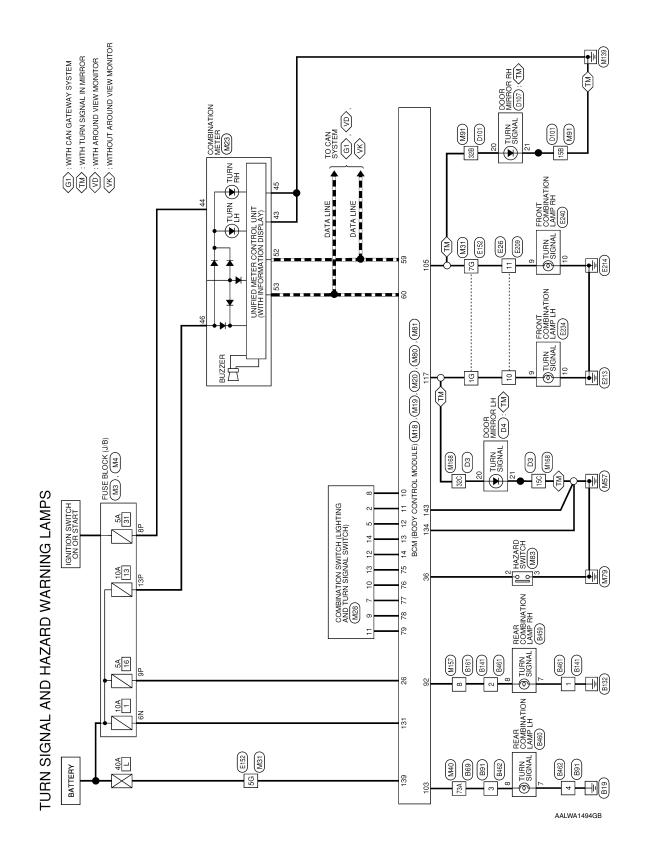
< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

### Wiring Diagram

INFOID:000000013364374



2N IN       Nonector Name       Market       Softman Mur       Nonector Name       Market       Nonector Name       Nonector Name <td< th=""><th>FUSE BLOCK (J/B) CS06FW-M2</th><th></th><th></th><th>COMIELS SW IN 3 COMIELS W IN 2 COMIELS W IN 1</th><th>Connector No. Connector Name Connector Type</th><th></th><th>M23 COMBINATION METER TH16FW-NH</th></td<>	FUSE BLOCK (J/B) CS06FW-M2			COMIELS SW IN 3 COMIELS W IN 2 COMIELS W IN 1	Connector No. Connector Name Connector Type		M23 COMBINATION METER TH16FW-NH
Nime         BCM (BDN CONTIOL MOULD)         Nume         BCM (BDN CONTIOL MOULD)           Connector Yape         THAOFE-NH         Connector Maine         BCM (BDN CONTIOL MOULD)           Connector Yape         THAOFE-NH         Connector Maine         BCM (BDN CONTIOL MOULD)           Connector Yape         THAOFE-NH         Connector Maine         BCM (BDN CONTIOL MOULD)           Connector Yape         THAOFE-NH         Connector Maine         Signal Maine           Connector Yape         THAOFE-NH         Connector Maine         Signal Maine           Connector Maine         Connector Maine         Connector Maine         Signal Maine           Name         Connector Maine         Connector Maine         Connector Maine           Connector Maine		26 L 36 W Connector No.		SHORTING INPUT HAZARD SW	Connector Color 더지	or WHITE	
Name         Name <th< td=""><td>7N 6N 5N</td><td>Connector Name Connector Type Connector Color</td><td></td><td>CONTROL MODULE)</td><td></td><td>44</td><td>41         42         43         44         45         46         47         48           49         50         51         52         53         54         55         56</td></th<>	7N 6N 5N	Connector Name Connector Type Connector Color		CONTROL MODULE)		44	41         42         43         44         45         46         47         48           49         50         51         52         53         54         55         56
	Signal Name	E E				lor of Vire	Signal Name
Image: second	-		9 58 57 56 55 54 53 9 78 77 76 75 74 73	51 50 49 71 70 69		BG	GND1 POWER (IGN)
Terminal         Color of wire         Signal Name         Color of wire         Signal Name         Color of wire         Signal Name           0         wire         covit         covit <td>CK (J/B)</td> <td></td> <td>-</td> <td>-</td> <td>45 46 52</td> <td></td> <td>GND2 POWER (BAT) CAN-I</td>	CK (J/B)		-	-	45 46 52		GND2 POWER (BAT) CAN-I
Image: Second Signal Number       Connector No.       M2B         11       10       9       8       0       0       1         7       8       0       0       0       0       0       0         7       8       0       0       0       0       0       0       0         7       8       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	S.		r of re	Signal Name	23		CAN-H
10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10       10 <th10< th="">       10       10       <th1< td=""><td></td><td></td><td></td><td>CAN-L</td><td>Connector No.</td><td></td><td></td></th1<></th10<>				CAN-L	Connector No.		
Tip         Description         The Functor Type         T		_		CAN-H COMBI SW OUT 5	Connector Nan		ATION SWITCH
TIP       R       Cometor Vorta         7       R       Cometor Vorta         7       R       Cometor Vorta         7       Cometor Vorta       Cometor Vorta         1       Cometor Color       RAV         1	5P 4P 3P 2P 1P			COMBI SW OUT 4	Connector Typ		HN
78       6       Cometor No.       70       70       70       70         78       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	4P 13P 12P 11P 10P 9P 8P			COMBI SW OUT 3	Connector Col		
Mame         Connector No.         M20           Connector Name         BSM (BODY CONTROL MODULE)         Connector Name         BSM (BODY CONTROL MODULE)           Connector Name         BSM (BODY CONTROL MODULE)         Connector Name         Connector Name           Connector Name         BSM (BODY CONTROL MODULE)         Connector Name         Connector Name           Connector Name         BSM (BODY CONTROL MODULE)         Connector Name         Connector Name           MODULE)         Connector Solor         GRAY         Monoule)         Signal N           MODULE)         MODULE)         Teminal         Color of Name         Signal N           MODULE)         None         Signal N         None         Signal N           MODULE)         None         Signal N         None         Signal N           MODULE)         None         Signal N         Signal N         Signal N           MODULE)         None         Signal N         Signal N         Signal N           MODULE)         None         Signal N         Signal N         Signal N           No.         Nine         Signal Name         Signal N         Signal N           Signal Name         Signal Name         Signal Name         Signal Name         Signal N				COMBI SW OUT 2 COMBI SW OUT 1	UT)		
Name         Connector Name         BCM (BODY CONTROL MODULE)           Connector Type         TH24FGY-NH           Connector Type         TH24FGY-NH           Connector Color         GRAY           Connector Color         GRAY           MoDULE)         Mon           Mon         Write           Signal N         No.           Mon         Write           Signal N         Signal N           Mon         Mrite           Sign		Connector No.	M20		H.S.	Ľ	
Connector Type         TH24FGV·NH           Connector Type         TH24FGV·NH           Connector Color         GRAY           L MODULE)         More to a lange           L MODULE)         More to a lange           L Mopule         Terminal         Color of lange         Signal N           L Mopule         More to a lange         More to a lange         More to a lange         Signal N           L Mopule         Mark         Mark         Mark         Mark         Lean         Color of lange         Signal N           Mark         Mark         Mark         Mark         Mark         Mark         Mark         Mark           Mark         Mark         Mark         Mark         Mark         Mark         Mark         Mark         Mark           Mark         Mark         Mark         Mark         Mark         Mark	Signal Name	Connector Name		CONTROL MODULE)			2 3 4 8 9 10 11 12
L MODULE) L MODULE) L MODULE) L MODULE) 2 BG 8 W Wree 0 0 P 1 Wree 8 W Wree 1 P 1 W W 1 P 1 P 1 P 1 P 1 P 1 P 1 P 1 P	1 1	Connector Type Connector Color					-
L MODULE)	,	번				lor of Vire	Signal Name
L MODULE)       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2       2		21				BG	
Inductor       Image: Inductor     Image: Ind			92 91 90 89	9 88 87 86 85 84 83 82 81	ŝ	cc i	T
Image: Second			104 103 102 10	01 100 99 98 97 96 95 94 93	8	ж м	
Terminal         Color of No.         Signal Name         T         W           9         7         6         8         12         W         12         W           28         27         26         22         R         RR FLASHER         13         BG         14         W           103         BG         RL LASHER         14         G         1         1					9	0 0	
9         8         7         6         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1         1			r of	Signal Name	= = ;		I
28 28 27 28 25 24 23 22 21 103 BG RL FLASHER 14	9 8 7		2	RR FLASHER	13	R P	
	29 28 27			RL FLASHER	14	U	1

TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

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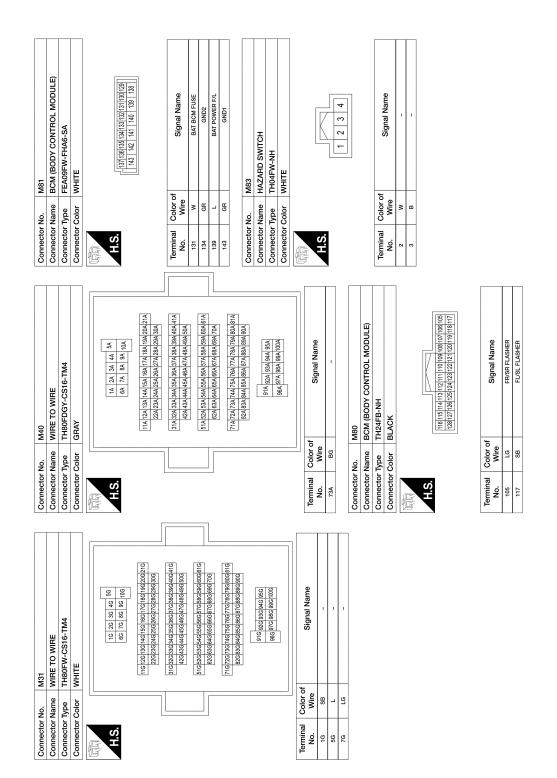
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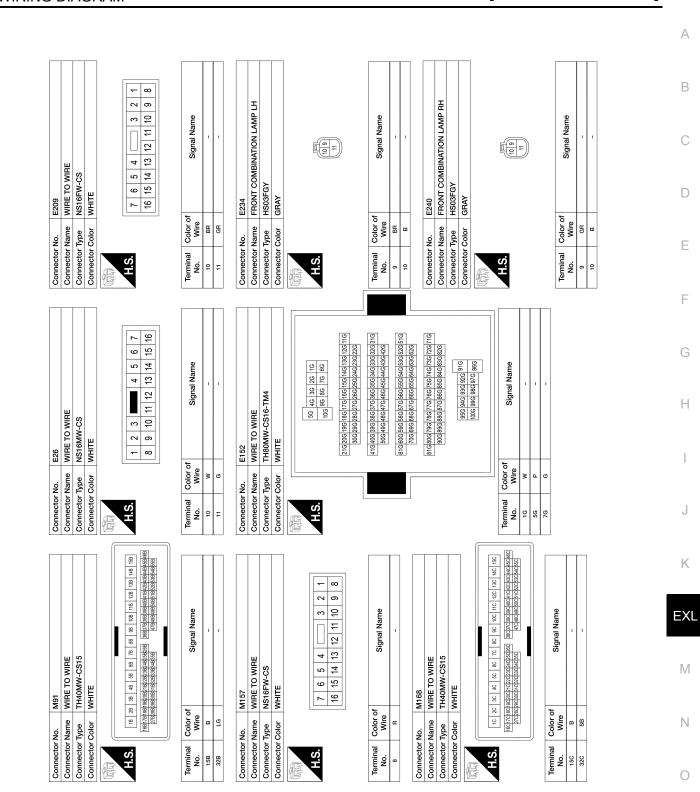
Revision: December 2015

### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < WIRING DIAGRAM > [HALOGEN HEADLAMP]



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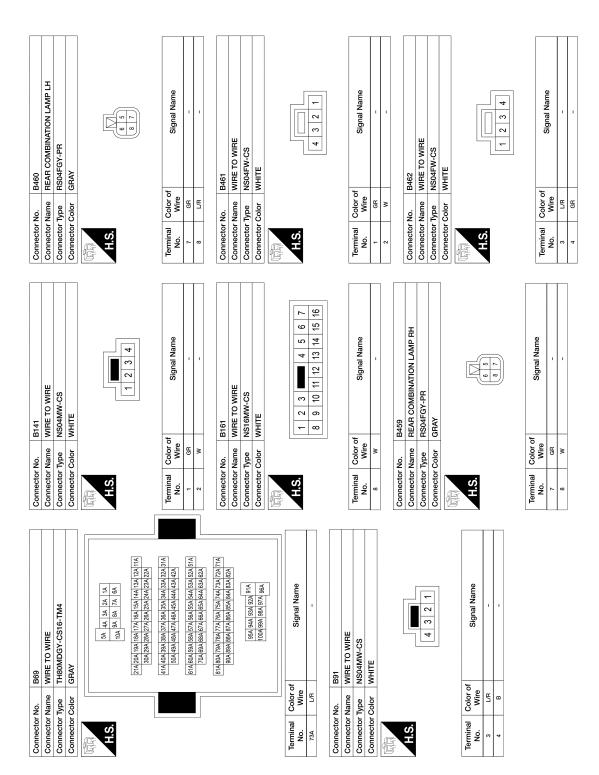
### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < WIRING DIAGRAM > [HALOGEN HEADLAMP]



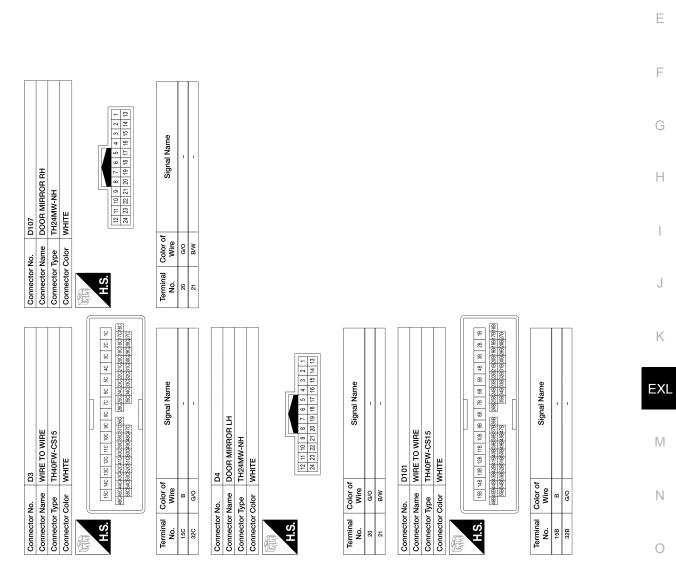
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### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < WIRING DIAGRAM > [HALOGEN HEADLAMP]



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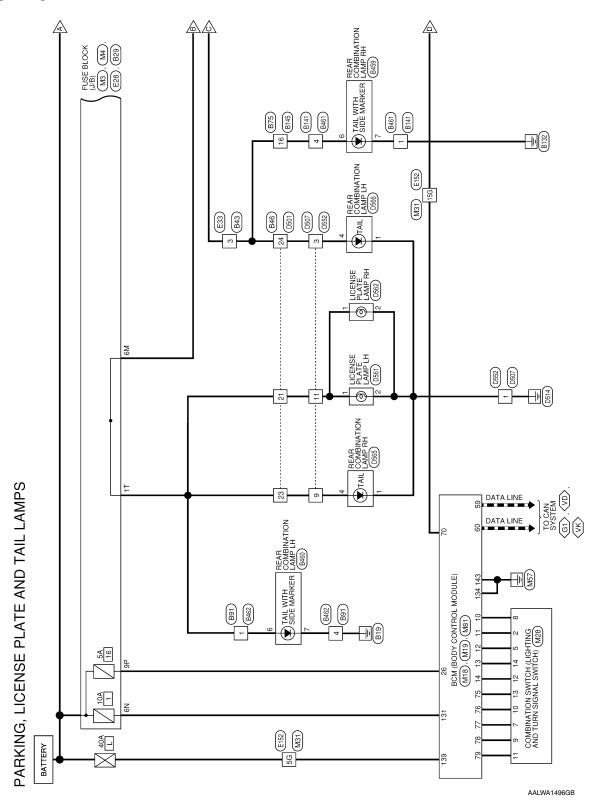
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### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

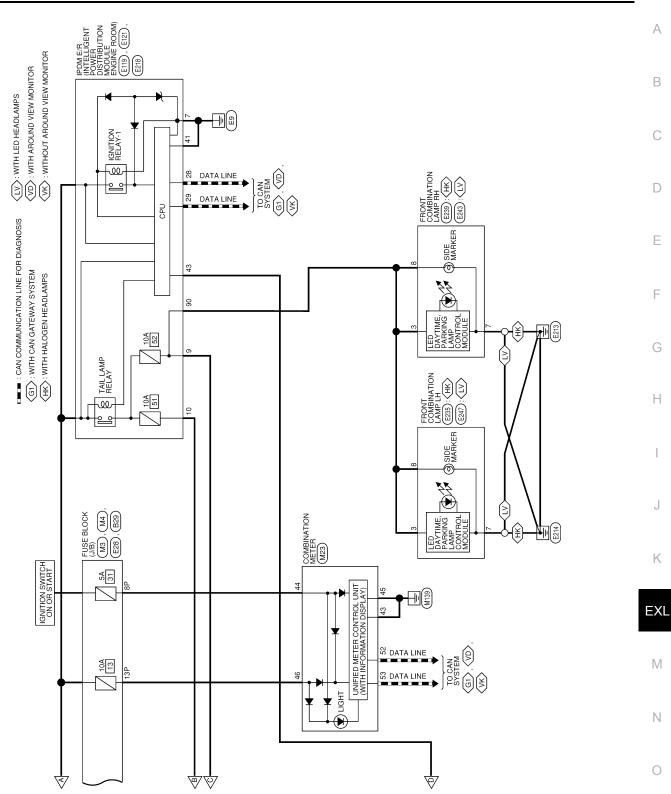
### Wiring Diagram

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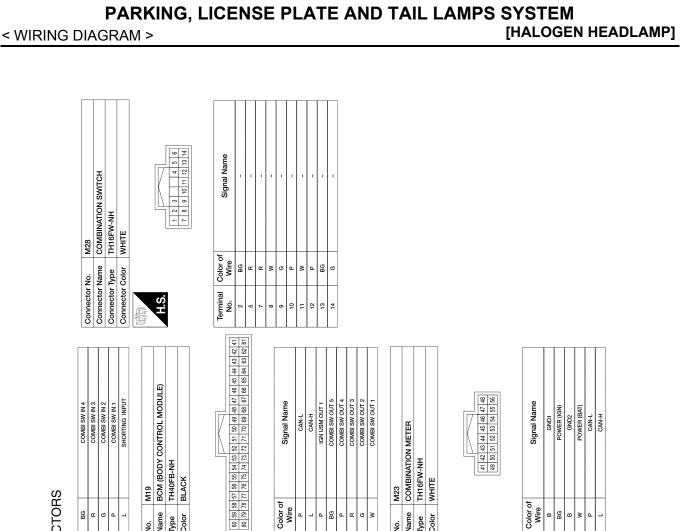


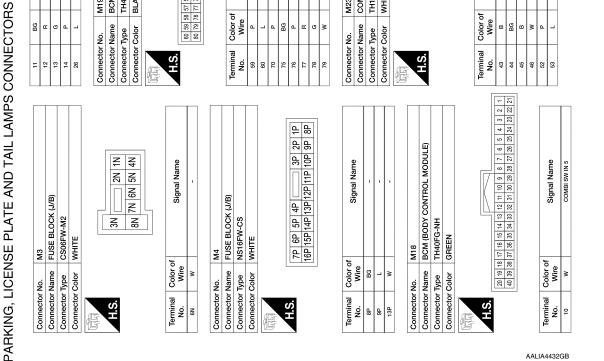
### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM GRAM > [HALOGEN HEADLAMP]

### < WIRING DIAGRAM >



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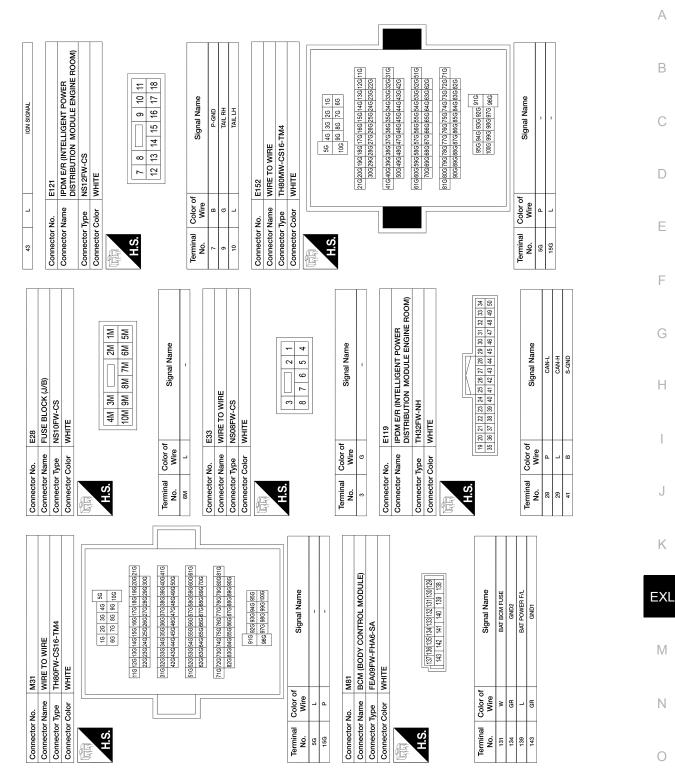


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### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

### < WIRING DIAGRAM >

### [HALOGEN HEADLAMP]



AALIA4433GB

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM < WIRING DIAGRAM > [HALOGEN HEADLAMP]

Connector No. B29 Connector Name ELISE BLOCK (1/B)		Connector Color WHITE		H.S.	<u>67 57 47 31</u>	Terminal Color of Signal Name No. Wire	17 0	Connector No. B43	Connector Name WIRE TO WIRE		Connector Color WHITE			1         2         3           4         5         6         7         8		Terminal Color of Signal Name No.	3 W -	Connector No. B46	e	Connector Color WHITE				17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	H	Terminal Color of Signal Name No. Wire	α.	23 L	
	$\vdash$	Connector Name FRONT COMBINATION LAMP RH		<u>िंस</u>	H.S.		Terminal Color of Signal Name No. Wire	GR	~ ~ ~		Connector No. E247	Connector Name FRONT COMBINATION LAMP LH	Connector Type RS08FB-PR Connector Color BI ACK	1	H.S.	2		Terminal Color of Signal Name	Wire	 а а.									
E218 IPDM E/R (INTELLIGENT POWER			WHILE		22 (25 (26 (24 (25 (26 (24 (26 (26 (27 (26 (26 (27 (26 (26 (27 (26 (26 (27 (26 (26 (27 (26 (26 (27 (26 (26 (27 (26 (26 (26 (26 (26 (26 (26 (26 (26 (26	r of			-		RS08FB-PR			5		r of Signal Name			1			BLACK		R	1         2         3         4           5         6         7         8			e Signal Name	
Connector No.	CONTRECTOR NAME	Connector Type	Connector Color	C H	5	Terminal Color of	No. Wire	5	Connector No.	Connector Name	Connector Type	Connector Color	E	H.S.		al C	3 0 WIFe		8	Connector No.	Connector Type	Connector Color	GA A	H.S.			Tominal Calar of		3 GR

AALIA4434GB

WIRE CS	Signal Name	
Connector No. B461 Connector Name WIRE TO WIRE Connector Type NS04FW-CS Connector Color WHITE	Terminal Color of Wire Wire Wire Wire Wire Wire Wire Connector Name Wire TO WIRE Connector Type WHITE Connector Type WHITE Connector Color WHITE TO WIRE TO WI	
B145 WIRE TO WIRE NS16MGY-CS GRAY GRAY 8 9 10 11 12 13 14 15 16 10 11 12 13 14 15 16	Fignal Name B459 B459 B459 B450 B460 Fignal Name CRAY Signal Name - - - - - - - - - - - - - - - - - - -	Signal Name
Connector No. B145 Connector Name WIRE Connector Type NST6M Connector Color GRAY	Terminal No.     Color of Wre       16     W       16     W       16     W       16     B455       Connector Name     B456       Connector Type     RS04F       Connector Type     RO4F       16     W       6     W       7     GR       7     GR       17     GR	Terminal Color of Wire 6 w 4
B75 WIRE TO WIRE NS16FGY-CS GRAY 7 6 5 4 3 2 16 15 14 13 12 11 10 9	B91 Signal Name B91 WHRE TO WIRE TO WIRE TO WIRE TO WIRE TO WIRE TO WIRE Signal Name B141 B141 B141 MIRE TO WIRE TO WIRE NS04MW-CS WHITE	Signal Name
Connector No. B75 Connector Name WIRE Connector Type NS16F Connector Color GRAY	Terminal No.     Color of Wire     Color of Wire       16     Wire     B91       Connector No.     B91       Connector Nore     WHIE TO WIRE       Connector Color     WHITE       1     0       4     B       Connector No.     B141       Connector Color     WHITE	Terminal Color of Wire 4 w

Connector No. D565	Connector Name REAR COMBINATION LAMP RH		H.S.	Terminal     Color of     Signal Name       No.     Write     -       1     B     -       4     L     -	Connector No.         D566           Connector Name         REAR COMBINATION LAMP LH           Connector Type         NS04MW-CS           Connector Color         WHITE		Terminal Color of Signal Name No. Wire Signal Name 1 B		
œ 3	× -	 5	Connector No. D561 Connector Name LICENSE PLATE LAMP LH Connector Type TK0ZFBR Connector Color BROWN	H.S.	Terminal No.Color of WireSignal NameNo.Wire-10-2B-	Connector No. D562 Connector Name LICENSE PLATE LAMP RH Connector Type TK02FBR Connector Color BROWN		Terminal No.     Color of Wire     Signal Name       1     0     -       2     B     -	
Connector No. D501	Connector Name WIRE TO WIRE		H.S. 16 15 41 13 12 11 10 9 8 7 6 5 4 3 2 11 28 31 30 28 28 27 28 28 28 28 28 28 28 12 13 19 48 17	nal Color of Wire Stgna		Connector Color WHTE	nal Color of Signa Write B		Terminal Color of Signal Name No.

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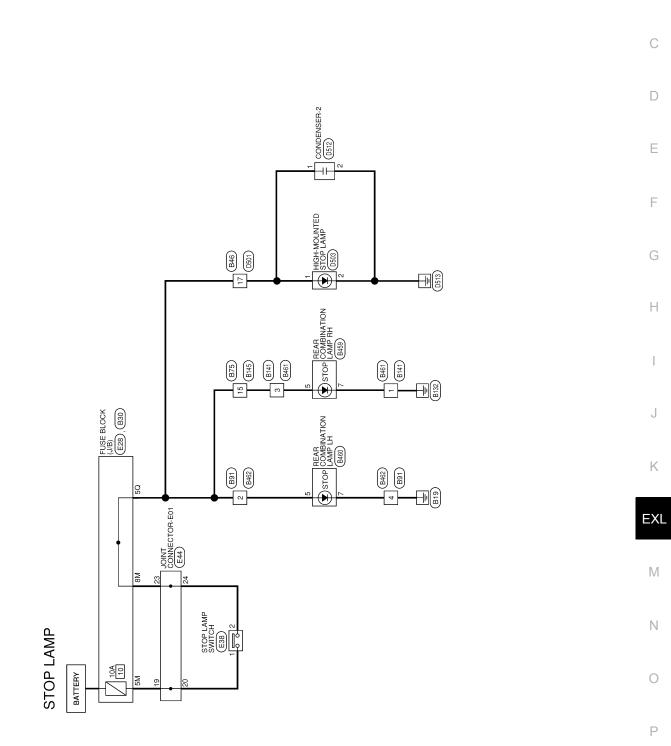
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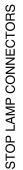
## < WIRING DIAGRAM > STOP LAMP

Wiring Diagram



AALWA1495GB

Connector No. B75				H.S.	14 13 12 11	2010	40 Terminal Color of Signal Name No.	15 G	ame Connector No. B91	Connector Name		Connector Color WHITE	H.S.	4321	12 13 14 15 16 28 29 30 31 32	No. Wire		ame								
20 W		Connector No. B30	0	Connector Type NS08FW-CS Connector Color WHITE		H.S.	7Q 6Q		al	50 G -		Connector No. B46	Connector Color WHITE	ALL CONTRACTOR OF	1         2         3         4         5         6         7         8         9         10           17         18         19         20         21         22         23         26         26		t	Terminal Color of Signal Name No.	17 G –							
	FUSE BLUCK (J/B) NE10EM CE	WHITE		4M 3M 2M 1M	8M 7M 6M		Signal Name	1	1		STOP LAMP SWITCH	W04rW-LC WHITE		3 4 1 2		Signal Name	-	1		JOINT CONNECTOR-E01	BJ30FW		11 10 9 8 7 6 5 4 3 2 1	22 21 20 19 18 17 16 15 14 13 12	33 32 31 30 29 28 27 26 25 24 23	]



AALIA4430GB

				ſ	3 2 1 19 18 17																								
	O WIRE				16         15         14         12         11         10         9         8         7         6         5         4         3         2         1           32         31         30         29         28         27         26         25         24         23         22         21         20         19         18         17	Signal Name			HIGH-MOUNTED STOP LAMP	3R-P	-		2 1		Signal Name				CONDENSER-2 M02FW-GY-LC						Signal Name	1 1	I		
	_	WHITE			16 15 14 13 32 31 30 29	of		D503		TK02MBR-P	MOUG				of					GRAY					of				
Connector No.	Connector Name	Connector Type	E	H.S.		Terminal Color of No. Wire	17 G/W	Connector No	Connector Name	Connector Type		HIS.			Terminal Color of No.	++		Connector No.	Connector Name Connector Type	Connector Color	HA .	H.S.			Terminal Color of No. Wire	1 GW	_		
																					 			l					
	REAR COMBINATION LAMP LH	11-1R			<b>8</b> 7	Signal Name	-	1		WIRE TO WIRE NS04FW-CS			4		:	Signal Name	I		B402 WIRE TO WIRE	N-CS			1 2 3 4		Signal Name				
B460	REAR COMBI	GRAY				e of		_	B461	WIRE TO WII NS04FW-CS	WHITE				of			DAGO	WIRE T	NS04FW-CS					of				
Connector No.	Connector Name	Connector Color	<u> </u>	H.S.		Terminal Color of No. Wire	2 U	10	Connector No.	Connector Name Connector Type	Connector Color	번역	H.S.		Terminal Color	No. Wire	5 8	Connector No	Connector Name	Connector Type			5		Terminal Color of		4 4 6R		
												Г																	
41	WIRE TO WIRE	WHITE			1 2 3 4	Signal Name		1	45	WIRE TO WIRE NS16MGY-CS	AY		1     2     3     4     5     6     7       8     9     10     11     12     13     14     15     16	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	:	Signal Name		59	REAR COMBINALION LAMP RH RS04FGY-PR	AY		Ę.			Signal Name				
						Color of Wire	н Н	5					~ ∞		olor of	Wire								-	Color of Wire	თ წ	5		
Connector No.	Connector Name	Connector Color		H.S.		Terminal C No.		~	Connector No.	Connector Name	Connector Color		H.S.			No.		Connector No.	Connector Name Connector Type	Connector Color		H.S.			Terminal C No.	5	_		
ő	Con	000	E			Ter			S	S S	S S	F			Ter	-		Con	500	Con	F				Ter				

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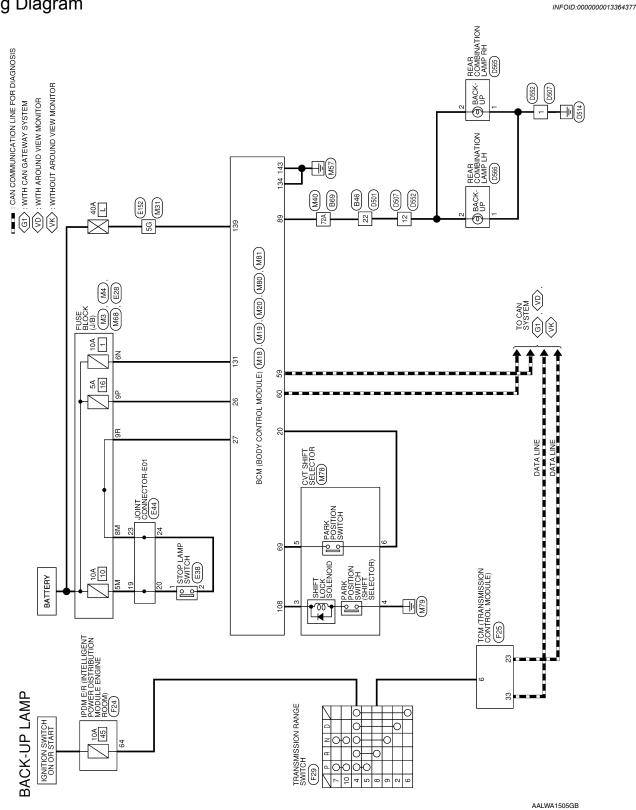
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#### < WIRING DIAGRAM >

## [HALOGEN HEADLAMP]

# < WIRING DIAGRAM > BACK-UP LAMP

# Wiring Diagram



	Γ																		Γ																				A
									20G21G 30G	400440	50G	60G 61G	70G	210	906																								В
		VIRE	S16-TM4			99 07 00 07 07	1G 2G 3G 4G 00 6G 7G 8G 9G 10G		116 126 136 146 156 166 176 186 196 206 216 226 236 246 256 266 276 286 296 306	20131013503803501380380	210 220 230 340 390 300 37 0 300 380 400 4 10 426 436 446 456 466 476 486 496 506	516526536546556566576586596606616	3G64G65G66G67G68G69G	710/720/730/730/750/750/750/750/800/810	826836846856866876886896906		91G 92G 93G 94G 95G			Signal Name	T																		С
	M31	WIRE TO WIRE	TH80FW-CS16-TM4	WHITE				-	116 126 13	310 300 31	3103203	51652650	62G60	710 700 71	8268				-	of																			D
	Connector No	Connector Name	Connector Type	Connector Color			H.S.												F	Terminal Color of No. Wire	+																		E
		0				<u>&gt;</u>			3 42 41 33 62 61		[			Τ		Γ				]																			F
	V LAMP			MODULE)					51         50         49         48         47         46         45         44         43         42         41           71         70         69         68         67         66         65         64         63         62         61			Vame	-	Ŧ	E OUT						Γ	5 84 83 82 81	7 96 95 94 93			lame	AMP OUT												G
	BRAKE SW LAMP			BCM (BODY CONTROL MODULE)	HN-			K	56         55         54         53         52         51         50         49           76         75         74         73         72         71         70         61	11		Signal Name	CAN-L	CAN-H	AT DEVICE OUT		RIZU BCM (RODY CONTROL MODULE)	۲-NH				90 89 88 87 86 8	104 103 102 101 100 99 98 97			Signal Name	REVERSE LAMP OUT												Н
	0				I H40FB-NH				60         59         58         57         56         55           80         79         78         77         76         75	-	-	or of re			9							92 91	104 103		Color of	e													I
	27 0		Connector No.	Connector Name	Connector Type			H.S.	80 7		1	Terminal Color of No.		-		:	Connector No.	Connector Type	Connector Color	na Na	2	0 L			Terminal Colo	-	89 FG												J
			ŏ		3	5	Ŀ					-						i ö													-	5 4 3 2 1 5 24 23 22 21							К
S							2N 1N	5N 4N			Signal Name	I							20   3D   3D	11P 10P 9P 8P			Signal Name	1						Γ	7	9 8 7 6 5 29 28 27 26 2	Signal Name	SHIFT P	SHORTING INPUT				EXL
BACK-UP LAMP CONNECTORS		FUSE BLOCK (J/B)	W-M2				3N	8N 7N 6N 5N			Signa				NS16FW-CS	8				16P 15P 14P 13P 12P 11P			Signa			M18 BCM (BODY CONTROL MC	G-NH	7				20         19         18         17         16         15         14         13         12         11         10         9         8         7         6         5         4         3         2         1           40         39         38         37         36         33         32         31         30         29         28         27         26         25         24         23         21         1	Signa	HS	SHORTI			-	M
IP CON	M	-		or WHITE						•	Color of Wire	w		-					70 65	16P 15		-	Color of Wire					or GREEN				19         18         17         16           39         38         37         36         3	Color of Wire		:	-			Ν
^o LAM	Connector No	Connector Name	Connector Type	Connector Color			Ś					-		Connector No.	Connector Name	Connector Color			Ś					0	:	Connector No.	Connector Type	Connector Color		c		20		+					
CK-UF	Cano J	Conne	Conne	Conne	f	d Li Li	H.S.			ľ	Terminal No.	6N		Conne	Conn	Conne		NH/H/	H.S.				Terminal No.	d6		Conne	Conne	Conne	E		Ъ.Ч.		Terminal		56				0
BA(																																	AA	LIA4	1452	GB			

**BACK-UP LAMP** 

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Connector No	MAD	Connector No	M78	139 L BAT POWER F/L	NER F/L
Connector Name	WIRE TO WIRE	Connector Name	CVT SHIFT SELECTOR	143 GR GND1	D1
Connector Type	TH80FDGY-CS16-TM4	Connector Type	TH12FW-NH	Compositor No. E20	
Connector Color	GRAY	Connector Color	WHITE	2	
L L L L L L L L L L L L L L L L L L L					
د ا	1A 2A 3A 4A 5A			Connector Color WHITE	
0	6A 7A 8A 9A 10A	0.E	1 2 3 4 5 6		
	114 124 134 144 154 154 154 154 154 194 204 214		7 8 9 10 11 12	U U	
				4M 3M	N 2
	314 324 334 344 354 354 354 394 404 414	Terminal Color of		10M 9M 8M /M	M 6M 5M
	2 1 2 2 2 3 3 3 3 4 4 2 4 5 4 4 6 4 4 7 4 4 8 A 4 9 A 5 0 A 5 0 A 5 0 A 7 4 0 A 7 1 A	_	Signal Name		
		9 8	-	F	
	51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A	4	-	al Color of	Signal Name
	62A 63A 64A 65A 66A 67A 68A 69A 70A	_	1	Wire	
		6 W	1	> (	
	1 I.H.I.Z.H.I.2.H.I.7.H.I.1.2.H.I.0.H.I.1.H.I.0.H.I.2.H.0.H.0.H.0.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.H.I.1.HII.1.HII.1.HII.1.HII.1.HII.1.HII.1.HII.1.HII.1.HII.1.HII.1.HII.1.HIII.1.HII		-	- 	-
		Connector No.	M80		
	91A 03A 03A 04A 05A	Connector Name	BCM (BODY CONTROL MODULE)	Connector No. E38	
	97A 98A 99A 100A	Connector Type	TH24FB-NH	Connector Name STUP LAMP SWITCH Connector Tune M04EW-LC	
		Connector Color	BLACK		
Terminal Color of No. Wire	of Signal Name				
72A LG	1	5	116/115/114/113/112/111/110/109/108/107/106/105	11 -	
			128 127 126 125 124 123 122 121 120 119 118 117	3 4	
Connector No.	M68				
Connector Name					
Connector Type	NS16FBR-CS	Terminal Color of	of Signal Name	- H	
Connector Color	BROWN			al Color of	Signal Name
		108 G	SHIFT LOCK SOLENOID OUT	No. Wire 0	
		Connector No		٩	-
ю. Г	7R 6R 5R 4R 3R 2R 1R	Connector Name			
	R 11R 10R 9R	Connector Type	FFAD9FW-FHA6-SA		
		Connector Color	WHITE		
			_	-	
Terminal Color of	of Signal Name				
NO. WIFE		H.S.	-1137113613513413313213113011291		
_			143 142 141 140 139 138		
		ľ	-		
		Terminal Color of No. Wire	of Signal Name		
			BAT BCM FUSE		
		134 GR	GND2		
		_	GND2		

#### < WIRING DIAGRAM >

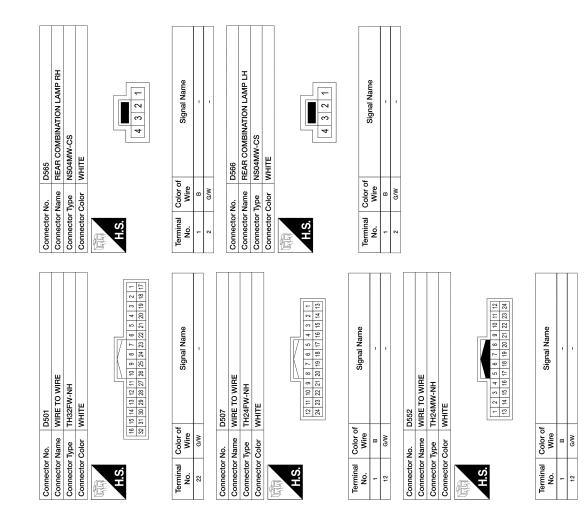
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Image: several severa several several several several several several several	В
7         8         9         10           7         8         9         10           23         24         25         28           17.1         16         17.1         16           17.1         16.1         16.1         10           17.1         16.4         3A         2A           19.4         3A         3A         2A           17.1         16.4         15.4         15.4           18.7         16.4         16.4         15.4           18.7         16.4         15.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4         15.4         15.4           18.7         16.4         16.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4         15.4         15.4           19.4         16.4	С
3     3       3     4       4     846       0     WIRE       0     WIRE       17     19       17     19       17     19       17     19       17     19       17     19       17     19       17     19       17     19       17     19       17     19       18     10       10     10       10     10       10     10       11     19       11     19       11     19       11     19       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11     10       11	D
	Е
4     7       7     7       9     9       9     0       10     10       10     Connector Nancetor Nan	F
LIGENT POWER       MODULE ENGINI       MODULE ENGINI       MODULE ENGINI       MODULE ENGINI       Signal Name	G
Rf (INTEL           -NH           -NH <td>Η</td>	Η
	I
Connector Name Connector Type Connector Type Connector Type Connector Type Connector Name 64 LG Min 64 LG Connector Name Connector Name Connector Type Connector Type Connector Name Connector Color Connector Name Connector Color Connector Name Connector Color Connector Color	J
	K
1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1     1     1       1     1     1     1 <td></td>	
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4         30FV           30FV         30FV           30FV         30FV           11TE         11           11TE         11           11TE         22           110         90           110         90           111E         11           111E         11           111E         11           111E         11           111E         11           111E         11           1000         900           1000         900           100         900           111E         11	Μ
	Ν
Connector No. Connector Name Connector Type Connector Type 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0

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[HALOGEN HEADLAMP]

**BACK-UP LAMP** 

AALIA4454GB



< WIRING DIAGRAM >

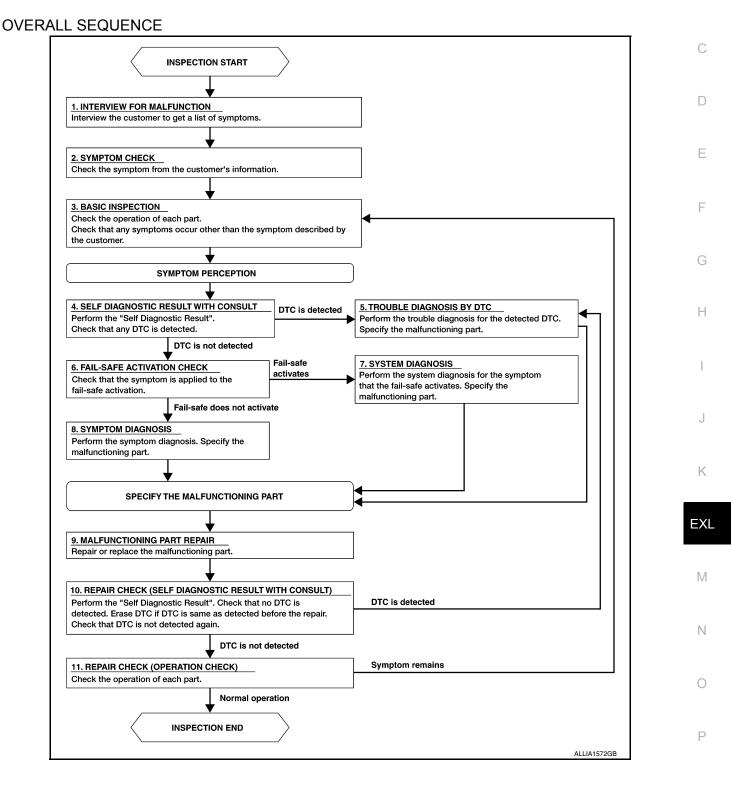
AALIA4455GB

# BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

## Work Flow

INFOID:000000012875397 B

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## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

#### DETAILED FLOW

**1.**INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

>> GO TO 2.

2.SYMPTOM CHECK

Verify the symptom from the customer's information.

>> GO TO 3.

**3.**BASIC INSPECTION

Check the operation of each part. Check any concerns that occur other than those mentioned in the customer interview.

>> GO TO 4.

**4**.SELF DIAGNOSTIC RESULT WITH CONSULT

Perform the "Self Diagnostic Result". 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

Determine if the customer's concern is related to 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 in which 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 DIAGNOSTIC RESULT WITH CONSULT)

Perform the "Self Diagnostic Result". Verify that no DTCs are detected. Erase all DTCs detected prior to the repair. Verify that DTC is not detected again. Is any DTC detected?

## DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	[HALOGEN HEADLAMP]
YES >> GO TO 5. NO >> GO TO 11.	
11.REPAIR CHECK (OPERATION CHECK)	
Check the operation of each part. Does it operate normally?	
YES >> Inspection End.	
NO >> GO TO 3.	

## DTC/CIRCUIT DIAGNOSIS HEADLAMP (HI) CIRCUIT

**Component Function Check** 

INFOID:000000012875398

INFOID:000000012875399

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

#### With CONSULT

I. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".

2. While operating the test items, check that the headlamp (HI) blinks.

# Hi : Headlamp (HI) blinks (ON/OFF is repeated 1 second each.)

#### Off : Headlamp (HI) OFF

#### Without CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the headlamp (HI) blinks.

#### Is the inspection result normal?

- YES >> Headlamp (HI) circuit is normal.
- NO >> Refer to <u>EXL-192</u>, "Diagnosis Procedure".

## Diagnosis Procedure

## **1.**CHECK HEADLAMP (HI) FUSE

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

Unit	Location	Fuse No.	Capacity
Headlamp HI (RH)	IPDM E/R	34	3410A
Headlamp HI (LH)		35	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

## 2. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

#### With CONSULT

- T. Disconnect applicable front combination lamp connector.
- 2. Turn ignition switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- While operating the test items, check voltage between applicable front combination lamp harness connector and ground.

	+					
F	ront combination la	mp	-	Test	item	Voltage
Con	nector	Terminal	•			
DU	RH E239		Hi	Battery voltage		
КП	E239	2	Ground	EXTERNAL	Off	0
LH	E235	2	Ground	LAMPS	Hi	Battery voltage
LU	E235				Off	0

#### Is the inspection result normal?

YES >> Replace the headlamp bulb. Refer to EXL-248, "Bulb Specifications".

NO >> GO TO 3.

3.CHECK HEADLAMP (HI) POWER SUPPLY CIRCUIT

## **HEADLAMP (HI) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

## [HALOGEN HEADLAMP]

1. Turn ignition switch OFF. 2. Disconnect IPDM E/R connector. А 3. Check continuity between IPDM E/R harness connector and front combination lamp harness connector. IPDM E/R Front combination lamp В Continuity Connector Terminal Terminal Connector RH E239 80 2 E217 Yes С LH E235 81 Is the inspection result normal? YES >> Replace IPDM E/R. Refer to PCS-36. "Removal and Installation". D NO >> Repair or replace harness. Ε F Н J Κ EXL

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< DTC/CIRCUIT DIAGNOSIS >

## HEADLAMP (LO) CIRCUIT

## Component Function Check

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

#### With CONSULT

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check that the headlamp (LO) is turned ON.

Lo : Headlamp (LO) ON

#### Off : Headlamp (LO) OFF

#### Without CONSULT

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

#### Is the inspection result normal?

YES >> Headlamp (LO) circuit is normal.

NO >> Refer to EXL-194, "Diagnosis Procedure".

## Diagnosis Procedure

## **1.**CHECK HEADLAMP (LO) FUSE

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (RH)	IPDM E/R	36	36 15A
Headlamp LO (LH)		37	134

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

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

#### With CONSULT

- 1. Disconnect applicable front combination lamp connector.
- 2. Turn ignition switch ON.
- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- While operating the test items, check voltage between applicable front combination lamp harness connector and ground.

	+					
Fi	ront combination la	mp	-	Test	item	Voltage
Con	nector	Terminal				
DLI	RH E239			Lo	Battery voltage	
КП	E239	1	Ground	EXTERNAL	Off	0
	E235	I	Ground	LAMPS	Lo	Battery voltage
LH	E235				Off	0

#### Is the inspection result normal?

- YES >> Replace headlamp bulb. Refer to EXL-248. "Bulb Specifications".
- NO >> GO TO 3.

**3.**CHECK HEADLAMP (LO) POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

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

INFOID:000000012875400

INFOID:000000012875401

## **HEADLAMP (LO) CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

## [HALOGEN HEADLAMP]

	Fro	nt combination lan	np	IPDM	1 E/R	Continuity
	Connec		Terminal	Connector	Terminal	Continuity
RI		E239	- 1	E217	75	Yes
Lŀ		E235			76	
	ction result				lin e li	
S >>	Replace II Repair or	replace harnes	ss.	moval and Installat	<u>lion</u> .	
	-	-				

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

## DAYTIME RUNNING LIGHT RELAY CIRCUIT

#### **Component Function Check**

#### **1.**CHECK DAYTIME RUNNING LIGHT OPERATION

#### 

- 1. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 2. While operating the test items, check daytime running light operation.

On : EXTERNAL LAMPS Hi

#### Off : EXTERNAL LAMPS Off

#### Is the inspection result normal?

- YES >> Daytime running light relay circuit is normal.
- NO >> Refer to <u>EXL-196</u>, "Diagnosis Procedure".

#### **Diagnosis** Procedure

INFOID:000000012875403

Regarding Wiring Diagram information. Refer to EXL-154. "Wiring Diagram".

## 1. CHECK DAYTIME RUNNING LIGHT RELAY FUSE

- 1. Turn ignition switch OFF.
- 2. Check that the following fuse is not blown:

Unit	Fuse No.	Capacity
Daytime running light relay	50	10A

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

2. CHECK DAYTIME RUNNING LIGHT RELAY POWER SUPPLY

1. Remove daytime running light relay.

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

	+) ing light relay	(-)	Voltage (Approx.)
Connector	Terminal		(//pp/ox.)
	2		
E4	7	Ground	Battery voltage
	5		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK DAYTIME RUNNING LIGHT RELAY

#### Check daytime running light relay. Refer to EXL-197, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace daytime running light relay.

 ${f 4}$  . CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL OUTPUT

#### CONSULT

1. Install daytime running light relay.



## DAYTIME RUNNING LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

## [HALOGEN HEADLAMP]

## 2. Turn ignition switch ON.

Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".

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

(+) IPDM	E/R	(-)	Test item		Voltage (Approx.)	В
Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
E218	85	Ground	EXTERNAL	On	0 V	С
E210	00	Giouna	LAMPS	Off	Battery voltage	

Is the inspection result normal?

YES >> Daytime running light relay circuit is OK.

NO-1 (Fixed at 0 V)>>GO TO 5.

NO-2 (Fixed at battery voltage) >>Replace IPDM E/R. Refer to PCS-36. "Removal and Installation".

#### ${f 5.}$ CHECK DAYTIME RUNNING LIGHT RELAY CONTROL SIGNAL (OPEN) CIRCUIT

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

Continuity	Daytime running light relay		M E/R	IPDI
Continuity	Terminal	Connector	Terminal	Connector
Yes	1	E4	85	E218

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

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

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

IPDN	1 E/R		Continuity	 
Connector	Terminal	Ground	Continuity	N
E218	85		No	-
a the inspection result perm	2		L	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-36. "Removal and Installation"</u>.

NO >> Repair or replace harness.

## Component Inspection

#### 1. CHECK DAYTIME RUNNING LIGHT RELAY

- 1. Turn ignition switch OFF.
- 2. Remove daytime running light relay.

3. Apply battery voltage to daytime running light relay between terminals 1 and 2.

4. Check continuity between daytime running light relay terminals.

Daytime run	Daytime running light relay		dition	Continuity	P
Ter	minal	- Condition		Continuity	P
7	6		Apply	Yes	
I	0	-	Not Apply	No	
5	3	Voltage	Apply	Yes	
5			Not Apply	No	

Is the inspection result normal?

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## DAYTIME RUNNING LIGHT RELAY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

## PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNUS	10 -		
PARKING LAMP CII	RCUIT		
Component Function (	Check		INFOID:000000012875405
1.CHECK PARKING LAMP	OPERATION		
	IPS" in "Active Test" mode items, check that the park		
TAIL : Parking l	amp ON		
Off : Parking la			
<u>Is the inspection result norma</u> YES >> Parking lamp cir	cuit is normal.		
	9, "Diagnosis Procedure".		
Diagnosis Procedure			INFOID:000000012875406
Regarding Wiring Diagram ir	formation. Refer to <u>EXL-1</u>	174, "Wiring Diagram".	
4			
1.CHECK PARKING LAMP			
<ol> <li>Turn ignition switch OFF</li> <li>Check that the following</li> </ol>			
Unit  • Parking lamps	Location	Fuse No.	Capacity
Front side marker lamps	IPDM E/R	52	10A
Is the inspection result norm	al?		
YES >> GO TO 3. NO >> GO TO 2.			
2. CHECK PARKING LAMP	CIRCUIT		
1. Disconnect the following			
- IPDM E/R			
<ul> <li>Front combination lamps</li> <li>Rear combination lamps</li> </ul>			
	en IPDM E/R harness conr	nector and ground.	
IPDI		1	
	M E/R		Continuity
Connector	Terminal	Ground	Continuity
E218	Terminal 90	Ground	
E218 Is the inspection result norm	Terminal 90 al?		
E218 <u>Is the inspection result norma</u> YES >> Replace fuse. (F NO >> Replace the blow	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the	n fuse is found again.)	
E218 <u>Is the inspection result norma</u> YES >> Replace fuse. (F	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the	n fuse is found again.)	
E218 Is the inspection result normal YES >> Replace fuse. (F NO >> Replace the blow <b>3.</b> CHECK PARKING LAMP Check applicable LED lamp.	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the	n fuse is found again.)	
E218 Is the inspection result normal YES >> Replace fuse. (F NO >> Replace the blow <b>3.</b> CHECK PARKING LAMP Check applicable LED lamp. Is the inspection result normal	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the	n fuse is found again.)	
E218 Is the inspection result normal YES >> Replace fuse. (F NO >> Replace the blow <b>3.</b> CHECK PARKING LAMP Check applicable LED lamp. Is the inspection result normal YES >> GO TO 4.	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the al?	n fuse is found again.)	
E218 Is the inspection result normal YES >> Replace fuse. (F NO >> Replace the blow <b>3.</b> CHECK PARKING LAMP Check applicable LED lamp. Is the inspection result normal YES >> GO TO 4. NO >> Replace applica	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the al? ble LED lamp.	n fuse is found again.)	
E218 Is the inspection result normal YES >> Replace fuse. (F NO >> Replace the blow <b>3.</b> CHECK PARKING LAMP Check applicable LED lamp. Is the inspection result normal YES >> GO TO 4.	Terminal 90 al? Replace IPDM E/R if blowr wn fuse after repairing the al? ble LED lamp.	n fuse is found again.)	

Revision: December 2015

< DTC/CIRCUIT DIAGNOSIS >

## PARKING LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### 2. Turn ignition switch ON.

- 3. Select "EXTERNAL LAMPS" in "Active Test" mode of "IPDM E/R".
- 4. While operating the test items, check voltage between IPDM E/R harness connector and ground.

(	(+) IPDM E/R		Test	t item	Voltage (Approx.)	
Connector	Terminal				(	
E218	90	Ground	EXTERNAL	TAIL	Battery voltage	
E210	90	Ground	LAMPS	Off	0 V	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R. Refer to <u>PCS-36, "Removal and Installation"</u>.

5. CHECK PARKING LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

I	Front combination larr	ıp	IPDN	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E239	3	E218	90	Yes
LH	E235	5	LZIO	90	165

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

**6.**CHECK PARKING LAMP GROUND CIRCUIT

Check continuity between front combination lamp harness connector and ground.

	Front combination lamp		Continuity	
Con	nector	Terminal	Ground	Continuity
RH	E239	7	Giouna	Yes
LH	E235	7		165

#### Is the inspection result normal?

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

NO >> Repair or replace harness.

	AGNUSIS >					-	
RONT SIDE	MARKER LA	٩MP	CIRCU	IIT			
Component Fur	ction Check						INFOID:00000001287540
CHECK PARKIN	G LAMP OPERAT	ION					
Check that the parki							
s the inspection res		011.					
YES >> GO TO							
	arking lamp circui				onent F	unction Chec	<u>k"</u> .
CHECK FRONT	SIDE MARKER LA	AMP O	PERATIO	N			
	NAL LAMPS" in "A the test items, ch					is turned ON.	
TAIL : F	ront side marker	lamp (	ОМ				
Off : F	ront side marker	· lamp (	OFF				
s the inspection res	ult normal?						
	de marker lamp ci						
NO >> Refer to	EXL-201, "Diagn	osis Pro	<u>ocedure"</u> .				
Diagnosis Proce	edure						INFOID:00000001287540
Regarding Wiring Di	agram informatior	n. Refer	to EXL-1	68, "Wiring	Diagra	m".	
0 0 0	0						
CHECK FRONT		AMP BI	IJВ				
Check applicable lar							
s the inspection res	•						
YES >> GO TO							
NO >> Replace							
CHECK FRONT	SIDE MARKER LA	AMP P	OWER SL	JPPLY CIR	CUIT		
. Turn ignition sw							
	V E/R connector a						o harness connector.
		_/1 < 11411	1000 00111				
Г 	ront combination lamp	o			IPDM		
Conn			rminal	Conne	IPDM		Continuity
				Conne	IPDM ctor	E/R Terminal	Continuity
Conn	ector		rminal 8		IPDM ctor	E/R	
Conn RH LH s the inspection res	E239 E235 Ult normal?			Conne	IPDM ctor	E/R Terminal	Continuity
Conn RH LH s the inspection res YES >> GO TO	E239 E235 Ult normal? 3.	Tei		Conne	IPDM ctor	E/R Terminal	Continuity
Conn RH LH Sthe inspection res YES >> GO TO NO >> Repair of	E239 E235 Ult normal? 3. or replace harness	Ter	8	Conne E21	IPDM ctor	E/R Terminal	Continuity
Conn RH LH S the inspection res YES >> GO TO NO >> Repair of CHECK FRONT	E239 E235 Ult normal? 3. or replace harness SIDE MARKER L/	Ter S. AMP GI	8 ROUND C	Conne E21 CIRCUIT	IPDM ctor	E/R Terminal 90	Continuity
Conn RH LH Sthe inspection res YES >> GO TO NO >> Repair of	E239 E235 Ult normal? 3. or replace harness SIDE MARKER L/	Ter S. AMP GI	8 ROUND C	Conne E21 CIRCUIT	IPDM ctor	E/R Terminal 90	Continuity
Conn RH LH S the inspection res YES >> GO TO NO >> Repair of CHECK FRONT	E239 E235 Ult normal? 3. or replace harness SIDE MARKER L/	Ter S. AMP Gi narker la	8 ROUND C	Conne E21 CIRCUIT	IPDM ctor	E/R Terminal 90	Continuity Yes
Conn RH LH S the inspection res YES >> GO TO NO >> Repair of CHECK FRONT Check continuity bet	ector E239 E235 ult normal? 3. or replace harness SIDE MARKER L/ ween front side m	Ter S. AMP Gi narker la	8 ROUND C amp harne	Conne E21 CIRCUIT	IPDM ctor	E/R Terminal 90 ground.	Continuity
Conn RH LH S the inspection res YES >> GO TO NO >> Repair of CHECK FRONT Check continuity bet	ector E239 E235 <u>ult normal?</u> 3. or replace harness SIDE MARKER L/ ween front side m Front combination	Ter S. AMP Gi narker la	8 ROUND C amp harne	Conne E21 CIRCUIT ess connec	IPDM ctor	E/R Terminal 90	Continuity Yes

Is the inspection result normal?

E235

< DTC/CIRCUIT DIAGNOSIS >

LH



## FRONT SIDE MARKER LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

< DTC/CIRCUIT	DIAGNOSIS	>			IHALOGE	N HEADLAMP]
TAIL LAMP	CIRCUIT					
Component F	unction Ch	leck				INFOID:000000012875409
CHECK TAIL I	LAMP OPERA	TION				
		S" in "Active Tes ms, check that t				
	: Tail Lamp C : Tail lamp O					
the inspection						
	amp circuit is i r to <u>EXL-203,</u>	normal. "Diagnosis Proc	edure".			
iagnosis Pro	ocedure					INFOID:000000012875410
egarding Wiring	n Diagram info	rmation. Refer to	∩ FXI -17⁄1 "\\//i	ring Diggram"		
egarang winng	oragiani inito		U <u>LAL-114, VVI</u>	<u>ing Dayidili</u> .		
		PERATION				
heck that the pa						
The second concerned the						
•	result normal?					
s the inspection YES [When tail	lamp RH or LH	does not turn				
s the inspection YES [When tail   NO >> Chec	lamp RH or Lł ck parking lam	H does not turn o p circuit. Refer t		2. Imponent Functi	on Check".	
the inspection YES [When tail NO >> Chec CHECK TAIL I	lamp RH or LH ck parking lam LAMP (LH) FL	H does not turn o p circuit. Refer t			on Check".	
the inspection YES [When tail NO >> Chec CHECK TAIL I	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF.	H does not turn o p circuit. Refer t	o <u>EXL-199, "Co</u>		on Check".	
the inspection YES [When tail NO >> Chec CHECK TAIL I	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fu	H does not turn ( p circuit. Refer t JSE	o <u>EXL-199, "Co</u>			apacity
the inspection of YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that th	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fu t	H does not turn of p circuit. Refer t JSE ses are not blow Location	o <u>EXL-199, "Co</u>	omponent Functi		apacity
the inspection of the inspection of the inspection of the test of test	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fu t p RH	H does not turn ( p circuit. Refer t JSE ses are not blow	o <u>EXL-199, "Co</u>	Fuse No.		apacity 10A
the inspection of YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Unit Tail lamp Tail lamp	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R	o <u>EXL-199, "Co</u>	Fuse No.		
the inspection of YES [When tail NO >> Check TAIL I Turn ignition Check that the Check that the Inspection of YES >> GO T	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3.	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R	o <u>EXL-199, "Co</u> vn:	Fuse No. 52 51		
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Unit Tail lamp Tail lamp the inspection YES >> GO T NO >> Repla	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R	o <u>EXL-199, "Co</u> vn:	Fuse No. 52 51		
the inspection YES [When tail NO >> Check CHECK TAIL I CHECK TAIL I Turn ignition Check that the Tail lamp Tail lamp Tail lamp Tail lamp Sthe inspection YES >> GO T NO >> Repla	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R	o <u>EXL-199, "Co</u> vn:	Fuse No. 52 51		
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that th Unit Tail lamp Tail lamp Tail lamp YES >> GO T NO >> Repla CHECK TAIL I	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R G fuse after repair JT VOLTAGE	o EXL-199, "Co	Fuse No. 52 51		
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that th Unit Tail lamp Tail lamp Tail lamp YES >> GO T NO >> Repla CHECK TAIL I CONSULT Disconnect re Turn ignition	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combinatio switch ON.	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R G fuse after repair JT VOLTAGE	o EXL-199, "Co vn:	Fuse No. 52 51		
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Tail lamp Tail lamp Tail lamp Tail lamp Tail lamp CHECK TAIL I CONSULT Disconnect re Turn ignition Select "EXTE	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combinations switch ON. ERNAL LAMPS	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R G fuse after repaid JT VOLTAGE on lamp RH or L S" in "Active Tes	o EXL-199, "Co vn: ring the affected H connector.	Fuse No. 52 51 d circuit.	C	10A
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Tail lamp Tail lamp Tail lamp Tail lamp Tail lamp CHECK TAIL I CONSULT Disconnect re Turn ignition Select "EXTE	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R G fuse after repaid JT VOLTAGE on lamp RH or L S" in "Active Tes	o EXL-199, "Co vn: ring the affected H connector.	Fuse No. 52 51 d circuit.	C	
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that th Unit Tail lam Tail lam Tail lam YES >> GO T NO >> Repla CHECK TAIL I CONSULT Disconnect re Turn ignition Select "EXTE While operati	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite nd.	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R G fuse after repaid JT VOLTAGE on lamp RH or L S" in "Active Tes	o EXL-199, "Co vn: ring the affected H connector.	Fuse No. 52 51 d circuit.	C	10A
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Unit Tail lamp Tail lamp Tail lamp Tail lamp CHECK TAIL I CONSULT Disconnect re Turn ignition Select "EXTE While operati tor and grour	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite nd.	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R fuse after repair JT VOLTAGE on lamp RH or L S" in "Active Tes ms, check volta	o EXL-199, "Co vn: ring the affected H connector. at" mode of "IPE ge between app	Fuse No. 52 51 d circuit.	nbination lamp	10A
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Unit Tail lamp Tail lamp Tail lamp Tail lamp Tail lamp CHECK TAIL I CONSULT Disconnect re Turn ignition Select "EXTE While operati tor and grour	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite nd. (+) ar combination lag	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R IT VOLTAGE on lamp RH or L S" in "Active Tes ms, check volta	o EXL-199, "Co vn: ring the affected H connector.	Fuse No. 52 51 d circuit.	C	10A
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that th Unit Tail lamp Tail lamp Tail lamp Tail lamp Tail lamp Check TAIL I YES >> GO T NO >> Repla CHECK TAIL I CONSULT Disconnect re Turn ignition Select "EXTE While operati tor and grour	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite nd. (+) ar combination lan ector	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R fuse after repair JT VOLTAGE on lamp RH or L S" in "Active Tes ms, check volta	o EXL-199, "Co vn: ring the affected H connector. at" mode of "IPE ge between app	Fuse No. 52 51 d circuit.	nbination lamp	10A
the inspection YES [When tail NO >> Check CHECK TAIL I Turn ignition Check that the Unit Tail lamp Tail lamp Tail lamp Tail lamp CONSULT CONSULT Disconnect re Turn ignition Select "EXTE While operati tor and grour	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite nd. (+) ar combination lag	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R INSE after repaid JT VOLTAGE on lamp RH or L S" in "Active Tes ms, check volta	o EXL-199, "Co vn: ring the affected H connector. st" mode of "IPD ge between app (–)	Fuse No. 52 51 d circuit.	nbination lamp	10A harness connec- Voltage (Approx.)
s the inspection of YES [When tail NO >> Check CHECK TAIL I . Turn ignition . Check that the Unit Tail lamp Tail lamp Tail lamp S the inspection of YES >> GO T NO >> Repla . CHECK TAIL I CONSULT . Disconnect re . Turn ignition . Select "EXTE . While operati tor and grour Real Conne	lamp RH or LH ck parking lam LAMP (LH) FL switch OFF. ne following fus t p RH p LH result normal? TO 3. ace the blown LAMP OUTPL ear combination switch ON. ERNAL LAMPS ing the test ite nd. (+) ar combination lan ector	H does not turn of p circuit. Refer t JSE ses are not blow Location IPDM E/R IT VOLTAGE on lamp RH or L S" in "Active Tes ms, check volta	o EXL-199, "Co vn: ring the affected H connector. at" mode of "IPE ge between app	Fuse No. 52 51 d circuit. M E/R". Dlicable rear com	nbination lamp	10A harness connec- Voltage (Approx.) Battery voltage

## TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 4.

4. CHECK TAIL LAMP POWER SUPPLY (SHORT) CIRCUIT

1. Disconnect IPDM E/R connector and rear combination lamp RH or LH connector.

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

	(+)		
IPD	M E/R	(-)	Continuity
Connector	Terminal		
E121	9	Ground	No
LIZI	10	Ground	NO

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 5. CHECK TAIL LAMP POWER SUPPLY (OPEN) CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector and rear combination lamp connector.

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

	Rear combination lamp			IPDM E/R		
Coni	nector	Terminal	Connector	Terminal	Continuity	
RH	B459	6	E121	9	Yes	
LH	B460	0	EIZI	10	res	

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-36, "Removal and Installation"</u>

NO >> Repair or replace harness.

#### **6.**CHECK TAIL LAMP GROUND CIRCUIT

Check continuity between rear combination lamp harness connector and ground.

	Rear combination lamp			Continuity
Con	nector	Terminal	Ground	Continuity
RH	B459	7	Gibuna	Yes
LH	B460	I		res

Is the inspection result normal?

YES >> Replace rear combination lamp. Refer to EXL-238, "Removal and Installation".

NO >> Repair or replace harness.

## LICENSE PLATE LAMP CIRCUIT

		CIRCUIT						
ICENSE								
Component	Function Check	(					INFOID:000000012	875411
1.CHECK TAI	L LAMP LH OPERA	ΓΙΟΝ						
	tail lamp LH is turne							
	n result normal?							
•	D TO 2.							
•	eck tail lamp circuit.		<u>8, "Compo</u>	onent Fur	nction Check	<u> </u>		
2.CHECK LIC	ENSE PLATE LAMP	OPERATION						
	TERNAL LAMPS" in ating the lighting swi				np is turned (	ON.		
TAIL	: License plate la	mp ON						
Off	: License plate la	mp OFF						
s the inspectio	n result normal?							
	ense plate lamp circ							
NO >> Re	fer to <u>EXL-205, "Dia</u>	gnosis Procedure	<u>e"</u> .					
Diagnosis P	rocedure						INFOID:000000012	875412
Regarding Wiri	ng Diagram informat	ion Refer to FXI	_174 "\\/i	iring Diac	ıram"			
Regarding Wiri	ng Diagram informat	ion. Refer to <u>EXL</u>	<u>-174, "Wi</u>	iring Diag	<u>ıram"</u> .			
			<u>-174, "Wi</u>	iring Diag	<u>ıram"</u> .			
1.CHECK LIC	ENSE PLATE LAMF		<u>-174, "Wi</u>	iring Diag	<u>ıram"</u> .			
1.CHECK LIC	ENSE PLATE LAMF		<u>-174, "Wi</u>	iring Diac	<u>ıram"</u> .			
<b>1</b> .CHECK LIC Check the appl s the inspectio	ENSE PLATE LAMF		<u>-174, "Wi</u>	iring Diag	<u>ıram"</u> .			
<b>1</b> .CHECK LIC Check the appl s the inspectio YES >> GC	ENSE PLATE LAMF licable lamp bulb. <u>n result normal?</u>		<u>-174, "Wi</u>	iring Diag	<u>ıram"</u> .			
1.CHECK LIC Check the appl s the inspectio YES >> GC NO >> Re	ENSE PLATE LAMF licable lamp bulb. <u>n result normal?</u> D TO 2.	9 BULB			<u>ıram"</u> .			
<b>1.</b> CHECK LIC Check the appl <u>s the inspectio</u> YES >> GC NO >> Re <b>2.</b> CHECK LIC 1. Turn ignitic 2. Disconnec	ENSE PLATE LAMF icable lamp bulb. <u>in result normal?</u> O TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connecto	P BULB P POWER SUPPL or and license plat	Y CIRCU	IIT		harness		
1.CHECK LIC         Check the apple         s the inspection         YES         YES         NO         SCHECK LIC         1.CHECK LIC         1. Turn ignitic         2. Disconnect	ENSE PLATE LAMF icable lamp bulb. in result normal? O TO 2. place bulb. ENSE PLATE LAMF on switch OFF.	P BULB P POWER SUPPL or and license plat	Y CIRCU	IIT onnector nd licens	se plate lamp	harness	s connector.	
<b>1.</b> CHECK LIC Check the appl <u>s the inspectio</u> YES >> GC NO >> Re <b>2.</b> CHECK LIC 1. Turn ignitic 2. Disconnec	ENSE PLATE LAMF icable lamp bulb. <u>in result normal?</u> O TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connecto	P BULB P POWER SUPPL or and license plat	Y CIRCU	IIT onnector nd licens		harness		 
1.CHECK LIC         Check the apple         s the inspection         YES       >> GC         YES       >> Re         2.CHECK LIC         I. Turn ignitic         2. CHECK con         3. Check con	ENSE PLATE LAMF icable lamp bulb. in result normal? O TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector tinuity between IPDM	P BULB P POWER SUPPL or and license plat	Y CIRCU te lamp co nnector a	IIT onnector nd licens	se plate lamp		s connector. Continuity	
1.CHECK LIC Check the appl s the inspectio YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562	P BULB P POWER SUPPL or and license plat M E/R harness com	Y CIRCU te lamp co nnector a	IIT onnector nd licens	se plate lamp M E/R			 
1.CHECK LIC Check the appl s the inspectio YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562 D561	P BULB P POWER SUPPL or and license plat M E/R harness con Terminal	Y CIRCU te lamp co nnector a	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal		Continuity	
1.CHECK LIC Check the appl s the inspectio YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con RH LH s the inspectio	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562 D561 in result normal?	P BULB P POWER SUPPL or and license plat M E/R harness con Terminal	Y CIRCU te lamp co nnector a	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal		Continuity	 - -
1.CHECK LIC         Check the apple         s the inspectio         YES       >> GC         NO       >> Re         2.CHECK LIC         1. Turn ignitic         2. CHECK LIC         1. Turn ignitic         2. CHECK con         RH         LH         s the inspectio         YES       >> GC	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562 D561 in result normal? D TO 3.	P BULB P POWER SUPPL or and license plat M E/R harness con Terminal	Y CIRCU te lamp co nnector a	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal		Continuity	
1.CHECK LIC Check the applesion YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con RH LH s the inspection YES >> GC NO >> Re	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562 D561 in result normal? D TO 3. pair or replace harne	P BULB P POWER SUPPL or and license plat M E/R harness color Terminal 1	Y CIRCU te lamp co nnector a Conr E1	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal		Continuity	
	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector tinuity between IPDM License plate lamp Connector D562 D561 in result normal? D TO 3. pair or replace harme ENSE PLATE LAMF	P BULB P POWER SUPPL or and license plat M E/R harness col Terminal 1	Y CIRCU te lamp co nnector a Conr E1	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal 10		Continuity	
I.CHECK LIC         Check the apple         s the inspection         YES       >> GC         NO       >> Re         I.CHECK LIC         I. Turn ignitic         2.CHECK LIC         I. Turn ignitic         2. CHECK con         RH         LH         s the inspection         YES       >> GC         NO       >> Re         S the inspection         YES       >> GC         NO       >> Re         3.CHECK LIC	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562 D561 in result normal? D TO 3. pair or replace harne	P BULB P POWER SUPPL or and license plat M E/R harness col Terminal 1	Y CIRCU te lamp co nnector a Conr E1	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal 10		Continuity	
1.CHECK LIC Check the apples s the inspection YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con RH LH s the inspection YES >> GC NO >> Re 3.CHECK LIC	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector tinuity between IPDM License plate lamp Connector D562 D561 in result normal? D TO 3. pair or replace harme ENSE PLATE LAMF	P BULB P POWER SUPPL or and license plat A E/R harness color Terminal 1 ess. GROUND CIRC late lamp harness	Y CIRCU te lamp co nnector a Conr E1	IIT onnector nd licens IPDM nector	se plate lamp M E/R Terminal 10		Continuity Yes	 - -
1.CHECK LIC Check the apples s the inspection YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con RH LH s the inspection YES >> GC NO >> Re 3.CHECK LIC	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector License plate lamp Connector D562 D561 in result normal? D TO 3. pair or replace harne ENSE PLATE LAMF ty between license p	P BULB P POWER SUPPL or and license plat A E/R harness color Terminal 1 ess. GROUND CIRC late lamp harness	Y CIRCU te lamp co nnector a Conr E1 UIT s connecto	IIT onnector nd licens IPDM hector 121 or and gr	e plate lamp M E/R Terminal 10		Continuity	
1.CHECK LIC Check the apples s the inspection YES >> GC NO >> Re 2.CHECK LIC 1. Turn ignitic 2. Disconnec 3. Check con RH LH s the inspection YES >> GC NO >> Re 3.CHECK LIC	ENSE PLATE LAMF icable lamp bulb. in result normal? D TO 2. place bulb. ENSE PLATE LAMF on switch OFF. t IPDM E/R connector tinuity between IPDM License plate lamp Connector D562 D561 in result normal? D TO 3. pair or replace harme ENSE PLATE LAMF ty between license p License plate	P BULB P POWER SUPPL or and license plat M E/R harness color Terminal 1 Pess. P GROUND CIRC late lamp harness lamp	Y CIRCU te lamp co nnector a Conr E1 UIT s connecto	IIT onnector nd licens IPDM hector 121 or and gr	se plate lamp M E/R Terminal 10		Continuity Yes	

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

## LICENSE PLATE LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

## FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSI	S >			[HALOGE	N HEADLAMP]
FRONT FOG LAMP	CIRCUIT				
Component Function C	heck				INFOID:000000012875413
1.CHECK FRONT FOG LAN	IP OPERATION				
CONSULT 1. Select "EXTERNAL LAM 2. While operating the test it					
Fog       : Front fog         Off       : Front fog         Is the inspection result normal	amp OFF  ?				
YES >> Front fog lamp cir NO >> Refer to <u>EXL-207</u>		edure".			
Diagnosis Procedure					INFOID:000000012875414
<ol> <li>CHECK FRONT FOG LAN</li> <li>Turn ignition switch OFF.</li> <li>Check that the following f</li> </ol>					
Unit	Location		Fuse No.	С	apacity
Front fog lamp	IPDM E/R		49		15A
Is the inspection result normal YES >> GO TO 3. NO >> GO TO 2. 2.CHECK FRONT FOG LAN CONSULT 1. Disconnect front fog lamp 2. Turn ignition switch ON. 3. Select "EXTERNAL LAMI 4. While operating the test in	IP OUTPUT VOL ⁻ connector. PS" in "Active Tes	t" mode of "IPD		ess connector	and ground.
(+)	,	<u> </u>			
Front fog lan	ip	(-)	Test if	em	Voltage (Approx.)

		Front fog lamp		(-)	Test	item (Approx.)		
-	Con	nector	Terminal				(1.661.07.)	
_	RH	E241				Fog	Battery voltage	IN
		L241	1	Ground	EXTERNAL	Off	0 V	
_	LH	E242		Ground	LAMPS	Fog	Battery voltage	0
	LU	E242				Off	0 V	
						•		

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

3. CHECK FRONT FOG LAMP POWER SUPPLY (SHORT) CIRCUIT

1. Disconnect applicable front fog lamp connector and IPDM E/R connector.

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

Ρ

## FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### [HALOGEN HEADLAMP]

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E217	78	Ground	No
	79		NU

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK FRONT FOG LAMP POWER SUPPLY (OPEN) CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

3. Check continuity between IPDM E/R harness connector and front fog lamp harness connector.

Front fog lamp			IPDN	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E241	1	E217	78	Yes
LH	E242	T I	217	79	165

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36. "Removal and Installation".

NO >> Repair or replace harness.

**5.**CHECK FRONT FOG LAMP GROUND CIRCUIT

Check continuity between front fog lamp harness connector and ground.

	Front fog lamp			Continuity
Conr	nector	Terminal Ground		Continuity
RH	E241	2	Giouna	Yes
LH	E242	2		165

Is the inspection result normal?

YES >> Replace bulb. Refer to EXL-129, "Bulb Specifications".

NO >> Repair or replace harness.

## **TURN SIGNAL LAMP CIRCUIT**

< DTC/CIR	CUIT DIAGNO			[HALOGEN HEADLAMP]
TURN S	IGNAL LA	MP CIRCUIT		
Compone	nt Functior	n Check		INFOID:000000012875415
1.снескт	TURN SIGNAI	_ LAMP		
	FLASHER" in	"Active Test" mode of strike the		
LH RH OFF	: Turn si : The tu	gnal lamp LH blink gnal lamp RH blink m signal lamp OFF	-	
YES >>		<u>rmal?</u> mp circuit is normal. 209. "Diagnosis Pro	<u>cedure"</u> .	
Diagnosis	Procedure	9		INFOID:000000012875416
Regarding V	Viring Diagram	n information, refer to	0 <u>EXL-168, "Wiri</u>	ng Diagram".
<b>1.</b> CHECK	FURN SIGNAL	LAMP BULB		
ls the bulb C YES >> NO >>	<u>0K?</u> GO TO 2. Replace the b			idard is in use and the bulb is not open.
<ol> <li>Turn igr</li> <li>Disconn</li> <li>connect</li> <li>Turn igr</li> </ol>	ition switch O lect the front o or. lition switch O n signal switch	FF. combination lamp cc N.	onnector, door m	irror connector and the rear combination lamp en the front combination lamp harness connec-
	Front combina	tion lamp		
	inector	Terminal	- (-)	Voltage
LH RH	E234 E240	9	Ground	
5. With tur ground.	n signal swite	ch operating, check	the voltage be	ween the door mirror harness connector and
	Door mir	ror	- (-)	Voltage

## **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

LH	D4			
RH	D107	20	Ground	

6. With turn signal switch operating, check the voltage between the rear combination lamp harness connector and ground.

	Rear combination lamp				
Co	nnector	Terminal	(-)	Voltage	
LH	B460				
RH	B459	8	Ground		

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

**3.** CHECK TURN SIGNAL LAMP POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.

3. Check continuity between the BCM harness connector and the front combination lamp connector.

	Front combination lamp			BCM		
Connector		Terminal	Connector	Terminal	Continuity	
LH	E234	0	M80	117	Voc	
RH	E240	9	MOU	105	Yes	

4. Check continuity between the BCM harness connector and the door mirror connector.

	Door mirror lamp			BCM	
	Connector Termin		Connector	Terminal	Continuity
LH	D4	20	M80	117	Yes
RH	D107	20	IVIOU	105	165

5. Check continuity between the BCM harness connector and the rear combination lamp connector.

	Rear combination lamp		BC	M	Continuity
	Connector Terminal		Connector	Terminal	Continuity
LH	B460	Q	M20	103	Yes
RH	B459	0	WIZ0	92	165

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair the harness or connector.

**4.**CHECK TURN SIGNAL LAMP GROUND CIRCUIT

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

## **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### [HALOGEN HEADLAMP]

	Front combina		—	Continuity
	nector	Terminal		,
LH	E234	10	Ground	Yes
RH	E240			
Check cor	ntinuity between	the door mirror harness c	onnector and ground.	
	Door mirror		_	Continuity
	nector	Terminal		
LH	D4	21	Ground	Yes
RH	D107			
Check cor	ntinuity between	the rear combination lamp	o harness connector and g	round.
	Rear combina	ion lamp		Orationity
Conr	nector	Terminal	_	Continuity
LH	B460	7	Ground	Yes
RH	B459	1	Ground	165
NO >> R€	epair the harnes	nctioning lamp. s or connector.		
NU >> Re				
NU >> Re				
NU >> Re				
IU >> Re				
NU >> Re				

#### < DTC/CIRCUIT DIAGNOSIS >

## OPTICAL SENSOR

#### Component Function Check

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT

- 1. Turn ignition switch ON.
- 2. Select "HEADLAMP" in "Data Monitor" mode of "BCM".
- 3. Turn lighting switch AUTO.
- 4. With the optical sensor illuminating, check the monitor status.

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

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

Is the inspection result normal?

- YES >> Optical sensor is normal.
- NO >> Refer to EXL-212, "Diagnosis Procedure".

## **Diagnosis** Procedure

INFOID:000000012875418

Regarding Wiring Diagram information. Refer to EXL-159, "Wiring Diagram".

## 1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

(•	+)		
Optical	sensor	(-)	Voltage (Approx.)
Connector	Terminal		
M15	1	Ground	5 V

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

## 2. CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

	(+) Optical sensor		
Optic			Voltage (Approx.)
Connector	Terminal		
M15	3	Ground	0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

 ${\it 3.}$  CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

INFOID:000000012875417

## **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

	)				Valtera
Optical	sensor	(–)		Condition	Voltage (Approx.)
Connector	Terminal				
M15	2	Ground	Optical sensor	When illuminating	3.1 V or more *
			•	When shutting off light	0.6 V or less
he inspection r ES >> GO T O >> Repla CHECK OPTIC Turn ignition s Disconnect o Check contine	esult normal? O 7. ace the optical s CAL SENSOR (0 switch OFF. ptical sensor co	ensor. Refer t DPEN) CIRCI	to <u>EXL-235, "Re</u> JIT BCM connector. arness connect	e standard if brightness emoval and Installation or and BCM harness co	onnector.
Connector	Termin	al	Connector	Terminal	Continuity
M15	1		M18	3	Yes
neck continuity l	petween optical	SHORT) CIR(		nd ground.	
Connector	Optical sensor	sensor harne	ess connector ar	Ground	Continuity
Connector M15	Optical sensor	sensor harne	ess connector ar		Continuity No
M15 the inspection r YES >> Repla NO >> Repa CHECK OPTIC . Turn ignition s . Disconnect o	Optical sensor esult normal? ace BCM. Refer ir or replace har CAL SENSOR G switch OFF. ptical sensor co	sensor harne Terminal 1 to <u>BCS-79, "I</u> ness. ROUND CIR	Removal and In CUIT	Ground	No
Connector M15 the inspection r YES >> Repla NO >> Repa CHECK OPTIC . Turn ignition s . Disconnect o . Check contin	Optical sensor esult normal? ace BCM. Refer ir or replace har CAL SENSOR G switch OFF. ptical sensor co	sensor harne Terminal 1 to <u>BCS-79, "I</u> ness. ROUND CIR	Removal and In CUIT BCM connector. arness connect	Ground	No
Connector M15 the inspection r YES >> Repla NO >> Repa .CHECK OPTIC Turn ignition s Disconnect o Check contin	Optical sensor esult normal? ace BCM. Refer ir or replace har CAL SENSOR G switch OFF. ptical sensor con uity between opti	sensor harne Terminal 1 to <u>BCS-79, "I</u> ness. ROUND CIR nector and E tical sensor h	Removal and In CUIT BCM connector. arness connect E Connector	Ground stallation". or and BCM harness co	No Donnector. Continuity
Connector M15 he inspection r ES >> Repla O >> Repa CHECK OPTIC Turn ignition s Disconnect o Check contin	Optical sensor esult normal? ace BCM. Refer ir or replace har CAL SENSOR G switch OFF. ptical sensor cou uity between optical sensor	sensor harne Terminal 1 to <u>BCS-79, "I</u> ness. ROUND CIR nector and E tical sensor h	Removal and In CUIT CUIT CUIT	Ground  Stallation".  or and BCM harness co	No

3. Check continuity between optical sensor harness connector and BCM harness connector.

## **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

Optica	l sensor	B	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M15	2	M18	4	Yes

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK OPTICAL SENSOR (SHORT) CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optical sensor			Continuity
Connector	Terminal	Ground	Continuity
M15	2		No

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

NO >> Repair or replace harness.

## HAZARD SWITCH

## [HALOGEN HEADLAMP]

HAZARD SWITCH	1				
Component Functior	n Check				INFOID:0000000128754
1.CHECK HAZARD SWI	TCH SIGNAL BY (	CONSULT			
CONSULT 1. Turn ignition switch O 2. Select "FLASHER" in 3. While operating the ha	"Data Monitor" mo				
Monitor item		Cond	ition		Monitor status
HAZARD SW	Hazard sv	vitch	ON OFF		On Off
Is the inspection result no	rmal?				
	n circuit is normal. 215. "Diagnosis Pi	rocedure".			
Diagnosis Procedure	9				INFOID:00000001287542
Regarding Wiring Diagram			8, "Wiring Diagram	<u>n"</u> .	
<b>1.</b> CHECK HAZARD SWI		JI			
<ol> <li>Turn ignition switch O</li> <li>Disconnect hazard sw</li> </ol>					
		onnector ar	nd ground.		
	en hazard switch c	onnector ar	nd ground.	I	
<ol> <li>Check voltage betwee</li> </ol>		onnector ar			Voltage
<ol> <li>Check voltage betwee</li> </ol>	en hazard switch c		nd ground. (–)		Voltage (Approx.)
3. Check voltage betwee	en hazard switch co (+) zard switch				-
3. Check voltage betwee Haz	en hazard switch co (+) zard switch Termina 2		()		(Approx.)
3. Check voltage betwee Haz Connector M83 Is the inspection result not YES >> GO TO 4.	en hazard switch co (+) zard switch Termina 2		()		(Approx.)
3. Check voltage betwee Haz Connector M83 Is the inspection result not YES >> GO TO 4. NO >> GO TO 2.	en hazard switch co (+) zard switch Termina 2 rmal?	al	(–) Ground		(Approx.)
3. Check voltage betwee Haz Connector M83 Is the inspection result not YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI	en hazard switch co (+) zard switch Termina 2 rmal? TCH SIGNAL (OP	al	(–) Ground		(Approx.)
3. Check voltage between Haz Connector M83 Is the inspection result nor YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr	en hazard switch co (+) zard switch Termina 2 rmal? TCH SIGNAL (OP) nector.	al EN) CIRCU	(–) Ground	harness c	(Approx.) Battery voltage
3. Check voltage between Haz Connector M83 Is the inspection result non YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw	en hazard switch co (+) zard switch Termina 2 rmal? TCH SIGNAL (OP nector. veen hazard switch	al EN) CIRCU	(-) Ground IT	harness co	(Approx.) Battery voltage
3. Check voltage between Haz Connector M83 Is the inspection result nor YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw	en hazard switch co (+) zard switch Termina 2 rmal? TCH SIGNAL (OP) nector. veen hazard switch vitch	al EN) CIRCU I harness co	(-) Ground IT Donnector and BCM BCM		(Approx.) Battery voltage
3. Check voltage between Haz Connector M83 Is the inspection result non YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector	en hazard switch co (+) zard switch Termina 2 TCH SIGNAL (OP nector. veen hazard switch vitch Terminal	al EN) CIRCU harness co	(-) Ground IT Donnector and BCM BCM ector Te	erminal	(Approx.) Battery voltage onnector. Continuity
3. Check voltage between Haz Connector M83 Is the inspection result non YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector M83	en hazard switch co (+) zard switch Termina 2 TCH SIGNAL (OP) nector. veen hazard switch vitch Terminal 2	al EN) CIRCU I harness co	(-) Ground IT Donnector and BCM BCM ector Te		(Approx.) Battery voltage
3. Check voltage between Haz Connector M83 Is the inspection result non YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector	en hazard switch co (+) zard switch Termina 2 TCH SIGNAL (OP) nector. veen hazard switch vitch 2 rmal? 2 rmal?	al EN) CIRCU harness co	(-) Ground IT Donnector and BCM BCM ector Te	erminal	(Approx.) Battery voltage onnector. Continuity
3. Check voltage between Haz Connector M83 Is the inspection result nor YES >> GO TO 4. NO >> GO TO 2. 2.CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector M83 Is the inspection result nor YES >> GO TO 3. NO >> Repair or repl	en hazard switch co (+) zard switch Terminal 2 TCH SIGNAL (OP) nector. veen hazard switch vitch Terminal 2 rmal? ace harness.	al EN) CIRCU harness co Conne M1	(-) Ground IT Donnector and BCM BCM ector Te 8	erminal	(Approx.) Battery voltage onnector. Continuity
3. Check voltage between Haz Connector M83 Is the inspection result non YES >> GO TO 4. NO >> GO TO 2. 2. CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector M83 Is the inspection result non YES >> GO TO 3.	en hazard switch co (+) zard switch Termina 2 TCH SIGNAL (OP) nector. veen hazard switch vitch Terminal 2 rmal? ace harness. TCH SIGNAL (SHO	EN) CIRCU harness co Conne M1	(-) Ground IT IT Donnector and BCM BCM ector Te 8	erminal	(Approx.) Battery voltage onnector. Continuity
3. Check voltage between Haz Connector M83 Is the inspection result nor YES >> GO TO 4. NO >> GO TO 2. 2. CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector M83 Is the inspection result nor YES >> GO TO 3. NO >> Repair or repl 3. CHECK HAZARD SWI Check continuity between	en hazard switch co (+) zard switch Termina 2 TCH SIGNAL (OP) nector. veen hazard switch vitch Terminal 2 rmal? ace harness. TCH SIGNAL (SHO	EN) CIRCU harness co Conne M1	(-) Ground IT IT Donnector and BCM BCM ector Te 8	erminal	(Approx.) Battery voltage
3. Check voltage between Haz Connector M83 Is the inspection result nor YES >> GO TO 4. NO >> GO TO 2. 2. CHECK HAZARD SWI 1. Disconnect BCM conr 2. Check continuity betw Hazard sw Connector M83 Is the inspection result nor YES >> GO TO 3. NO >> Repair or repl 3. CHECK HAZARD SWI Check continuity between	en hazard switch co (+) zard switch Terminal 2 TCH SIGNAL (OP) nector. veen hazard switch vitch Terminal 2 rmal? ace harness. TCH SIGNAL (SH0 hazard switch har	EN) CIRCU harness co Conne M1	(-) Ground IT IT Donnector and BCM BCM ector Te 8	erminal	(Approx.) Battery voltage onnector. Continuity

< DTC/CIRCUIT DIAGNOSIS >

## HAZARD SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

NO >> Repair or replace harness.

## 4. CHECK HAZARD SWITCH GROUND CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard	d switch		Continuity
Connector	Terminal	Ground	Continuity
M83	3		Yes

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-237, "Removal and Installation".

NO >> Repair or replace harness.

# EXTERIOR LIGHTING SYSTEM SYMPTOMS

### < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

# Symptom Table

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INFOID:000000012875421

[HALOGEN HEADLAMP]

### NOTE:

Perform the "Self Diagnostic Result" with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

Sym	ptom	Possible cause	Inspection item
Headlamp (HI) is not	One side	<ul> <li>Fuse</li> <li>Halogen bulb (HI)</li> <li>Harness between IPDM E/R and headlamp (HI)</li> <li>Harness between headlamp (HI) and ground</li> <li>IPDM E/R</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-192, "Component</u> <u>Function Check"</u> .
turned ON.		<ul> <li>Harness between IPDM E/R and daytime running light relay</li> <li>Daytime running light relay</li> <li>IPDM E/R</li> </ul>	Daytime running light relay circuit Refer to <u>EXL-196, "Component</u> <u>Function Check"</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) A Refer to <u>EXL-221, "Diagnosis Proc</u>	
High beam indicator lamp [Headlamp (HI) is turned		Combination meter	<ul> <li>Combination meter "Data Monitor" "HI-BEAM IND"</li> <li>BCM (HEAD LAMP) "Active Test" "HEADLAMP"</li> </ul>
Headlamp (LO) is not turned ON.	One side	<ul> <li>Fuse</li> <li>Halogen bulb (LO)</li> <li>Harness between IPDM E/R and headlamp lamp (LO)</li> <li>Harness between headlamp (LO) and ground</li> <li>IPDM E/R</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-194, "Component</u> <u>Function Check"</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-222, "Diagnosis Procedure"</u> .	
	N/OFF with lighting switch	<ul> <li>Combination switch</li> <li>Harness between combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-77, "Symptom Table"</u> .
AUTO.		<ul> <li>Optical sensor</li> <li>Harness between optical sensor and BCM</li> <li>BCM</li> </ul>	Optical sensor Refer to <u>EXL-212, "Component</u> <u>Function Check"</u> .
Daytime running light is not turned ON. [Headlamp (HI) is turned ON.]		<ul> <li>Fuse</li> <li>Harness between IPDM E/R and daytime running light relay</li> <li>Daytime running light relay</li> <li>IPDM E/R</li> <li>BCM</li> <li>ECM</li> <li>Combination meter</li> </ul>	<ul> <li>Daytime running light relay circuit Refer to <u>EXL-196</u>, "Component <u>Function Check"</u>.</li> <li>BCM (HEADLAMP) "Data Monitor"""ENGINE STATE"</li> <li>Combination meter "Data Monitor" "PKB SW"</li> <li>BCM (HEADLAMP) "Active Test" "DAYTIME RUN- NING LIGHT"</li> </ul>

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

# < SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Symp	otom	Possible cause	Inspection item
Parking lamp is not turned ON.		<ul> <li>Fuse</li> <li>Parking lamp LED</li> <li>Harness between IPDM E/R and front combination lamp</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-199. "Component</u> <u>Function Check"</u> .
Front side marker lamp is ı	not turned ON.	<ul> <li>Front side marker lamp bulb</li> <li>Harness between IPDM E/R and front side marker lamp</li> <li>Harness between front side marker lamp and ground</li> <li>IPDM E/R</li> </ul>	Front side marker lamp circuit Refer to <u>EXL-201, "Component</u> <u>Function Check"</u> .
Tail lamp (Rear side marke	er lamp) is not turned ON.	<ul> <li>Fuse</li> <li>Tail lamp LED</li> <li>Harness between IPDM E/R and rear combination lamp</li> <li>Harness between and rear combination lamp and ground</li> </ul>	Tail lamp circuit Refer to <u>EXL-203, "Component</u> <u>Function Check"</u> .
License plate lamp is not to	urned ON.	<ul> <li>License plate lamp bulb</li> <li>Harness between IPDM E/R and license plate lamp</li> <li>Harness between license plate lamp and ground</li> </ul>	License plate lamp circuit Refer to <u>EXL-205, "Component</u> <u>Function Check"</u> .
Parking lamp, side marker lamp, tail lamp and li- cense plate lamp are not turned ON.		Symptom diagnosis "PARKING, SIDE MARKER, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-223, "Diagnosis Procedure".	
Tail lamp indicator is not tu (Exterior lamps are turned		Combination meter	<ul> <li>Combination meter "Data Monitor" "LIGHT IND"</li> <li>BCM (HEADLAMP) "Active Test" "TAIL LAMP"</li> </ul>
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms high flasher acti- vation.)	<ul> <li>Turn signal lamp bulb</li> <li>Door mirror</li> <li>Harness between BCM and each turn signal lamp</li> <li>Harness between each turn sig- nal lamp and ground</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-209, "Component</u> <u>Function Check"</u> .
	Indicator lamp is includ- ed.	<ul> <li>Combination switch</li> <li>Harness between combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-77, "Symptom Table</u>
	One side	Combination meter	_
Turn signal indicator lamp does not blink.	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter</li> <li>"Data Monitor" "TURN IND"</li> <li>BCM (FLASHER)</li> <li>"Active Test" "FLASHER"</li> </ul>
(Turn signal lamp is nor- mal.)	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	<ul> <li>Combination meter power supply and ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and ground circuit Refer to <u>MWI-53, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .
<ul> <li>Hazard warning lamp do</li> <li>Hazard warning lamp co (Turn signal is normal.)</li> </ul>		<ul> <li>Hazard switch</li> <li>Harness between hazard switch and BCM</li> <li>Harness between hazard switch and ground</li> <li>BCM</li> </ul>	Hazard switch circuit Refer to <u>EXL-215, "Component</u> <u>Function Check"</u> .

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

### < SYMPTOM DIAGNOSIS >

### [HALOGEN HEADLAMP]

Syn	nptom	Possible cause	Inspection item
Front fog lamp is not turned ON.	One side	<ul> <li>Front fog lamp bulb</li> <li>Harness between IPDM E/R and front fog lamp</li> <li>Harness between front fog lamp and ground</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-207, "Component</u> <u>Function Check"</u> .
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-224, "Diagnosis Proc</u>	

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< SYMPTOM DIAGNOSIS >

# NORMAL OPERATING CONDITION

# Description

INFOID:000000012875422

### 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 is normal.

# BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON < SYMPTOM DIAGNOSIS > [HALOGEN HEADLAMP] BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

				А
Description			INFOID:000000012875423	~
Both side headlamps (HI) are	e not turned ON when set	ting to the lighting switch H	l or PASS.	В
Diagnosis Procedure			INFOID:000000012875424	
1.COMBINATION SWITCH	INSPECTION			С
Check combination switch. R	efer to <u>BCS-77, "Symptor</u>	m Table".		
Is the inspection result norma YES >> GO TO 2. NO >> Repair or replace	al? e the malfunctioning part.			D
2.CHECK HEADLAMP (HI)	• 1	JT		E
	Data Monitor" mode of "IPI ing switch, check the mon		Monitor status	F
HL HI REQ	Lighting switch (2ND)	HI or PASS	On Off	G
Is the inspection result norma YES >> GO TO 3. NO >> Replace BCM. R 3.HEADLAMP (HI) CIRCUT	efer to <u>BCS-79, "Remova</u>	al and Installation".		ŀ
Check headlamp (HI) circuit.		oonent Function Check".		1
Is the inspection result norma	-10			
	<u>al /</u>			
	<u>al :</u> I <u>ntermittent Incident"</u> . e the malfunctioning part.			J

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# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

### Description

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

### Diagnosis Procedure

**1**.CHECK COMBINATION SWITCH

Check combination switch. Refer to <u>BCS-77, "Symptom Table"</u>.

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

### **(E)CONSULT DATA MONITOR**

1. Select "HL LO REQ" in "Data Monitor" mode of "IPDM E/R".

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

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	On
	Lighting Switch	OFF	Off

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".

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

Check headlamp (LO) circuit. Refer to EXL-194, "Component Function Check".

Is the inspection result normal?

YES >> Refer to <u>GI-42, "Intermittent Incident"</u>.

NO >> Repair or replace the malfunctioning part.

INFOID:000000012875426

[HALOGEN HEADLAMP]

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

 < SYMPTOM DIAGNOSIS >
 [HALOGEN HEADLAMP]

 PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT<br/>TURNED ON
 A

 Description
 NFOLD.00000012875427

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

 Diagnosis Procedure
 NFOLD.00000012875427
 C

 1.COMBINATION SWITCH INSPECTION
 C

 Check combination switch. Refer to BCS-77, "Symptom Table".
 D

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

ONSULT DATA MONITOR

- 1. Select "TAIL & CLR REQ" in "Data Monitor" mode of "IPDM E/R".
- 2. While operating the lighting switch, check the monitor status.

Monitor item	Con	dition	Monitor status	G
TAIL & CLR REQ	Lighting owitch	1ST	On	-
	Lighting switch	OFF	Off	н

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> Replace BCM. Refer to <u>BCS-79. "Removal and Installation"</u>.

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# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

### < SYMPTOM DIAGNOSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

# Description

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

### **Diagnosis** Procedure

1.CHECK FRONT FOG LAMP FUSE

### 1. Turn ignition switch OFF.

2. Check that the following fuse is not blown:

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	49	15A

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2. CHECK FRONT FOG LAMP SHORT CIRCUIT

### 1. Disconnect front fog connector and IPDM E/R connector.

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

IPDM E/R			Continuity	
Conr	nector	Terminal	Ground	Continuity
RH	E217	78	Ground	No
LH	E217	79		INO

### Is the inspection result normal?

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

# **3**.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to BCS-77, "Symptom Table".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning part.

4.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

### CONSULT DATA MONITOR

1. Select "FR FOG REQ" in "Data Monitor" mode of "IPDM E/R".

2. While operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch	ON	On
	(With lighting switch 2ND)	OFF	Off

### Is the item status normal?

YES >> GO TO 5.

NO >> Replace BCM. Refer to <u>BCS-79, "Removal and Installation"</u>.

### **5.**FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-207, "Component Function Check".

Is the inspection result normal?

YES >> Refer to GI-42, "Intermittent Incident".

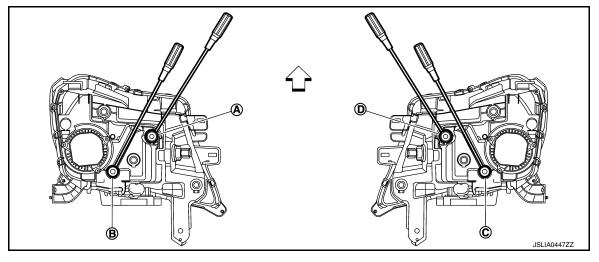
NO >> Repair or replace the malfunctioning part.

[HALOGEN HEADLAMP]

INFOID:000000012875429

INFOID:000000012875430

Inspection INFOID:000000012875431	В
PREPARATION BEFORE ADJUSTING Before performing aiming adjustment, check the following: • Make sure all tires are inflated to correct pressure. • Place vehicle and screen on level surface.	С
<ul> <li>Make sure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).</li> <li>Coolant and engine oil filled to correct level, and fuel tank full.</li> <li>Remove cargo and/or luggage to maintain an unloaded vehicle condition.</li> </ul>	D
<ul> <li>Confirm spare tire, jack and tools are properly stowed.</li> <li>Carefully wipe off any dirt from headlamp lens.</li> <li>CAUTION:</li> </ul>	E
<ul> <li>Do not use organic solvent (thinner, gasoline etc.)</li> <li>Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.</li> <li>By hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load.</li> <li>Place the front tires in the straight ahead position.</li> </ul>	F
<ul> <li>Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.</li> <li>NOTE:</li> <li>For headlamp siming details, refer to regulations in your area.</li> </ul>	G
<ul> <li>For headlamp aiming details, refer to regulations in your area.</li> <li>By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adjustable.</li> <li>Use adjusting screw to perform aiming adjustment.</li> <li>Perform headlamp aiming if:</li> </ul>	Н
<ul> <li>The vehicle front body has been repaired;</li> <li>The front combination lamp has been removed or replaced;</li> <li>Any outfitting has been installed;</li> </ul>	I
<ul> <li>Any outfitting has been installed;</li> <li>The vehicle's standard load condition has been substantially increased.</li> </ul>	
AIMING ADJUSTMENT SCREW	J



- A. Headlamp LH (INSIDE/OUTSIDE) adjustment screw
- D. Headlamp RH (INSIDE/OUTSIDE) adjustment screw
- B. Headlamp LH (UP/DOWN) adjustment screw

C. Headlamp RH (UP/DOWN) adjustment screw

[HALOGEN HEADLAMP]

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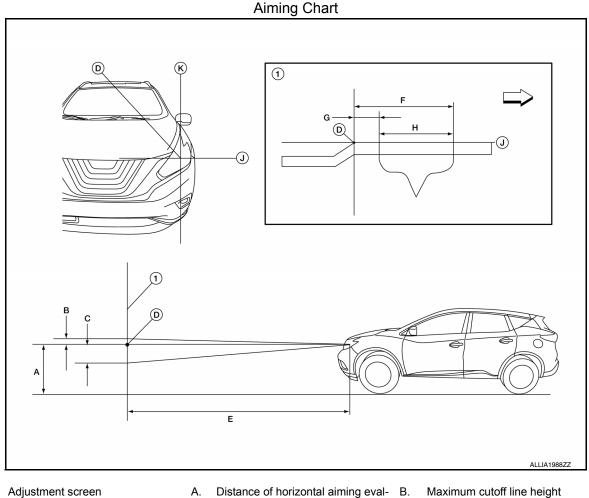
# HEADLAMP AIMING ADJUSTMENT

### < PERIODIC MAINTENANCE >

### **Aiming Adjustment Procedure**

INFOID:000000012875432

[HALOGEN HEADLAMP]



- Adjustment screen 1.
- Minimum cutoff line height C.
- F. Maximum aim evaluation distance from vertical center on aiming screen 399 mm (15.7 in) [3°R]
- Horizontal aiming evaluation line J.
- Distance of horizontal aiming eval- B. Α. uation line from ground
- D. Center of headlamp bulb
- G. Minimum aim evaluation distance Η. from vertical center on aiming screen 133 mm (5.2 in) [1°R]
- K. Vertical aiming evaluation line  $\Box$

7.6 m (25 ft)

Right

Aim evaluation area

Ε.

**B: (Maximum cutoff line height)** 13.3 mm (0.5 in) 0.1° up C: (Minimum cutoff line height) 53.2 mm (2.1 in) 0.4° down

# LOW BEAM AND HIGH BEAM

### NOTE:

- · Basic illuminating area for evaluation and/or adjustment should be within range shown on aiming chart.
- Use adjustment screw to perform aiming adjustment. 1.

### Ensure fog lamps are turned off.

2. Block the opposite headlamp from projecting a beam pattern onto the adjustment screen, using a suitable object. Aim each headlamp individually. CAUTION:

### Do not cover the lens surface with tape, etc.

3. Place the screen on the same level and flat surface as the vehicle. NOTE:

Surface should be free of any debris that would cause a difference between the headlamp center and the adjustment screen.

# **EXL-226**

### < PERIODIC MAINTENANCE >

### [HALOGEN HEADLAMP]

4. Face the front of the vehicle to the screen and measure distance between the headlamp center and the screen surface.

### Distance between the headlamp center and the screen (E) : 7.6 m (25 ft)

- 5. Start the engine. Turn the headlamp on.
- 6. Determine the preferred vertical aim range dimensions, using the aiming chart.
- 7. Measure the projected beam within the aim evaluation segment on the screen.
- Adjust the beam pattern of each headlamp until the aim evaluation segment (the area relative to both the highest and lowest cutoff line height) is positioned within the vertical aim range dimensions shown on the aiming chart.

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# FRONT FOG LAMP AIMING ADJUSTMENT

# **Aiming Adjustment**

INFOID:000000012875433

### PREPARATION BEFORE ADJUSTING

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment procedure, check the following:

- Ensure all tires are inflated to correct pressure.
- · Place vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- · Coolant and engine oil filled to correct level, and fuel tank full.
- Remove cargo and/or luggage to maintain an unloaded vehicle condition.
- Confirm spare tire, jack and tools are properly stowed.
- Carefully wipe off any dirt from headlamp lens.

### CAUTION:

### Do not use organic solvent (thinner, gasoline etc.)

- Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.
- By hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load.
- Place the front tires in the straight ahead position.
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.

### NOTE:

- For fog lamp aiming details, refer to regulations in your area.
- By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adjustable.
- Use adjusting screw to perform aiming adjustment.
- Perform fog lamp aiming if:
- The vehicle front body has been repaired.
- The front fog lamp has been removed or replaced.
- Any outfitting has been installed.
- The vehicle's standard load condition has been substantially increased.

### Aiming Adjustment Procedure

1. Place the screen.

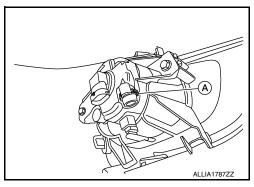
### NOTE:

- Stop the vehicle facing the wall.
- Place the board on a plain road vertically.
- 2. Face the vehicle with the screen. Maintain 10 m (33 ft) between the front fog lamp center and the screen.
- 3. Start the engine. Turn the front fog lamp ON. **NOTE:**

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

### Do not cover the lens surface with a tape etc. The lens is made of resin.

4. Adjust aiming by turning the adjusting screw (A).

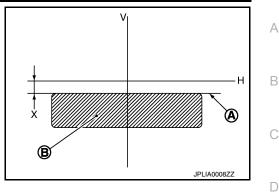


# FRONT FOG LAMP AIMING ADJUSTMENT

### < PERIODIC MAINTENANCE >

### [HALOGEN HEADLAMP]

- 5. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 150 mm (5.90 in).
  - (A) : Cutoff line
  - (B) : High illuminance area
  - (H) : Horizontal center line of front fog lamp
  - (V) : Vertical center line of front fog lamp
  - (X) : Cutoff line height



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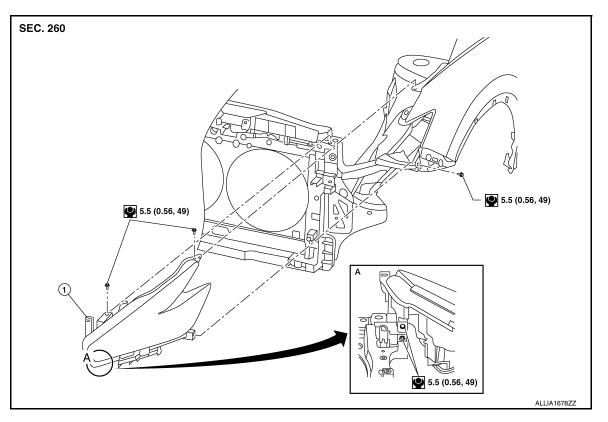
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### [HALOGEN HEADLAMP]

# REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

Exploded View

INFOID:000000012875434



1. Front combination lamp

# Removal and Installation

### REMOVAL

- 1. Remove front bumper fascia. Refer to EXT-25, "Removal and Installation".
- 2. Remove front combination lamp bolts.
- 3. Pull front combination lamp forward.
- 4. Disconnect harness connectors from front combination lamp and remove.

### INSTALLATION

Installation is in the reverse order of removal.

### NOTE:

After installation, perform headlamp aiming adjustment. Refer to EXL-225, "Inspection".

### **Bulb Replacement**

### WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result. CAUTION:

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

HEADLAMP (LOW BEAM) BULB

Revision: December 2015

INFOID:000000012875435

INFOID:000000012875436

# FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

Rer	noval	
1.	Rotate bulb counterclockwise and remove from front combination lamp.	А
2.	Disconnect harness connector from bulb and remove.	
Ins	allation tallation is in the reverse order of removal. UTION:	В
	er installing bulb, install bulb socket securely for watertightness.	
HE	ADLAMP (HIGH BEAM) BULB	С
Rer	noval	
1.	Remove plastic cover.	D
2.	Rotate bulb counterclockwise and remove from front combination lamp.	
3.	Disconnect harness connector from bulb and remove.	E
	allation	
	tallation is in the reverse order of removal.	
	er installing bulb, install bulb socket securely for watertightness.	F
SIE	DE MARKER LAMP BULB	
Rer	noval	G
1.	Rotate bulb counterclockwise and remove from front combination lamp.	
2.	Remove bulb from bulb socket.	Н
	allation	11
	tallation is in the reverse order of removal. UTION:	
	er installing bulb, install bulb socket securely for watertightness.	
τU	RN SIGNAL LAMP BULB	
Rer	noval	J
1.	Rotate bulb socket counterclockwise and remove from front combination lamp.	
2.	Remove bulb from bulb socket.	К
	tallation	n.
	tallation is in the reverse order of removal.	
	er installing bulb, install bulb socket securely for watertightness.	EXL
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# FRONT FOG LAMP

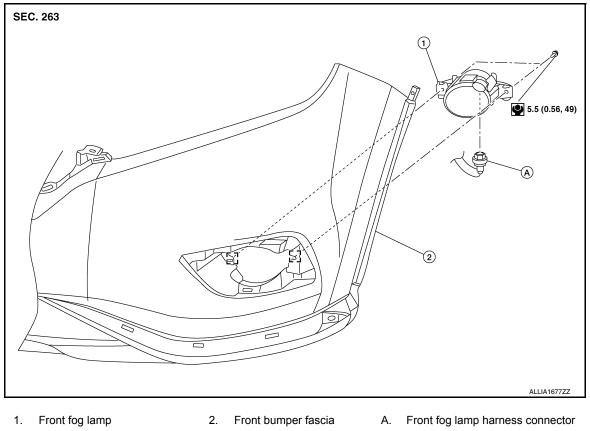
### < REMOVAL AND INSTALLATION >

# FRONT FOG LAMP

# **Exploded View**

INFOID:000000012875437

[HALOGEN HEADLAMP]



Metal clip

# Removal and Installation

INFOID:000000012875438

INFOID:000000012875439

### REMOVAL

- 1. Partially remove front fender protector. Refer to EXT-36, "FENDER PROTECTOR : Exploded View".
- 2. Disconnect harness connector from front fog lamp.
- 3. Remove front fog lamp bolts and front fog lamp.

### INSTALLATION

Installation is in the reverse order of removal.

#### NOTE:

After installation, perform front fog lamp aiming adjustment. Refer to EXL-109, "Aiming Adjustment".

### Bulb Replacement

### WARNING:

Do not touch bulb by hand while it is lit or right after being turned off. Burning may result. CAUTION:

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture, smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

### REMOVAL

1. Partially remove front fender protector. Refer to <u>EXT-38</u>, "FRONT OVER FENDER : Removal and Installation".

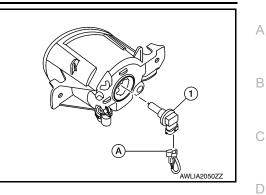
### EXL-232

# FRONT FOG LAMP

### < REMOVAL AND INSTALLATION >

- 2. Disconnect harness connector from front fog lamp (A).
- 3. Rotate bulb (1) counterclockwise and remove.





INSTALLATION Installation is in the reverse order of removal. CAUTION: Install bulb securely for watertightness.



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Revision: December 2015

# DOOR MIRROR TURN SIGNAL LAMP

### Removal and Installation

The door mirror turn signal lamp is serviced as part of the door mirror. Refer to <u>MIR-21, "Removal and Installa-</u><u>tion"</u>.

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# **OPTICAL SENSOR**

# < REMOVAL AND INSTALLATION >

# **OPTICAL SENSOR**

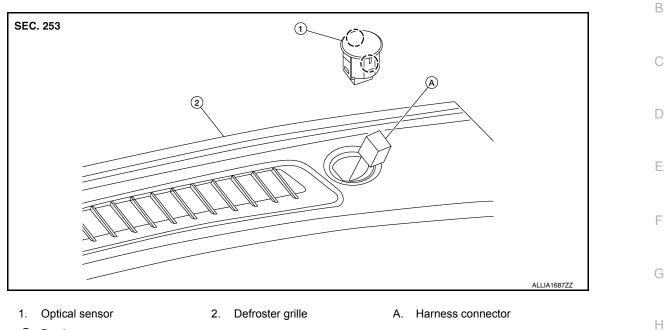
Exploded View

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[HALOGEN HEADLAMP]



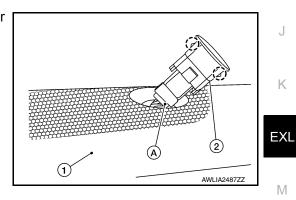
( ) Pawl

# Removal and Installation

### REMOVAL

Release pawls and remove the optical sensor (2) from defroster grille (1) using a suitable tool.

(_): Pawl



### INSTALLATION Installation is in the reverse order of removal.

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# LIGHTING & TURN SIGNAL SWITCH

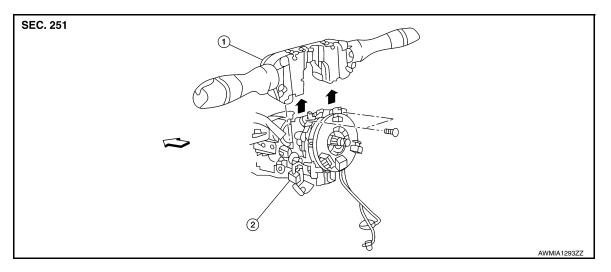
### < REMOVAL AND INSTALLATION >

# LIGHTING & TURN SIGNAL SWITCH

# Exploded View

INFOID:000000012875443

[HALOGEN HEADLAMP]



- 1. Combination switch
- 2. Combination switch harness connector <>> Front

# Removal and Installation

INFOID:000000012875444

### REMOVAL

- 1. Disconnect both the negative and positive battery terminals, then wait at least three minutes. Refer to <u>PG-112</u>, "Exploded View".
- 2. Remove the steering column covers. Refer to IP-18, "Removal and Installation".
- 3. Remove the combination switch screws.
- 4. Disconnect the harness connector from the combination switch and remove.

### INSTALLATION

Installation is in the reverse order of removal.

### CAUTION:

- After the work is completed, make sure no system malfunction is detected by air bag warning lamp.
- In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis function and delete the memory with CONSULT.
- If a malfunction is still detected after the above operation, perform self-diagnosis to repair malfunctions. Refer to <u>SRC-17, "SRS Final Check"</u>.

# HAZARD SWITCH

# < REMOVAL AND INSTALLATION >

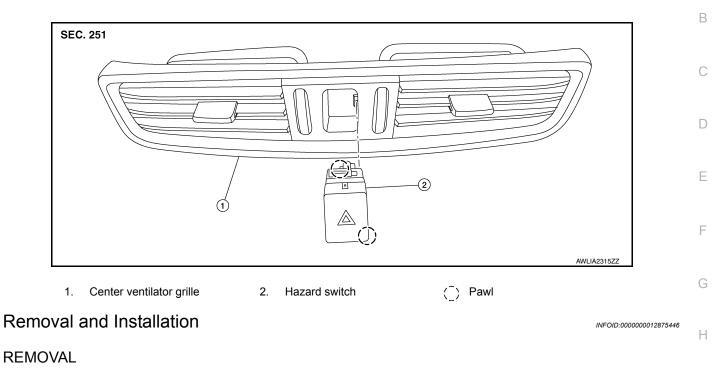
# HAZARD SWITCH

# Exploded View

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[HALOGEN HEADLAMP]



- 1. Remove center ventilator grille. Refer to <u>VTL-10, "CENTER VENTILATOR DUCT : Removal and Installa-</u> tion".
- 2. Release pawls and remove hazard switch.

### INSTALLATION

Installation is in the reverse order of removal.

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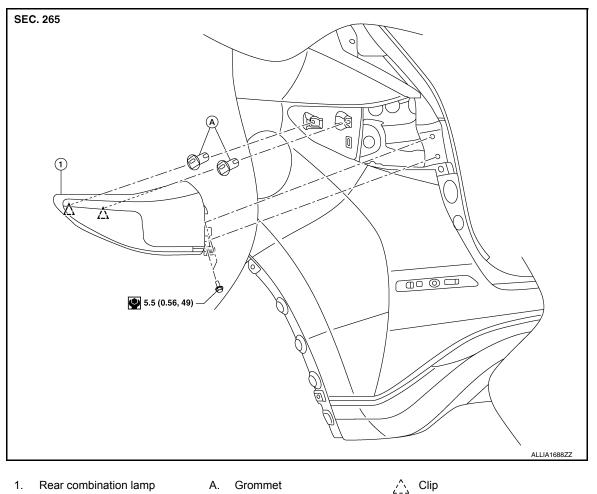
# **REAR COMBINATION LAMP**

### < REMOVAL AND INSTALLATION >

# **REAR COMBINATION LAMP**

# **Exploded View**

INFOID:000000012875447



1. Rear combination lamp Grommet A

# Removal and Installation

### REMOVAL

- 1. Remove rear combination lamp side cover.
- Remove rear combination lamp bolts.
- 3. Pull rear combination lamp sideward to release clip and locators.
- 4. Disconnect harness connector from rear combination lamp and remove.

### INSTALLATION

Installation is in the reverse order of removal.

### Bulb Replacement

#### WARNING:

Do not touch bulb with bare hand while it is lit or right after being turned off. Burning may result. CAUTION:

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

### STOP LAMP BULB

The stop lamp bulb is LED and not serviced separately. Refer to EXL-119, "Removal and Installation".

**Revision: December 2015** 

### **EXL-238**

2016 Murano NAM

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# **REAR COMBINATION LAMP**

### < REMOVAL AND INSTALLATION > SIDE MARKER LAMP BULB

Ren	noval
2.	Remove rear combination lamp. Refer to <u>EXL-119. "Removal and Installation"</u> . Rotate side marker bulb socket counterclockwise and remove. Remove side marker bulb from bulb socket.
Inst CA	allation iallation is in the reverse order of removal. UTION: er installing bulb, install bulb socket securely for watertightness.
TUI	RN SIGNAL LAMP BULB
Ren	noval
2.	Remove rear combination lamp. Refer to <u>EXL-119, "Removal and Installation"</u> . Rotate turn signal lamp bulb socket counterclockwise and remove. Remove turn signal lamp bulb from bulb socket.
Inst CA	allation allation is in the reverse order of removal. UTION: er installing bulb, install bulb socket securely for watertightness.

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**Revision: December 2015** 

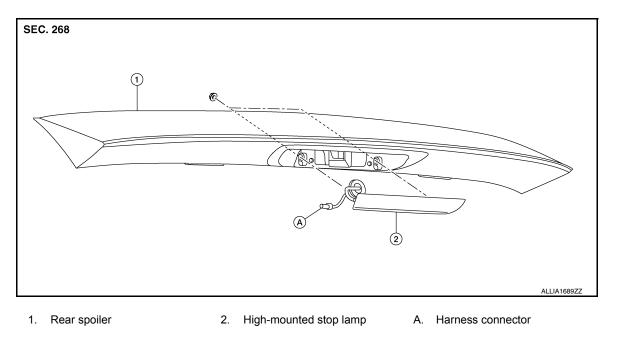
# **HIGH-MOUNTED STOP LAMP**

# < REMOVAL AND INSTALLATION >

# HIGH-MOUNTED STOP LAMP

# **Exploded View**

INFOID:000000012875450



# Removal and Installation

REMOVAL

- 1. Remove rear spoiler. Refer to EXT-51, "Removal and Installation".
- 2. Remove nuts and remove high-mounted stop lamp.

### INSTALLATION

Installation is in the reverse order of removal.

### **Bulb Replacement**

### HIGH-MOUNTED STOP LAMP BULB

The high-mounted stop lamp bulb is LED and not serviced separately. Refer to <u>EXL-121, "Removal and Instal-</u> lation".

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LICENSE PLATE LAMP

# Exploded View

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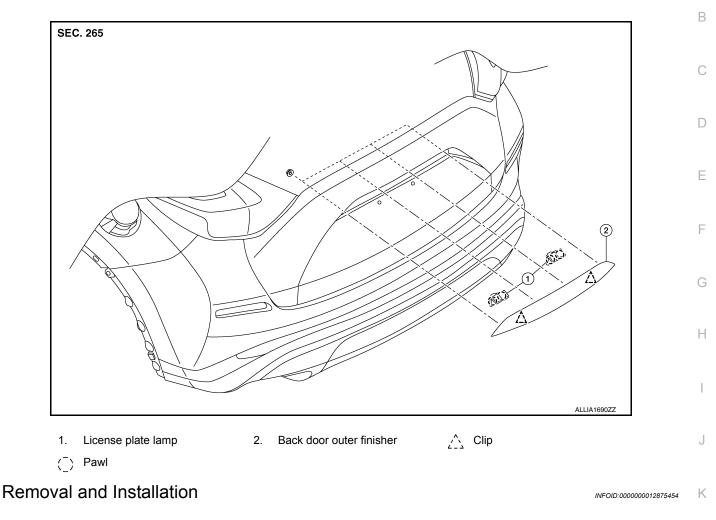
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### REMOVAL

- 1. Remove back door outer finisher. Refer to EXT-53, "Removal and Installation".
- 2. Disconnect harness connector from license plate lamp.
- 3. Release pawls and push license plate lamp forward.

### INSTALLATION

Installation is in the reverse order of removal.

### Bulb Replacement

#### WARNING:

Do not touch bulb with your hand while it is on or right after being turned off. Burning may result. CAUTION:

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

### REMOVAL

- 1. Remove back door lower finisher. Refer to <u>INT-34</u>, "BACK DOOR LOWER FINISHER : Removal and <u>Installation</u>".
- 2. Rotate license plate lamp bulb socket counterclockwise and remove.

# EXL-241

3. Remove license plate lamp bulb from bulb socket.

### INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

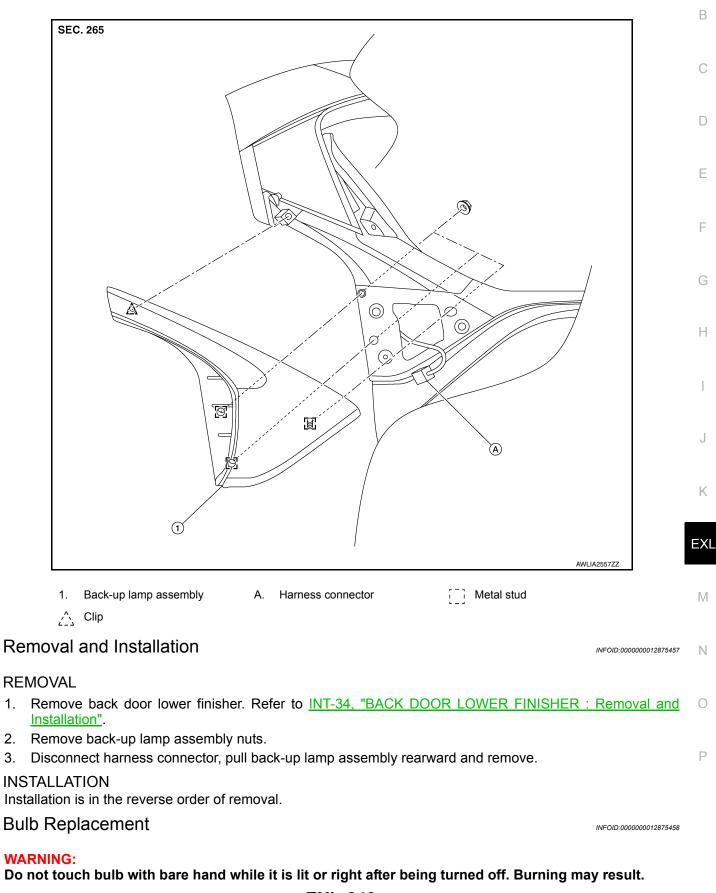
After installing bulb, install bulb socket securely for watertightness.

# **BACK-UP LAMP ASSEMBLY**

# **Exploded View**

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**Revision: December 2015** 

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**EXL-243** 

2016 Murano NAM

[HALOGEN HEADLAMP]

### **CAUTION:**

- Do not touch glass surface of bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect performance of lamp. When replacing bulb, be sure to replace it with new one.

### REMOVAL

- 1. Remove back-up lamp assembly. Refer to EXL-124, "Removal and Installation".
- 2. Rotate back-up lamp bulb socket counterclockwise and remove.
- 3. Remove back-up lamp bulb from bulb socket.

#### INSTALLATION

Installation is in the reverse order of removal.

**CAUTION:** 

After installing bulb, install bulb socket securely for watertightness.

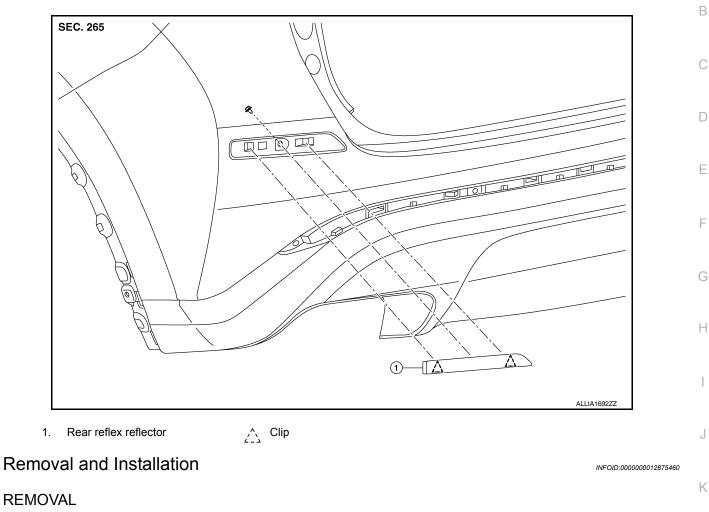
**REFLEX REFLECTOR** 

# Exploded View

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[HALOGEN HEADLAMP]



- 1. Remove rear bumper fascia. Refer to EXT-27, "Removal and Installation".
- 2. Remove rear reflex reflector fixing screw and pawls and then remove rear reflex reflector.

### INSTALLATION

Installation is in the reverse order of removal.

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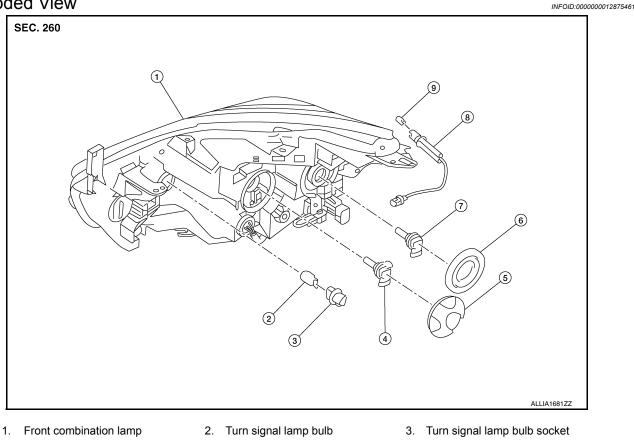
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# UNIT DISASSEMBLY AND ASSEMBLY FRONT COMBINATION LAMP

Exploded View



- High beam lamp bulb 4.
- 7. Low beam lamp bulb
- 5. High beam lamp bulb cover 8. Side marker lamp bulb harness
- 6. Low beam lamp bulb grommet
- 9. Side marker lamp bulb

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# Disassembly and Assembly

### DISASSEMBLY

- Remove front combination lamp. Refer to EXL-230, "Removal and Installation". 1.
- 2. Rotate headlamp (low beam) bulb counterclockwise and remove.
- 3. Disconnect harness connector from headlamp (low beam) bulb.
- 4. Remove plastic cover.
- 5. Rotate headlamp (high beam) bulb counterclockwise and remove.
- 6. Disconnect harness connector from headlamp (high beam) bulb.
- 7. Rotate side marker lamp bulb socket counterclockwise and remove.
- 8. Remove side marker lamp bulb from bulb socket.
- 9. Rotate turn signal lamp bulb socket counterclockwise and remove.
- 10. Remove turn signal lamp bulb from bulb socket.

### ASSEMBLY

Assembly is in the reverse order of disassembly.

### CAUTION:

During assembly, be sure to install bulb sockets securely to ensure watertightness.

# **REAR COMBINATION LAMP**

# < UNIT DISASSEMBLY AND ASSEMBLY >

# **REAR COMBINATION LAMP**

# [HALOGEN HEADLAMP]

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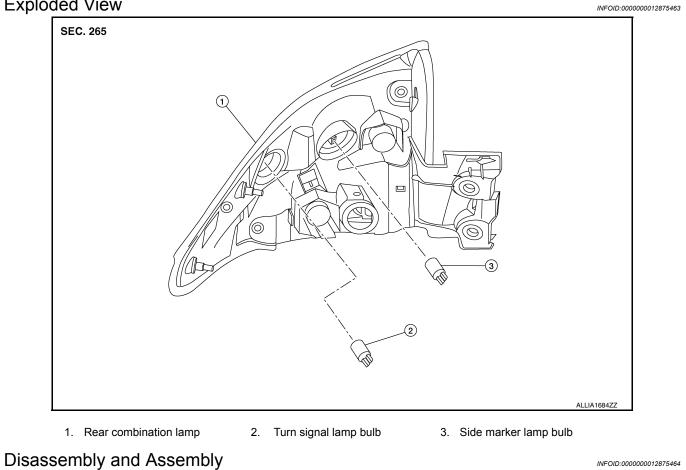
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# Exploded View



### DISASSEMBLY

DIGREGEMBET	
1. Remove rear combination lamp. Refer to EXL-238. "Removal and Installation".	K
2. Rotate side marker lamp bulb socket counterclockwise and remove.	
3. Remove side marker bulb from bulb socket.	
<ol><li>Rotate turn signal lamp bulb socket counterclockwise and remove.</li></ol>	EXL
5. Remove turn signal lamp bulb from bulb socket.	
ASSEMBLY	M
Assembly is in the reverse order of disassembly.	1 4 1
CAUTION:	
During assembly, be sure to install bulb sockets securely to ensure watertightness.	Ν
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### SERVICE DATA AND SPECIFICATIONS (SDS)

# < SERVICE DATA AND SPECIFICATIONS (SDS)

[HÁLOGEN HEADLAMP]

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

# **Bulb Specifications**

INFOID:000000012875465

Item		Туре	Wattage (W)
Front combination lamp	High beam	H9	65
	Low beam	H11	55
	Turn signal lamp	7444NA	28/8
	Side marker lamp	WY21W	5
	Daytime running lamp	LED	-
Front fog lamp (if equipped)		H11	55
Door mirror turn signal lamp		LED	_
Rear combination lamp	Stop lamp	LED	_
	Side marker lamp	W5W	5
	Turn signal lamp	WY21W	21
Back-up lamp		921	16
License plate lamp		W5W	5
High-mounted stop lamp		LED	_

*: Always check with the Parts Department for the latest parts info.