# SECTION EXTERIOR LIGHTING SYSTEM

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В

С

D

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# CONTENTS

PRECAUTION4
PRECAUTIONS
PREPARATION5
PREPARATION
SYSTEM DESCRIPTION6
COMPONENT PARTS
SYSTEM8
HEADLAMP SYSTEM
AUTO LIGHT SYSTEM
DAYTIME RUNNING LIGHT SYSTEM
TURN SIGNAL AND HAZARD WARNING LAMP         SYSTEM       10         TURN SIGNAL AND HAZARD WARNING LAMP         SYSTEM : System Diagram       10         TURN SIGNAL AND HAZARD WARNING LAMP         SYSTEM : System Diagram       10         TURN SIGNAL AND HAZARD WARNING LAMP       10         SYSTEM : System Description       10

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM10	F
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Diagram10 PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description11	G
FRONT FOG LAMP SYSTEM       11         FRONT FOG LAMP SYSTEM : System Diagram11         FRONT FOG LAMP SYSTEM : System Description	H
<b>TRAILER TOW SYSTEM</b> 12         TRAILER TOW SYSTEM : System Diagram       12         TRAILER TOW SYSTEM : System Description       12	J
DIAGNOSIS SYSTEM (BCM)13	
COMMON ITEM	K
HEADLAMP       13         HEADLAMP : CONSULT Function (BCM - HEAD-         LAMP)       14	EX
FLASHER15 FLASHER : CONSULT Function (BCM - FLASH- ER)	N
DIAGNOSIS SYSTEM (IPDM E/R)16 Diagnosis Description	0
ECU DIAGNOSIS INFORMATION20	
BCM, IPDM E/R20 List of ECU Reference	Ρ
WIRING DIAGRAM21	
HEADLAMP21 Wiring Diagram21	

DAYTIME LIGHT SYSTEM 2	
Wiring Diagram	
AUTO LIGHT SYSTEM 4 Wiring Diagram 4	
FRONT FOG LAMP SYSTEM 4 Wiring Diagram 4	
TURN SIGNAL AND HAZARD WARNING         LAMP SYSTEM         Wiring Diagram         5	
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM	
STOP LAMP	
BACK-UP LAMP	
TRAILER TOW    8      Wiring Diagram    8	
BASIC INSPECTION10	)2
DIAGNOSIS AND REPAIR WORKFLOW 10 Work Flow 10	
DTC/CIRCUIT DIAGNOSIS10	)5
POWER SUPPLY AND GROUND CIRCUIT 10	)5
POWER SUPPLY AND GROUND CIRCUIT 10 BCM (BODY CONTROL MODULE)	)5
BCM (BODY CONTROL MODULE)10 BCM (BODY CONTROL MODULE) : Diagnosis	)5 )5 )5
BCM (BODY CONTROL MODULE)	<b>)5</b> <b>)5</b> <b>)5</b> <b>)5</b> <b>)7</b> <b>)7</b>
BCM (BODY CONTROL MODULE)       10         BCM (BODY CONTROL MODULE)       Diagnosis         Procedure       10         IPDM E/R (INTELLIGENT POWER DISTRIBU-       10         ION MODULE ENGINE ROOM)       10         Description       10         Component Function Check       10	<b>)5</b> <b>)5</b> <b>)5</b> <b>)7</b> <b>)7</b> <b>)7</b> <b>)7</b> <b>)7</b> <b>)7</b> <b>)7</b> <b>)7</b>
BCM (BODY CONTROL MODULE)       10         BCM (BODY CONTROL MODULE)       Diagnosis         Procedure       10         IPDM E/R (INTELLIGENT POWER DISTRIBU-       10         Description MODULE ENGINE ROOM)       10         Description       10         Description       10         Description       10         Description       10         Component Function Check       10         Description       10         Component Function Check       10	<b>5</b> <b>5</b> <b>5</b> <b>7</b> <b>7</b> <b>7</b> <b>7</b> <b>9</b> <b>9</b> <b>9</b> <b>9</b> <b>9</b> <b>9</b> <b>11</b> <b>1</b>

Diagnosis Procedure 114
PARKING LAMP CIRCUIT116Description116Component Function Check116Diagnosis Procedure116
TURN SIGNAL LAMP CIRCUIT119Description119Component Function Check119Diagnosis Procedure119
OPTICAL SENSOR122Description122Component Function Check122Diagnosis Procedure122
HAZARD SWITCH125Component Function Check125Diagnosis Procedure125
SYMPTOM DIAGNOSIS127
EXTERIOR LIGHTING SYSTEM SYMPTOMS.127 Symptom Table
NORMAL OPERATING CONDITION129 Description
BOTH SIDE HEADLAMPS DO NOT SWITCHTO HIGH BEAM130Description130Diagnosis Procedure130
BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON132 Description
BOTH SIDE FRONT FOG LAMPS ARE NOTTURNED ON133Description133Diagnosis Procedure133
DAYTIME LIGHT SYSTEM INOPERATIVE134 Description
PERIODIC MAINTENANCE135
HEADLAMP135Inspection135Aiming Adjustment Procedure136
FRONT FOG LAMP AIMING ADJUSTMENT 138 Aiming Adjustment

REMOVAL AND INSTALLATION	139
FRONT COMBINATION LAMP	
Exploded View	
Removal and Installation	
FRONT FOG LAMP	
Exploded View	
Removal and Installation	142
OPTICAL SENSOR	
Exploded View	
Removal and Installation	144
LIGHTING & TURN SIGNAL SWITCH	<b>H</b> 145
Removal and Installation	145
HAZARD SWITCH	146
Removal and Installation	
REAR COMBINATION LAMP	
Exploded View Removal and Installation	
HIGH-MOUNTED STOP LAMP	
Removal and Installation	

BACK-UP LAMP149Exploded View149Removal and Installation149	A
LICENSE PLATE LAMP	В
UNIT DISASSEMBLY AND ASSEMBLY . 152	С
FRONT COMBINATION LAMP152Exploded View152Disassembly and Assembly152	D
REAR COMBINATION LAMP153Exploded View153Disassembly and Assembly153	E
SERVICE DATA AND SPECIFICATIONS (SDS)	F
SERVICE DATA AND SPECIFICATIONS (SDS)	G
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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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the 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 Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least 3 minutes before performing any service.

# Precaution 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

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name		Description	С
(J-46534) Trim tool set		Removing trim components	D
	H (D) L L AWJIA04832Z		F

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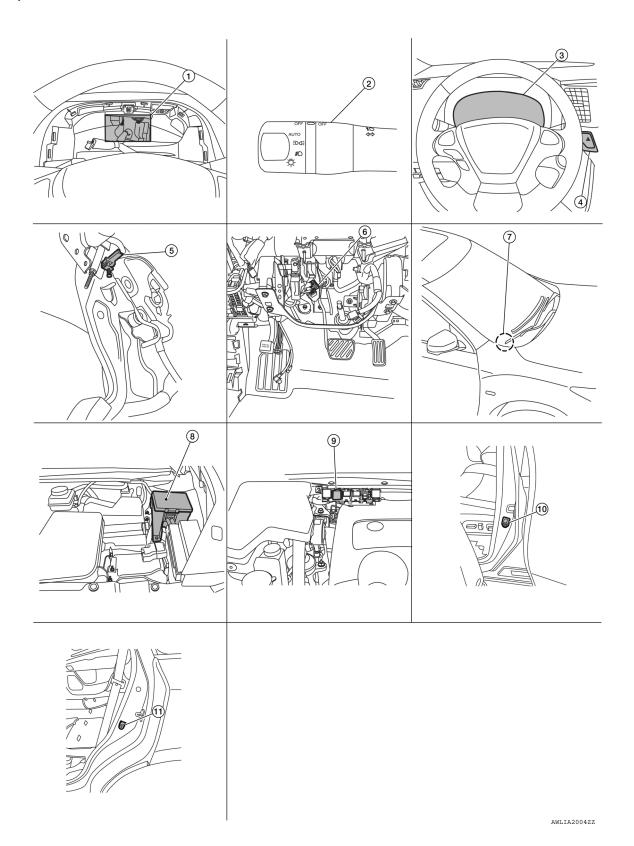
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# < SYSTEM DESCRIPTION >

# SYSTEM DESCRIPTION COMPONENT PARTS

# **Component Parts Location**

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# **COMPONENT PARTS**

# < SYSTEM DESCRIPTION >

1.	BCM (view with combination meter re- moved)	2.	Combination switch (lighting and turn signal switch)	3.	Combination meter	А
4.	Hazard switch	5.	Parking brake switch	6.	Stop lamp switch	
7.	Optical sensor (if equipped)	8.	IPDM E/R, [Headlamp high relay, Headlamp low relay, Taillamp relay, Front fog lamp relay (if equipped)]	9.	Daytime light relay (if equipped)	В
10.	Front door switch LH (RH similar)	11.	Rear door switch LH (RH similar)			С

# Component Description

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Part	Description
BCM	Controls the exterior lighting system.
Combination switch (Lighting & turn signal switch)	Refer to BCS-8, "COMBINATION SWITCH READING SYSTEM : System Description".
IPDM E/R	Controls the integrated relays and supplies voltage to the load according to the request from the BCM via CAN communication.
Stop lamp switch	Transmits stop lamp switch signal to BCM when the brake pedal is pressed to operate stop lamps.
Combination meter	Refer to MWI-9, "METER SYSTEM : System Description".
Daytime light relay (if equipped)	Sends power to the daytime lamp when operated by the IPDM E/R.
Front door switch LH/RH	Transmits the clear open signal to the DOM to exercise the system
Rear door switch LH/RH	Transmits the door open signal to the BCM to operate the autolight system.
Optical sensor (if equipped)	Optical sensor converts the outside brightness (lux) to voltage and transmits the optical sensor signal to BCM to operate the autolight system.
Parking brake switch	Transmits the parking brake switch signal to the combination meter to operate the daytime light system.
Hazard switch	Inputs the hazard switch signal to BCM.

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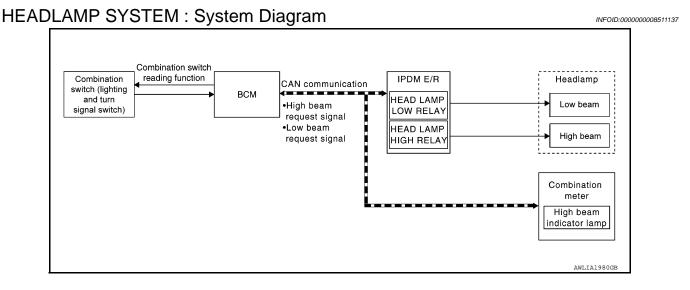
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# SYSTEM HEADLAMP SYSTEM



# HEADLAMP SYSTEM : System Description

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# LOW BEAM OPERATION

When the lighting switch is in the AUTO (if equipped and activated) or headlamp position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R across the CAN communication lines. The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the low beam headlamps.

# HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the AUTO (if equipped and activated) or headlamp position and placed in HIGH position, the BCM receives input requesting the headlamp high beams to illuminate. The flash to pass feature can be used any time and also sends a signal to the BCM. This input is communicated to the IPDM E/R across the CAN communication lines. The CPU of the combination meter controls the ON/OFF status off the HIGH BEAM indicator. The CPU of the IPDM E/R controls the headlamp high relay coil which supplies power to the high beam headlamps.

The combination meter receives a high beam request signal (ON) through the CAN communication lines and turns the high beam indicator lamp ON.

# EXTERIOR LAMP BATTERY SAVER CONTROL

With the combination switch (lighting and turn signal switch) in the AUTO (if equipped and activated) parking lamp or headlamp position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.

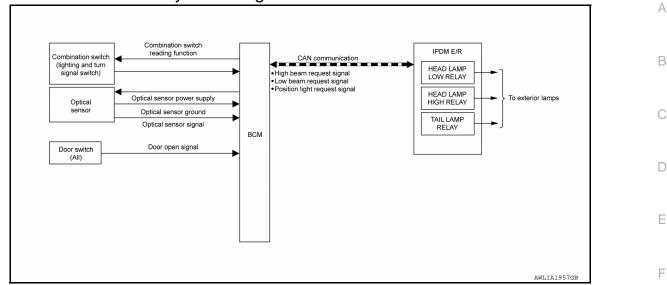
Under this condition, the headlamps remain illuminated for 45 seconds, unless the lighting switch position is changed. If the lighting switch position is changed, then the headlamps are turned off.

AUTO LIGHT SYSTEM

# SYSTEM

# < SYSTEM DESCRIPTION >

# AUTO LIGHT SYSTEM : System Diagram



# AUTO LIGHT SYSTEM : System Description

- BCM (Body Control Module) controls auto light operation according to signals from optical sensor, lighting switch and ignition switch.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates parking, license plate, tail, front fog lamps and headlamps according to CAN communication signals from BCM.
- Optical sensor detects ambient brightness of 800 to 2,500 lux. And optical sensor converts light (lux) to voltage, then sends the optical sensor signal to BCM.

#### OUTLINE

The auto light control system has an optical sensor that detects outside brightness.

When the lighting switch is in AUTO position, it automatically turns ON/OFF the parking, license plate, tail, front fog lamps and headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details of the setting, Refer to <u>BCS-17</u>, "<u>HEADLAMP</u> : <u>CONSULT Function (BCM - HEADLAMP)</u>".

# WIPER LINKED AUTO LIGHTING FUNCTION (if equipped)

With the lighting switch in the AUTO position, the BCM will turn on the exterior lamps after detecting 4 operations of the front wiper. The BCM will turn off the exterior lamps 3 seconds after the front wiper switch is turned to the OFF position.

# DAYTIME RUNNING LIGHT SYSTEM

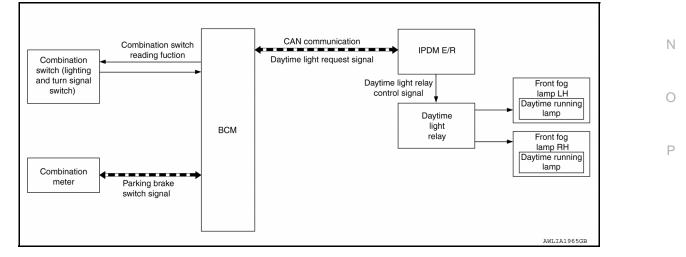
# DAYTIME RUNNING LIGHT SYSTEM : System Diagram

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# SYSTEM

# < SYSTEM DESCRIPTION >

# DAYTIME RUNNING LIGHT SYSTEM : System Description

#### System Description

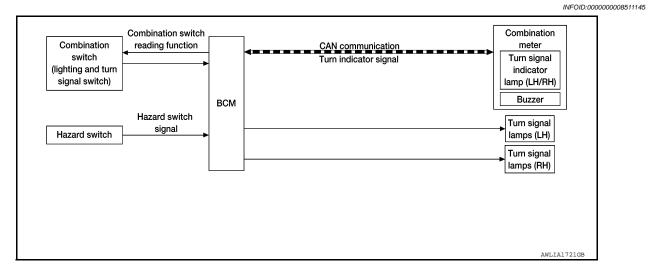
The daytime light system is equipped with a daytime light control that activates the daytime lights within the front fog lamp assembly when the engine is operating. If the parking brake is applied, the daytime lights will turn OFF. The daytime lights will turn ON when the parking brake is released.

#### OPERATION

The BCM monitors inputs from the parking brake switch and the combination switch (lighting and turn signal switch) to determine when to operate the daytime light system. The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The IPDM E/R grounds the daytime light relay which in turn, provides power to the daytime lights.

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Diagram



# TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

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#### TURN SIGNAL OPERATION

When the combination switch (lighting and turn signal switch) is in LH or RH turn position with the ignition switch in the ON position, the BCM receives input requesting the turn RH or turn LH lamps to illuminate. The BCM controls the turn signal power to the respective turn signal lamp. The BCM also sends a turn indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the appropriate turn signal indicator and audible buzzer.

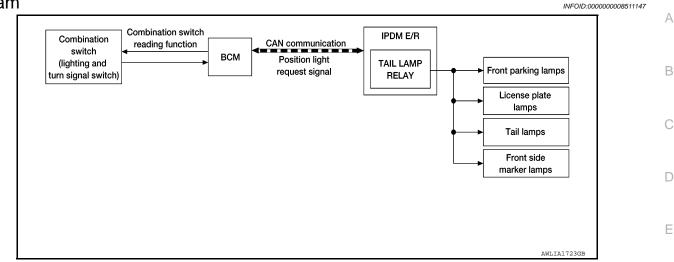
#### HAZARD LAMP OPERATION

When the hazard switch is in the ON position, the BCM receives input requesting the hazard lamps illuminate. The BCM controls the turn signal power to both the LH and RH turn signal lamps. The BCM sends a hazard indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates both the LH and RH turn signal indicators and audible buzzer.

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

# < SYSTEM DESCRIPTION >





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

# PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

With the lighting switch is in the AUTO (if equipped and activated) or parking lamp position, the BCM receives input requesting the parking lamps to illuminate. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which sends power to the parking and instrument illumination circuits.

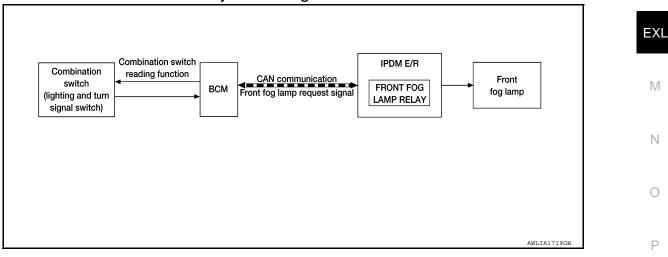
#### EXTERIOR LAMP BATTERY SAVER CONTROL

With the combination switch (lighting and turn signal switch) in the AUTO (if equipped and activated) or parking lamp position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.

Under this condition, the exterior lamps remain illuminated for 45 seconds unless the lighting switch position is changed, then the exterior lamps are turned off.

# FRONT FOG LAMP SYSTEM

# FRONT FOG LAMP SYSTEM : System Diagram



# FRONT FOG LAMP SYSTEM : System Description

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The front fog lamps are activated with the combination switch (lighting and turn signal switch). The lighting switch signal to the BCM is monitored with the BCM combination switch reading function. When the fog lamps are turned ON with the lighting switch, the BCM sends a front fog lamp request signal via CAN communication lines to the IPDM E/R. The IPDM E/R grounds the front fog lamp relay coil to activate the front fog lamps.

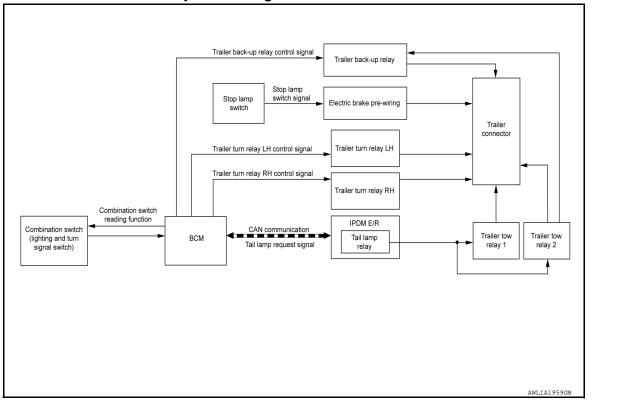
# < SYSTEM DESCRIPTION >

# FRONT FOG LAMP OPERATION

When the lighting switch position is in the AUTO (if equipped and activated) or headlamp, and the front fog lamp position, the BCM detects front fog lamp signal and then sends a front fog lamp request ON signal via the CAN communication lines to the IPDM E/R. The IPDM E/R then turns ON the front fog lamp relay sending power to the front fog lamps.

# TRAILER TOW SYSTEM

# TRAILER TOW SYSTEM : System Diagram



# TRAILER TOW SYSTEM : System Description

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# TRAILER TAIL LAMP OPERATION

The trailer tail lamps are controlled by the trailer tow relay 1. With the combination switch (lighting and turn signal switch) in the AUTO (if equipped and activated) or parking lamp position, the BCM detects the lighting switch signal and then sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which activates the trailer tow relay 1 and sends power to the trailer connector.

# TRAILER TURN SIGNAL LAMP OPERATION

The trailer turn signal lamps are controlled by the BCM. When the turn signal switch is in the LH or RH position with the ignition switch ON, the combination switch (lighting and turn signal switch) sends a signal to the BCM. The BCM detects the TURN RH or TURN LH ON request. The BCM sends a control signal to the respective trailer turn relay which sends power to the trailer connector.

# TRAILER HAZARD LAMP OPERATION

The trailer hazard lamps are controlled by the BCM. When the hazard switch is pressed, the BCM detects the hazard ON request. The BCM then sends a control signal to both trailer turn relays which sends power to the trailer connector.

# TRAILER BRAKE LAMP OPERATION

The trailer brake lamps operate when the brake pedal is pressed sending the stop lamp switch signal to the trailer connector.

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

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

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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.	
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	c Mode			ш
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			×	×	×			
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			×	×	×			P
RAP system	RETAINED PWR			×					-
Signal buffer system	SIGNAL BUFFER			×					-
TPMS	AIR PRESSURE MONITOR		×	×	×	×			-

# HEADLAMP

# **DIAGNOSIS SYSTEM (BCM)**

# < SYSTEM DESCRIPTION >

# HEADLAMP : CONSULT Function (BCM - HEADLAMP)

INFOID:000000008843814

#### DATA MONITOR

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]	1			
HI BEAM SW [On/Off]				
HEAD LAMP SW 1 [On/Off]	Indicates condition of combination switch.			
HEAD LAMP SW 2 [On/Off]	1			
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].
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].

#### WORK SUPPORT

Support Item	Setting	Description
TWILIGHT ON	MODE2*	Autolamp function ON.
	MODE1	Autolamp function OFF.
	MODE4	This mode is not used.
	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.
	MODE4	Less sensitive than normal setting (turns ON later).
CUSTOM A/LIGHT SETTING	MODE3	More sensitive than MODE2.
	MODE2	More sensitive than normal setting (turns ON earlier).
	MODE1*	Normal setting.

# **DIAGNOSIS SYSTEM (BCM)**

# < SYSTEM DESCRIPTION >

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

# FLASHER

# FLASHER : CONSULT Function (BCM - FLASHER)

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 unock 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].	EXI

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# **Diagnosis Description**

AUTO ACTIVE TEST

Description

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

- Front wiper (LO, HI)
- Front fog lamps
- Parking lamps
- Side marker lamps
- Tail lamps
- License plate lamps
- Daytime running lamps
- Headlamps (LO, HI)
- A/C compressor
- Cooling fans (LO, HI)

Operation Procedure

# CAUTION:

# Do not start the engine. NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield before hand. **NOTE:** 

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-168,</u> <u>"Component Function Check"</u>.
- When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.
- 1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
- 2. Turn ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.
- 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once, and the auto active test starts.
- 5. After a series of the following operations is repeated 3 times, auto active test is completed.

#### Inspection in Auto Active Test Mode

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

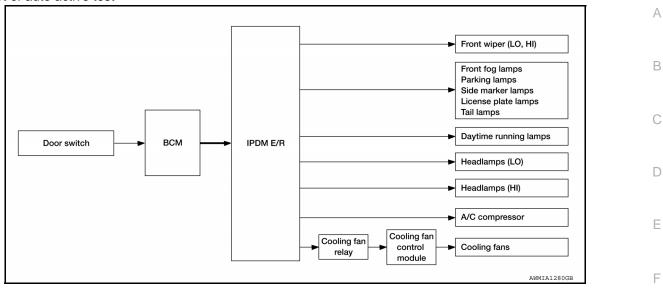
Operation se- quence	Inspection Location	Operation
1	Front wiper	LO for 3 seconds $\rightarrow$ HI for 3 seconds
2	<ul> <li>Front fog lamps</li> <li>Parking lamps</li> <li>Side marker lamps</li> <li>Tail lamps</li> <li>License plate lamps</li> </ul>	10 seconds
3	Daytime running lamps	10 seconds
4	Headlamps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

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

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#### < 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
Any of the following components do not operate 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	<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-</li> </ul>
			ing fan relay • IPDM E/R

# CONSULT Function (IPDM E/R)

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#### APPLICATION ITEM

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

#### < SYSTEM DESCRIPTION >

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
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.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

# ECU IDENTIFICATION The IPDM E/R part number is displayed.

# SELF DIAGNOSTIC RESULT Refer to <u>PCS-20, "DTC Index"</u>.

# DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
RAD 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

#### ACTIVE TEST

# < SYSTEM DESCRIPTION >

Test item	Description	А
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].	В
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/Tail/Off].	

#### CAN DIAG SUPPORT MNTR

Refer to LAN-17, "CAN Diagnostic Support Monitor".

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# < ECU DIAGNOSIS INFORMATION >

# ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

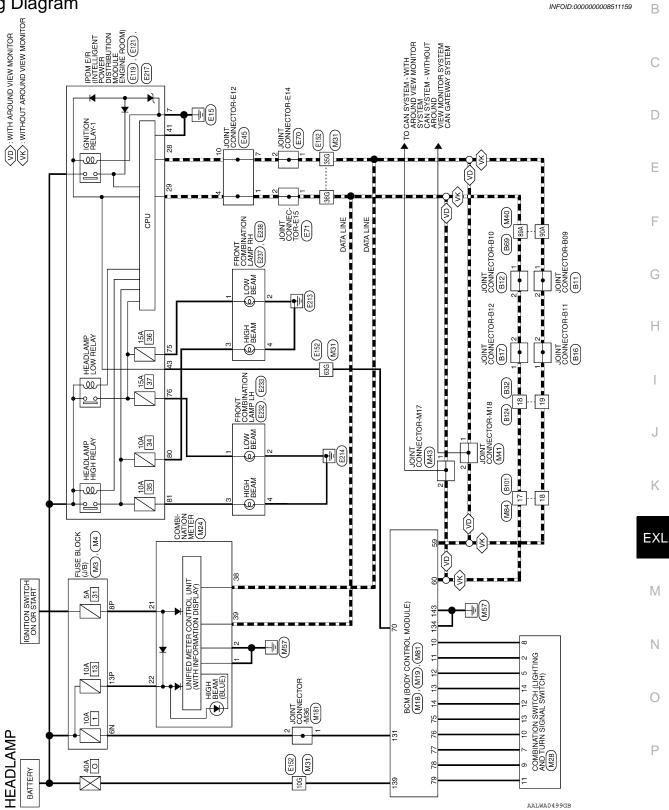
# List of ECU Reference

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ECU	Reference
	BCS-28, "Reference Value"
BCM	BCS-48. "Fail Safe"
	BCS-48, "DTC Inspection Priority Chart"
	BCS-50, "DTC Index"
	PCS-12, "Reference Value"
IPDM E/R	PCS-19. "Fail Safe"
	PCS-20, "DTC Index"

# < WIRING DIAGRAM > WIRING DIAGRAM **HEADLAMP**

Wiring Diagram



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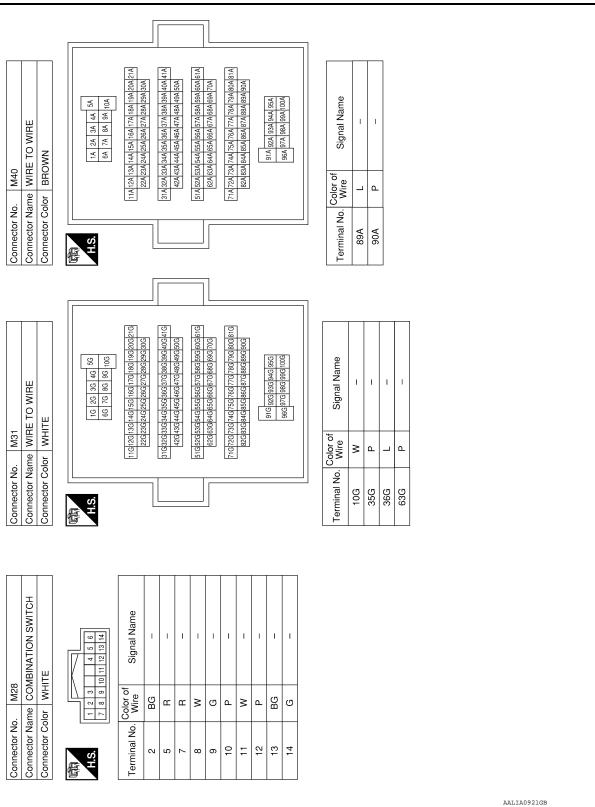
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	Connector No. M18 Connector Name BCM (BODY CONTROL MODULE) Connector Color GREEN	H.S. 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 40 39 38 37 36 35 34 33 22 31 30 22 28 27 26 25 24 23 22 21	Terminal No. Color of Signal Name	>	BG	12 R COMBISWIN3	5 a	-	Connector No. M24	e		-				20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 An 30 38 27 36 36 14 23 23 23 31 30 30 38 27 36 35 24 32 37 31		Terminal No. Wire Signal Name	1 B GND1	2 B GND2	21 BG IGN	22 W BAT	38 P CAN-L	39 L CAN-H
	M4 FUSE BLOCK (J/B) WHITE	7P 6F 5P 4P 7 9P 2P 1P 16P15P14P13P12P11P10P 9P 8P	Signal Name	1	I					olgriar Narrie	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						
	Connector No. M4 Connector Name FUS Connector Color WH	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	Terminal No. Wire		13P W				Color of	Terrinia No. Wire	59 P	P P	70 P	75 BG	76 P	77 R	78 G	79 W						
HEADLAMP CONNECTORS	Connector No. M3 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	HIS H.S.	Terminal No. Color of Signal Name	6N W -					Connector No. M19	Connector Name BCM (BODY CONTROL	-	Connector Color BLACK	4		H.S.	601 591 581 551 561 55 54 55 52 551 550 499 481 427 481 451 441 421 421 421	76         75         74         73         72         71         70         69         68         67         66         65         64         63         62					7	ALII	A0920G

**HEADLAMP** 

Revision: October 2012

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**HEADLAMP** 

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Connector No. M81 Connector Name BCM (BODY CONTROL	Connector Color WHITE	味動 H-135 H	Terminal No. Color of Signal Name	131 W BAT BCM FUSE	134 B GND2	139 W BAT POWER F/L	143 B GND1	Connector No. E45	Connector Name JOINT CONNECTOR-E12 Connector Color BLUE	H.S. (2 11110 9 8 7 6 5 4 3 2 1	Terminal No. Color of Signal Name	-	4 L –	
Connector No. M43 Connector Name JOINT CONNECTOR-M17	WHITE	43211	of Signal Name	1	1			M181	JOINT CONNECTOR-M36 WHITE	4 3 2 1	of Signal Name	1	1	
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M41 JOINT CONNECTOR-M18	WHITE	4 3 2 1 1	f Signal Name	1	1			34	WIRE TO WIRE WHITE	13         12         11         10         9         8         7         6         5         4         3         2         1           29         27         26         25         24         23         22         1	f Signal Name	I	1	
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E119 IPDM E/R (INTELLIGENT MODULE ENGINE ROOM) WHITE 22 22 22 22 22 22 22 23 23 23 23 23 23 2	Signal Name CAN-L CAN-H CAN-H GND (SIGNAL) IGN SIGNAL	С
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Connector No. Connector Name Connector Color	Terminal No.         28         29         41         43         10G         35G         63G	E
		F
TOR-E15	Color of Wire         Signal Name           L         –           L         –           L         –           L         –           L         –           L         –           L         –           L         –           L         –           MiRE TO WIRE         –           MiRE TO WIRE         –           Mire Mire Mire Mire Mire Mire Mire Mire	G
E71 JOINT CONNECTOR-E15 BLACK	Oolor of L         Signal Name           L         –           L         –           L         –           L         –           L         –           L         –           L         –           L         –           L         –           L         –           L         –           NIRE TO WIRE           NHITE           NHITE           NHITE           NHITE           NHITE           NHITE           NHITE           Into Bool 900 100 110 100 110 100 110 100 100 100	F
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CTOR-E14	rof Signal Name Signal Name E121 E121 E121 PDM ER (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE 2 13 14 15 16 17 18 2 13 14 15 16 17 18 CODULE ENGINE ROOM)	Ε>
E70 JOINT CONNECTOR-E BLACK	P Crof Signal P Crof Signal E121 P Crof Signal P Crof Signal Crof Signal	N
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< WIRING DIAGRAM >

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Connector No. B17 Connector Name JOINT CONNECTOR-B12 Connector Color WHITE		Signal Name	Signal Name	
B17 JOINT CONN WHITE				
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Connector No. Connector Nan Connector Colo	田 H.S.	Terminal No. 1 2	Terminal No. 89A 90A	
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Connector No. B16 Connector Name JOINT CONNECTOR-B11 Connector Color WHITE		Signal Name	Connector No.         B69           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Name         WIRE TO WIRE           Connector Salas         Salas         Salas           Salas         Salas         Salas         Salas           Salas         Salas         Salas         Salas         Salas           Salas         Salas         Salas         Salas         Salas         Salas           Salas	
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TOR-B10		ame		
Connector No. B12 Connector Name JOINT CONNECTOR-B10 Connector Color WHITE	3 2 1	Signal Name	B32 WIRE TO WIRE WHITE Signal Name 	
Connector No. B12 Connector Name JOINT ( Connector Color WHITE		. Color of Wire L L L		
Connector No. Connector Nan Connector Colo	H.S.	Terminal No. 1 2	Connector No. Connector Name Connector Name Connector Color 18 18 19	

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# HEADLAMP

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Signal Name	Η	-	
Color of Wire	L	Р	
Terminal No.	18	19	

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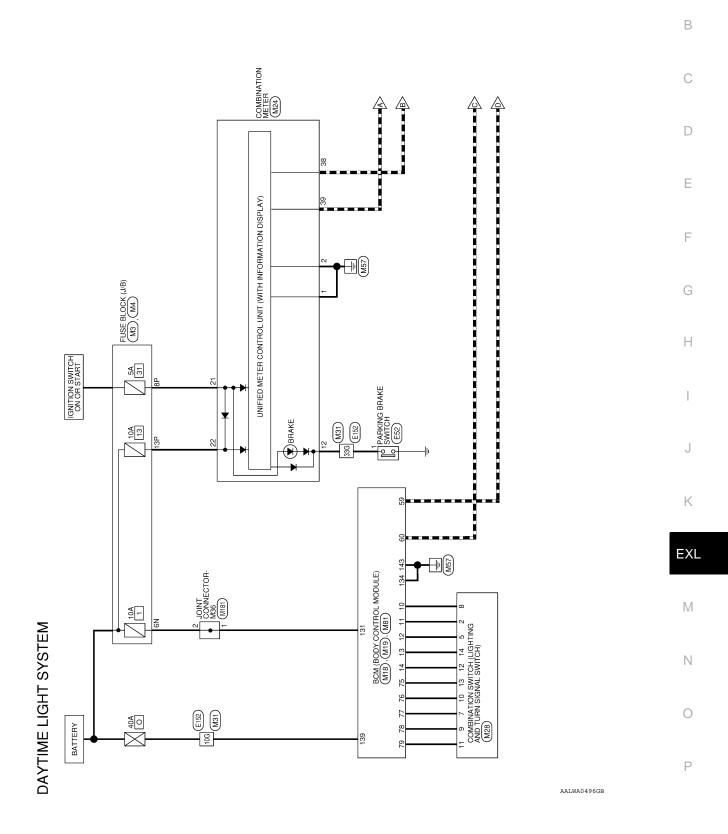
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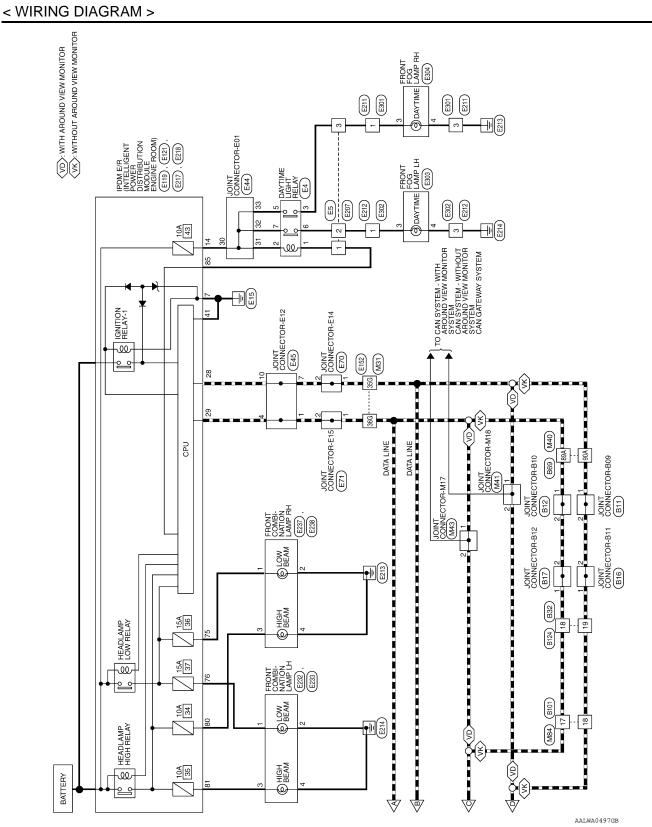
# DAYTIME LIGHT SYSTEM

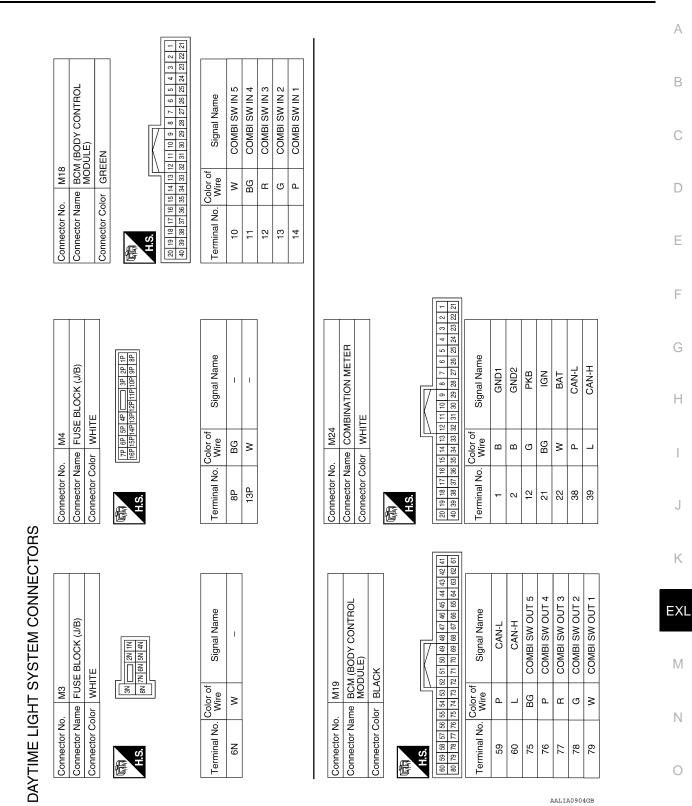
Wiring Diagram

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# DAYTIME LIGHT SYSTEM

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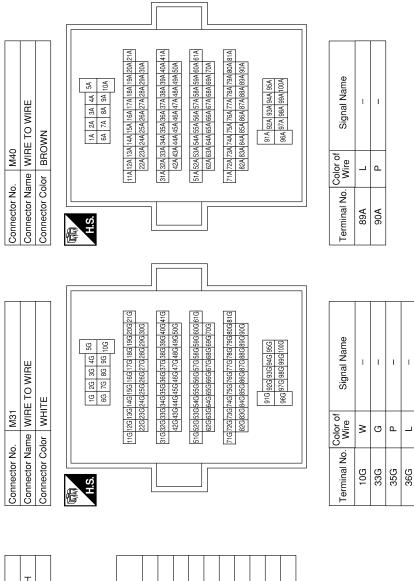
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Image: Signal Name     Image: Signal Name       Connector Num     MM       Connector Num     MM       Connector Num     MM       Image: Signal Name     Image: Signal Name	118     Connector Name JOINT CONNECTORM17       Connector Name JOINT CONNECTORM17       Connector Name JOINT CONNECTORM17       Image: Signal Name JOINT CONNECTORM35       Image: Signal Name JOINT CONNECTORM36	Connector Name BCM (BODY CONTROL MODULE)	Connector Color WHITE	S.	Terminal No. Color of Signal Name	131 W BAT BCM FUSE	134 B GND2	139         W         BAT POWER F/L           143         B         GND1	Connector No. E4	Connector Name DAYTIME LIGHT RELAY Connector Color BROWN	0	Terminal No. Color of Signal Name	۲ ۲	2 LG –	LG SB C C C C C C C C C C C C C C C C C C	ac -	9
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1         2         3         4         5         6         7           8         9         10         11         12         13         14         15         16	H.S. 1110987654321 2221201918171615141312	国内 H.S.
Terminal No. Wire Signal Name	33 32 31 30 29 28 27 26 25 24 23	Terminal No. Color of Signal Name
SB	Terminal No. Wire Signal Name	4 L –
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	31 LG –	
	32 LG –	
	33 LG -	
Connector No. E52	Connector No. E70	Connector No. E71
Connector Name PARKING BRAKE SWITCH	Connector Name JOINT CONNECTOR-E14	Connector Name JOINT CONNECTOR-E15
Connector Color BLACK	Connector Color BLACK	Connector Color BLACK
	H.S.	654321
Terminal No. Color of Signal Name	Terminal No. Color of Signal Name	Terminal No. Color of Signal Name
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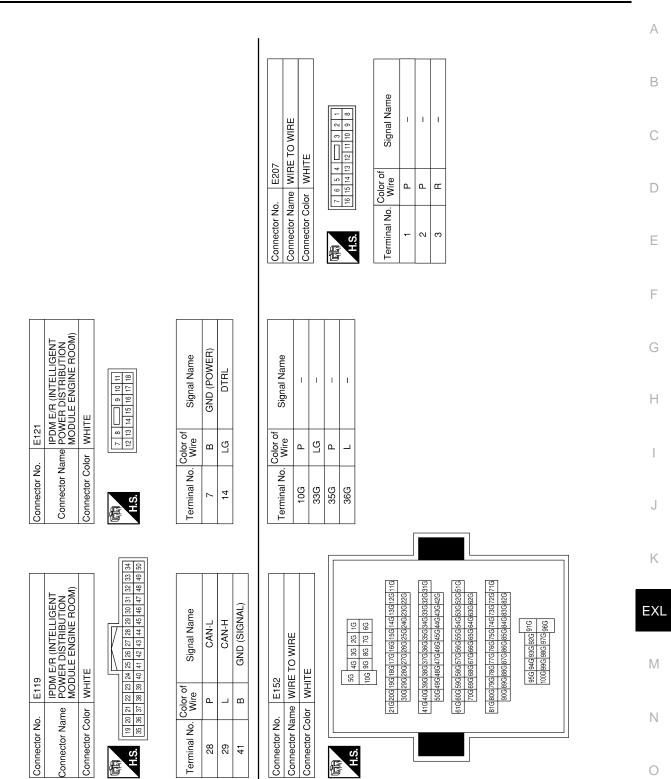
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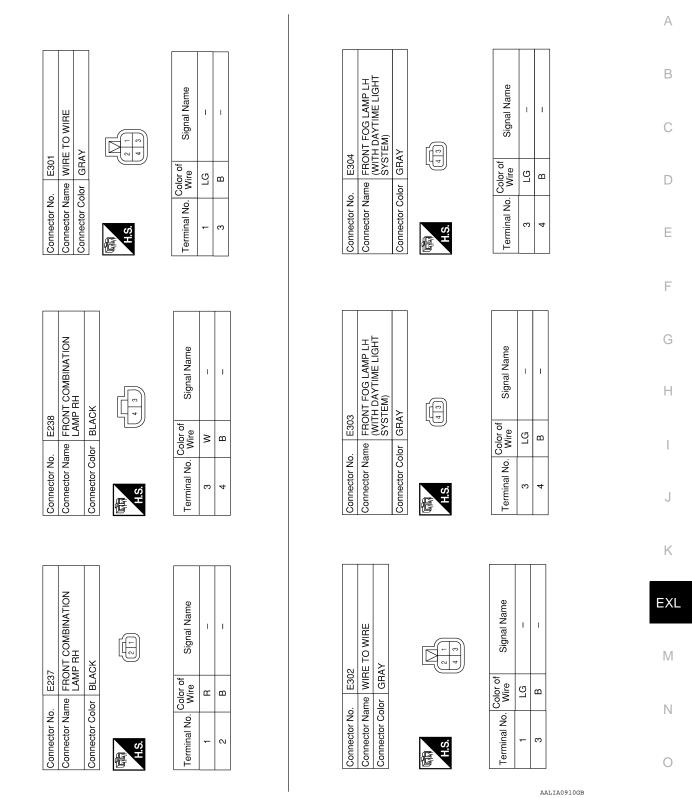
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Connector No.E211Connector NameWIRE TO WIREConnector ColorGRAY	Connector No. E212 Connector Name WIRE TO WIRE Connector Color GRAY		Connector No. Connector Name		E217 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
H.S.	H.S.		Connector Color	× ×	HITE
Terminal No. Color of Signal Name	Terminal No. Wire Signe	Signal Name	Terminal No.	Color of Wire	Signal Name
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3 B -	3 B	1	76	L	HEADLAMP LO LH
			80	N	HEADLAMP HI RH
			81	თ	HEADLAMP HI LH
Connector No. E218 Connector Name POWER DISTRIBUTION Connector Name MODULE ENGINE ROOM) Connector Color WHITE	Connector No. E232 Connector Name FRONT COMBINATION Connector Color BLACK	BINATION	Connector No. Connector Name Connector Color		E233 FRONT COMBINATION LAMP LH BLACK
vi			H.S.	* J	
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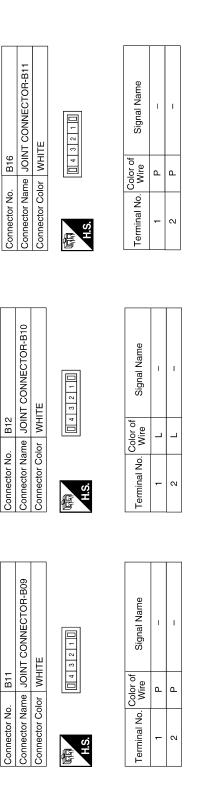
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### **DAYTIME LIGHT SYSTEM**

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### **DAYTIME LIGHT SYSTEM**



	Connector No. B32	B32
<b>VECTOR-B12</b>	Connector Nam	Connector Name WIRE TO WIRE
	Connector Color WHITE	r WHITE
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Signal Name	I	I
Color of Wire	L	٩
Terminal No.	18	19

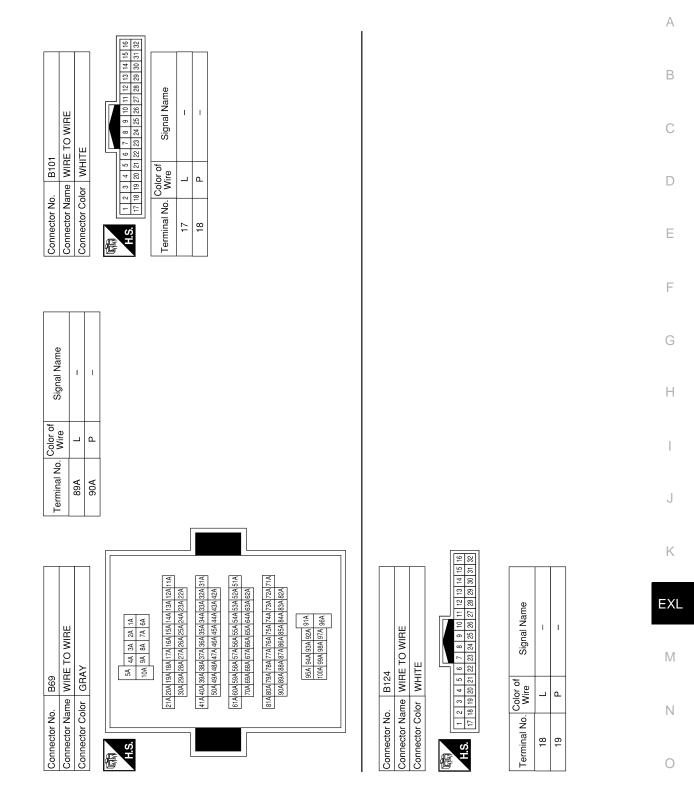


Signal Name	I	I	
Color of Wire	_	_	
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#### DAYTIME LIGHT SYSTEM

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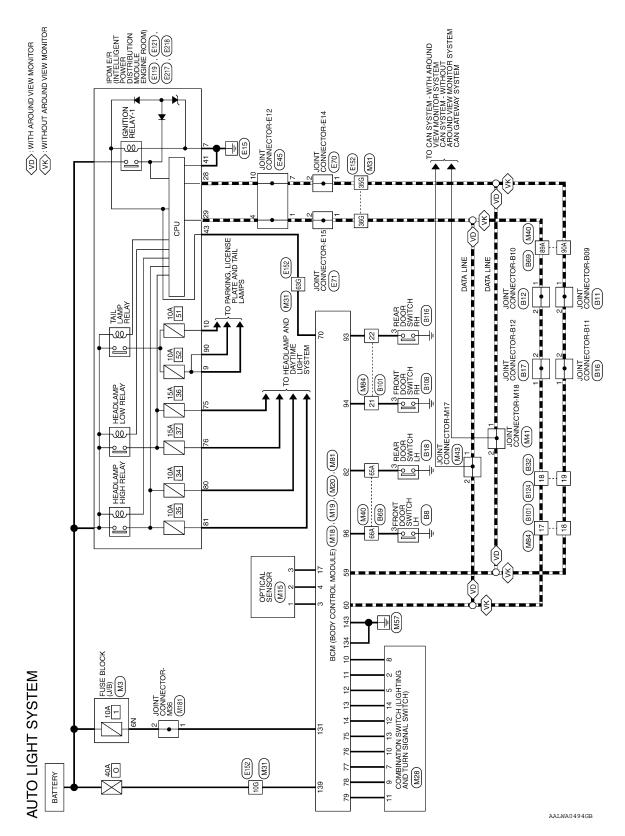


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Wiring Diagram

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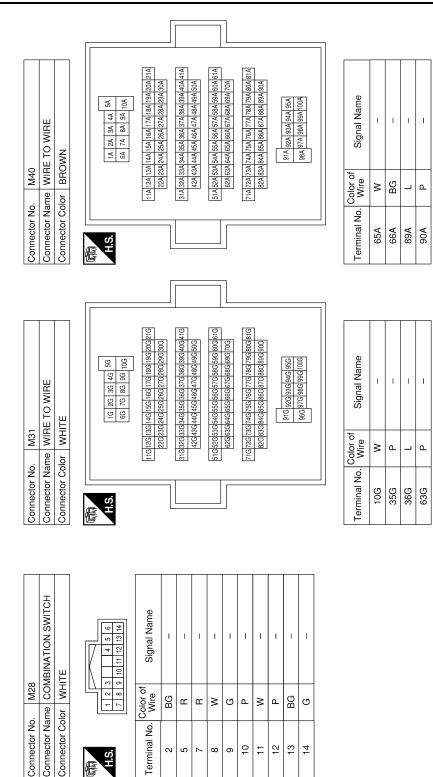
M18 BCM (BODY CONTROL MODULE)	GREEN		12 11 10 9 8 7 6 5 4 3 2 1	31 30 29 28 27 26 25 24 23		Signal Name	A/L POWER SUPPLY 5V	A/L SIGNAL	COMBI SW IN 5	COMBI SW IN 4	COMBI SW IN 3	COMBI SW IN 2	COMBI SW IN 1	GND RF A/L		BCM (BODY CONTROL MODULE)	4Y			92 91 90 89 88 87 86 85 84 83 82 81 104 103 102 101 100 99 98 97 96 95 94 93			Signal Name	RL DOOR SW	RR DOOR SW	AS DOOR SW	DR DOOR SW		
		Ľ	15 14 13 1	35 34 33 32		Color of Wire	×	σ	Ν	BG	В	ŋ	Ч	œ			-	L   		91 90 89 8 103 102 101 11		Color of	Wire	Μ	н	9	BG		
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SOR				Signal Name	1	1	1								Signal Name	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						
M15 OPTICAL SENSOR	ш	53		Sigr											Signe	,   O	O O	IGN US	COMBI	COMBI	COMBI	COMBI	COMBI						
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(J/B)				gu												BODY LE)					61 50 49	1 70 69							
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	Connector Color WHITE	3N 2N 1N 8N 7N 6N 5N 4N	Calor of	, of	N	_										Connector Name BCM (BODY CONT MODULE)	Connector Color BLACK	-			າ ເຮ	80 79 78 77 76 75 74 73 72 7							

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Connector Color WHITE

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Connector No.

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M81 BCM (BODY CONTROL	)LE) E	1	11371136113511321132113111301259	Signal Name	BAT BCM FUSE	GND2	BAT POWER F/L	GND1		Connector Name JOINT CONNECTOR-E12			7 6 5 4 3 2 1	Signal Name	I	I	I	I		
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Connector No. Connector Name	Connector Color WHITE		品. H.S.	Terminal No.	131	134	139	143	Connector No.	Connector Nar	Connector Color	E	Ś	Terminal No.		4	7	10		
Connector No. M43 Connector Name JOINT CONNECTOR-M17				Signal Name						Connector Name JOINT CONNECTOR-M36			-	Signal Name	1	1				
3 INT CONN	HTE		3 2 1 1						81	INT CONN	WHITE		<u>1</u> 							
Vo. M43 Vame JOIN	Color WH		LI 4 3	D. Color of Wire	-	_			4o. M181	Jo JO			1	Color of Wire	3	8				
Connector No. Connector Nan	Connector Color WHITE	ſ	H.S.	Terminal No.	-	N			Connector No.	Connector N	Connector Color	E	H.S.	Terminal No.	-	2				
					1	1	1					[	3 2 1 19 18 17	[	1	T				
Connector No. M41 Connector Name JOINT CONNECTOR-M18			3 2 1 1	Signal Name	1	I				TO WIRE	ш		10         9         8         7         6         5         4           26         25         24         23         22         21         20	Signal Name	I	1	I	I		
M41 Te JOINT	or WHIT		4	Color of Wire	٩	٩			M84	Je WIRE	or WHITE		16         15         14         13         12         11           32         31         30         29         28         27	Color of Wire		٩	G	ш		
Connector No. Connector Nan	Connector Color WHITE		Ś	Terminal No.	-	0			Connector No.	Connector Name WIRE TO WIRE	Connector Color			Terminal No.	17	18	21	22		
Conr	Conr	Æ	H.S.	Tern					Conr	Conr	Conr	E	H.S.	Tern						

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Revision: October 2012

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name

Connector Name JOINT CONNECTOR-E15 Connector Color BLACK E71

Connector Name JOINT CONNECTOR-E14 Connector Color BLACK E70

Connector No.

Connector No.

E119

Connector No.

WHITE	<u></u>	Color of Signal Name	P CAN-L	L CAN-H	0		- <u>+</u>	Wire Signal Name	- -	- L	L – – –													
Connector Color WHITE	H.S. 35 36 3	Terminal No. Col	28	29	41	64		I erminal No. M	10G	35G	36G	63G												
H.S.	Terminal No. Color of Signal Name		2 L –				Connector No. E152	l e	Connector Color WHITE	-		HS 56 46 36 26 16	10G	216206196186176166156146136126116	30G29G28G27G26G25G24G23G22G	416406396386376386356346336326316	506 496 486 476 466 456 446 436 426	616606596586576566556556556556516	70568968866756656566665666656566626	<u>ตาต่างต่างต่างต่างต่างต่างต่างต่าง</u> ต่างต่าง	90.0880.887.087.086.085.084.082.082.0	956 944 933 924 914 000 000 000 000 000 000 000 000 000 0	]	
H.S.	Terminal No. Color of Signal Name		- L				Connector No. E121		Connector Name POWER DISTRIBUTION				S.	Torminal No Color of Signal Name	Wire		9 G TAIL RH	10 L TAILLH						

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RING DIAGRAM >			
			A
Aame Vame	TOR-B11	Aame	В
NT DOOR SWITC	B16 JOINT CONNECTOR-B11 WHITE	3 2 1 0 Signal Name	С
0. B8 lame FRONT color WHITE		Color of Wire P	D
Connector No. B8 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE Connector Color MITE	3 Connector No. Connector Name Connector Color	Terminal No.	E
			F
E218 PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE WHITE MODULE ENGINE ROOM) WHITE Context State of the sta	G CLEARANCE B12 JOINT CONNECTOR-B10 WHITE	Signal Name	G
E218 IPDM E/R (INT MODULE ENG MODULE ENG WHITE Signal Mire Signal	CLEA NT CONNE	3	Н
			I
Connector No. Connector Name Connector Color	90 Connector No. Connector Name Connector Name	低利 H.S. Terminal No. 2	J
			K
E217 E217 POWER (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE MHIT	HEADLAMP LO RH HEADLAMP LO LH HEADLAMP HI RH HEADLAMP HI LH B11 JOINT CONNECTOR-B09 WHITE	2 1 Signal Name	EXI
		Color of Wire	Ν
Connector No. Connector Name Connector Color	75 76 80 81 81 Connector No. Connector No.	Terminal No.	0

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Revision: October 2012

**EXL-45** 

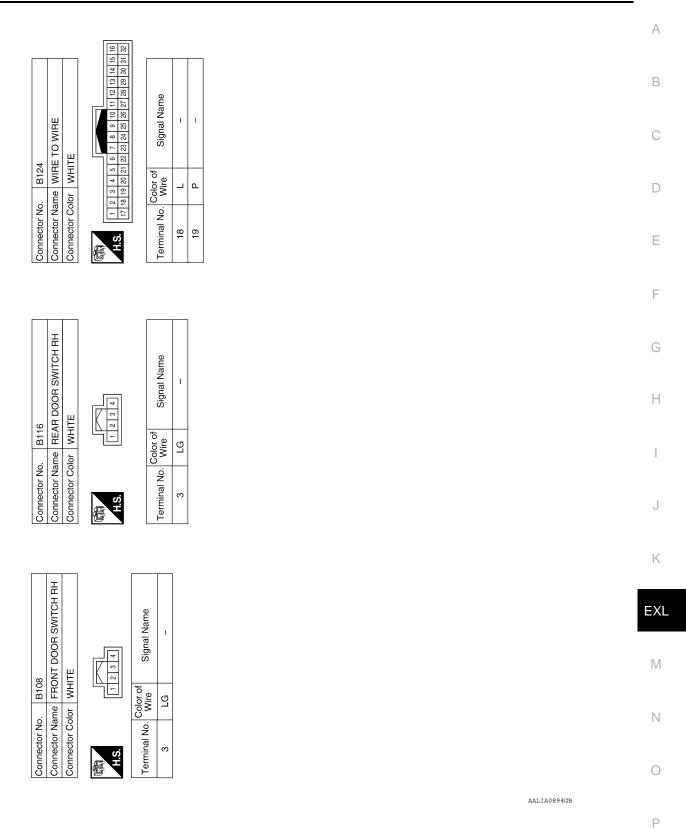
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Connector No. B32 Connector Name WIRE TO WIRE Connector Color WHITE	HLS. (16 16 14 13 12 11 10 0 9 8 7 6 5 4 3 2 1 1 32 31 30 29 28 27 28 28 24 23 22 21 20 19 18 17	Terminal No. Color of Signal Name	18 L - 1 19 P - 1	Connector No. B101 Connector Name WIRE TO WIRE				H.S. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32		Terminal No. Oclor of Signal Name	17 L –	18 P –	22 LG –		
Connector No. B18 Connector Name REAR DOOR SWITCH LH Connector Color WHITE	(1) H.S.	al No. Co	3 SB -	Terminal No. Color of Signal Name	65A SB -	66A L –	89A L –	– d 806							
Connector No. B17 Connector Name JOINT CONNECTOR-B12 Connector Color WHITE	际制 H.S.	Terminal No. Color of Signal Name	2 L	Connector No. B69 Connector Name WIRE TO WIRE		-		5A 4A 3A 2A	10A 9A 8A 7A 6A	214/204/194/184/174/164/154/144/134/124/114 304/294/284/274/274/254/224	11 A AA DOA DOA DOA DEA DEA DEA DEA DEA DEA DEA DEA DEA DE	41A 40M 33A 30A 37A 30A 35A 35A 34A 32A 32A 32A 32A 37A 31A 50A 49A 48A 47A 46A 45A 44A 43A 42A		814 804 734 734 724 774 734 734 724 774  304 834 834 834 824 824 824 824 824 824	95A 94A 93A 92A 97A 96A

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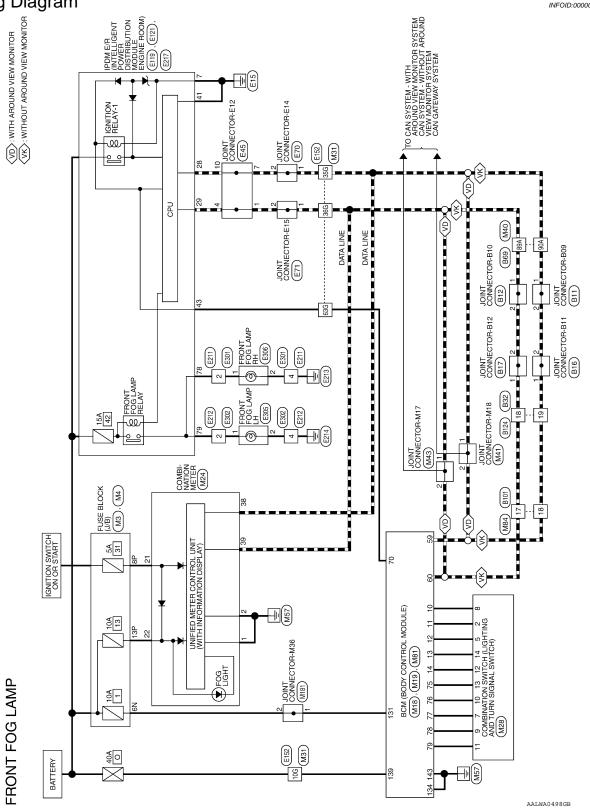
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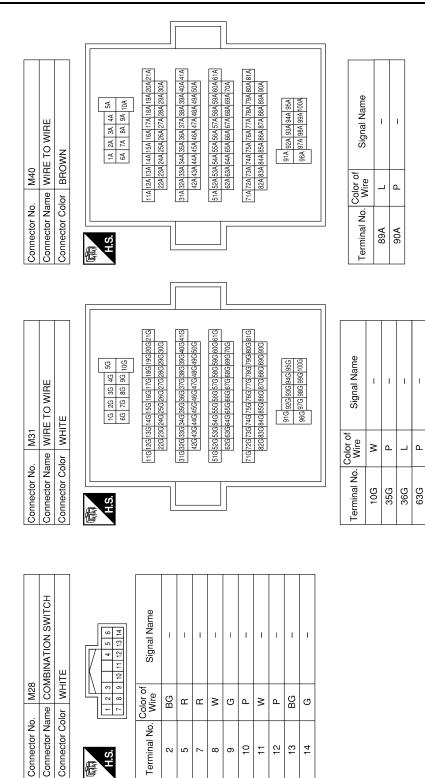
## Wiring Diagram





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Image: Properticity of the properti			M (BODY	EEN			12 11 10 9 32 31 30 29			COME	COME	COME	COME		4 MRINATIC	HTE					12 11 10 9 32 31 30 29								0		С
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Image: Sector Name       Image: Se			SE BLOCK	E												CA	CA	IGN US	COMBI 5	COMBI S	COMBI 8	COMBI S	COMBI S								Н
Image: Sector Name       Image: Se			ame FU		7P 6P 5			Color of Wire	BG	3	_				Color of Wire	۹.	-	٩	BG	٩	æ	σ	≥								I
Image: Second state of the second s		Connector N	Connector N	Connector C	E	H.S.		Terminal No	8Р	13P					Terminal No	59	60	70	75	76	22	78	79								J
Province of the connector No.     M3       Connector No.     M3       Connector No.     M3       Connector No.     M3       Minimal No.     Color       Minimal No.     Color of isignal Name       END     Connector No.       Minimal No.     Minimal No.       Minimal No.     Connector No.       Minimal No.     Connector No.       Minimal No.     Connector No.       Minimal No.     Minimal No.       Minimal No.     Connector No.       Minimal No.     Minimal No.       Minimal No.     Connector No.       Minimal No.     Minimal No.       Mininimal No.	S		1 1					-	_	1							1	1			40 44	8 62 61									K
Connector No. Connector No. Connec	ECTOR		B)					ame							Č	NIHOL					7 40 40 44 40	/ 40 45 44 43 7 66 65 64 63	-								EXL
Connector No. Connector No. Connec	CONNE		BLOCK (J/I	ш		6N 5N 4N		Signal N	I							BODY CON	×				/	2 8	-								M
PRONT FOG Connector No Connector No Connecto	LAMP		me FUSE			NZ NB		Color of Wire	>								-				1 8	3 8	11								N
	t fog	inector No	nector Na	inector Co		Ś		minal No.	6N						inector No	inector Na	inector Co			S.	20 20 27 20	90 /c 90 62									1.4
	FRON <sup>-</sup>	Con	Con	Con	E			Teri							Con	202	Con		E	Y		00 8	1					AAL	IA09	913GB	0

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Color of Wire

Terminal No.

BG

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Connector No.

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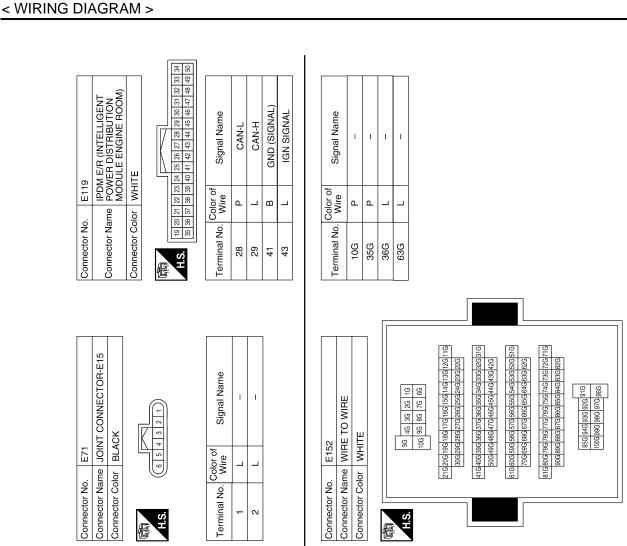
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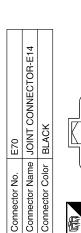
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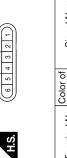
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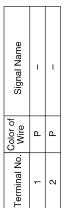
WH43 JOINT CONNECTOR-M17 WHITE Connector Na Dial 3 2 1 D	Color of Wire     Signal Name       L     -       L     -       L     -       134     B       6ND2       139     W       139     W       143     B       GND1	Connector No.       M181         Connector Name       JOINT CONNECTOR-M36         Connector Name       JOINT CONNECTOR-E12         Mainal No       Color of Signal Name       Terminal No       Color of Nife       Signal Name         Z       W       Terminal No       Color of Nife       Signal Name         Z       W       Terminal No       P       L       L         Z       P       P       Z       Z       Z         Z       P       P       Z       Z       Z         Z       P       P       Z       Z       Z         Z       P       P       Z
NT CONNECTOR-M18	Terminal No. Color of Signal Name Terminal No. Wire 2 P – 1 2 2 2 2	Connector No.       M84         Connector Name       WIRE TO WIRE         Connector Name       Wire         Connector Color       WHITE         Mail       East 21 20 19 10 11         Mail       East 21 20 19 10 11         Mail       East 21 20 19 10 11         Mail       East 21 20 21 20 19 10 11         Mail       East 21 20 21 20 19 11         Mail       East 21 20 21 20 10 11         Terminal No.       Color of 20 10 10         Mail       East 21 20 20 10 10         Mail       East 20 20 20 20 10         Mail       East 20 20 20 20 20 10         Mail       East 20 20 20 20 20 20 20 20 20 20         Mail       East 20 20 20 20 20 20 20 20         Mail       East 20

Revision: October 2012









Connector No.	E121
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE
S H	7         8         9         10         11           12         13         14         15         16         17         18

Signal Name	GND (POWER)	
Color of Wire	В	
Terminal No.	7	

H.S.

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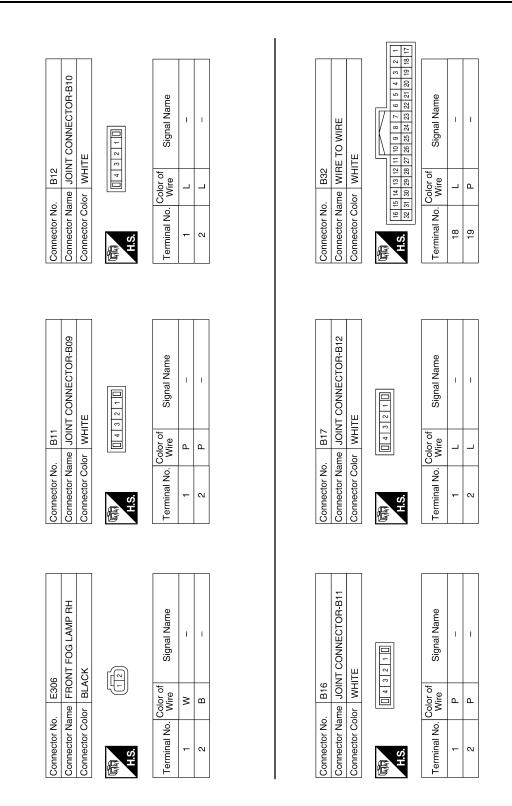
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		A
VE ROOM) VE ROOM) Amp RH Amp LH	Aamee MP LH	В
E217     E217       IPDM E/R (INTELLIGENT       POWER DISTRIBUTION       MODULE ENGINE ROOM)       WHITE       MODULE ENGINE ROOM)       WHITE	E305 FRONT FOG LAMP LH BLACK re of Signal Name	С
		D
Connector No. Connector Name Connector Color A.S. Terminal No. Wo 78 v	Connector No. Connector Name Connector Color Terminal No. W W 1 1 V	E
		F
	e e e e e e e e e e e e e e e e e e e	G
Signal Name	E302 WIRE TO WIRE GRAY Reference 3 3 	Н
Dolor of L Color of B B B B B B B B B B B B B B B B B B		I
Connector No.     E212       Connector Name     WIRE TO WIRE       Connector Name     WIRE TO WIRE       Connector Color     GRAY       Terminal No.     Otor of       2     L       4     B	Connector No. Connector Name Connector Name Last Lerminal No. Qol	J
		K
Signal Name	Signal Name	EXL
Distribution     E211       MIRE TO V     B       Si     1/4       W     Si	B B B B B B B B B B B B B B B B B B B	Μ
		Ν
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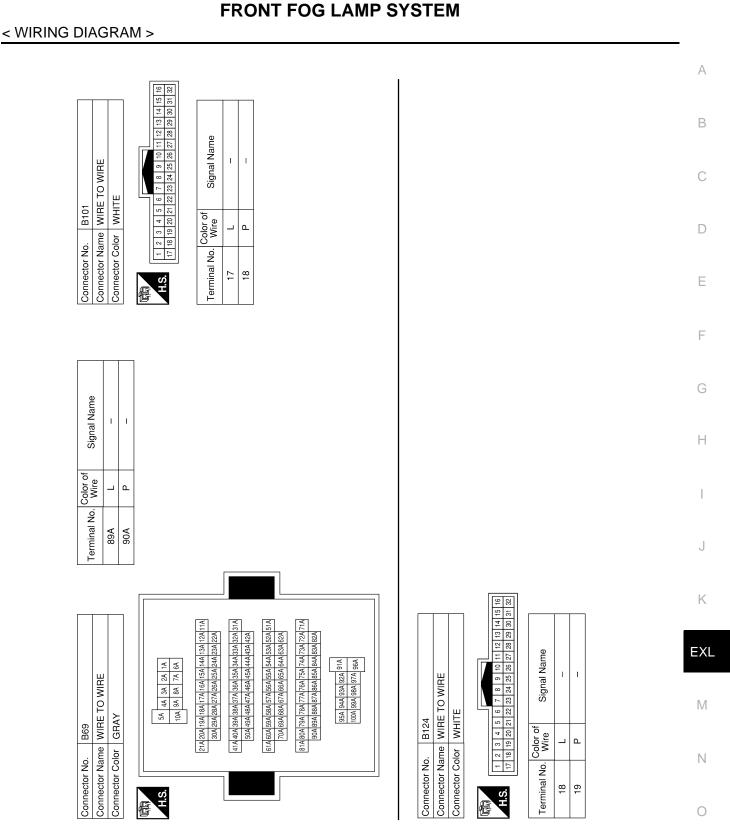
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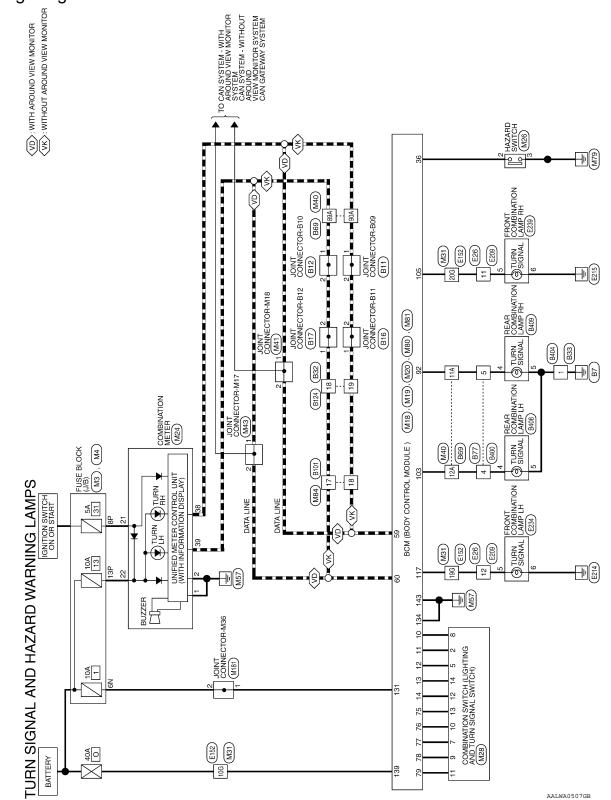
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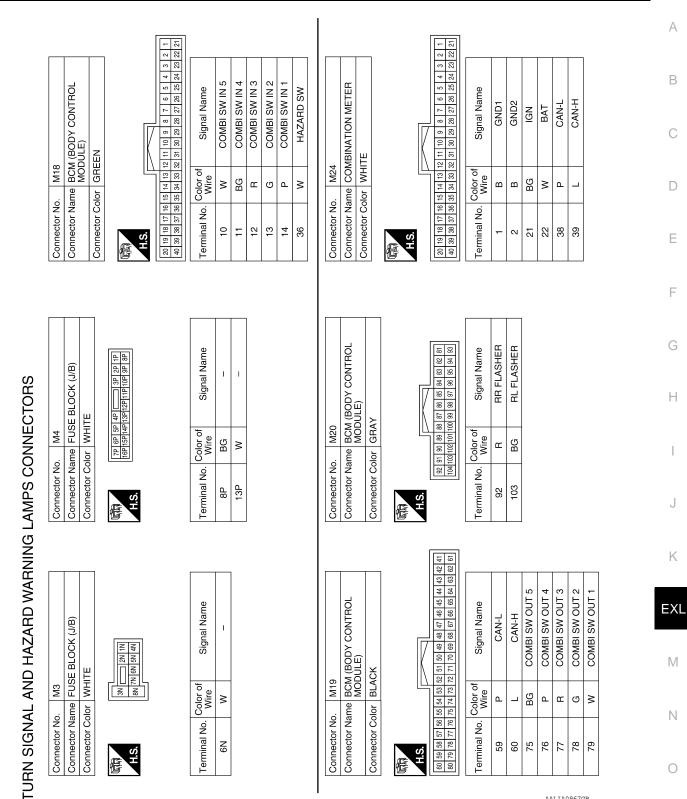
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## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM









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## TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

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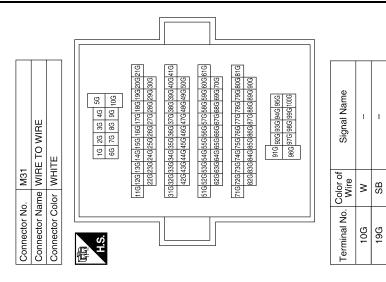
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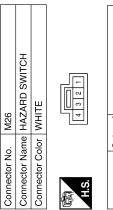
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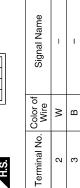
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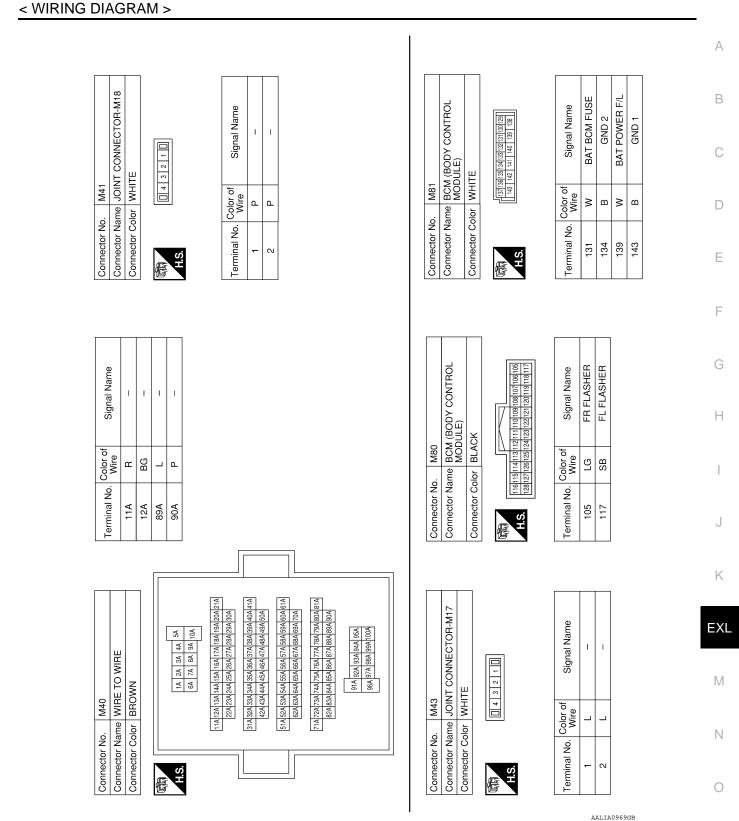
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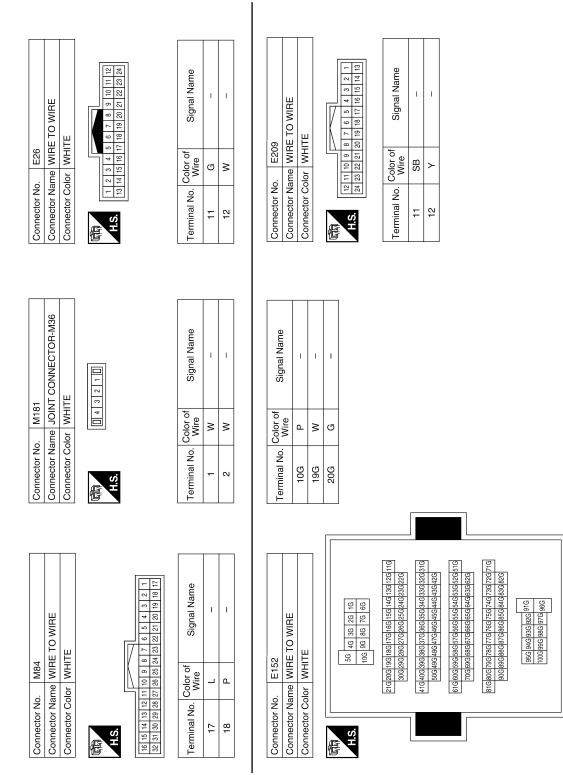




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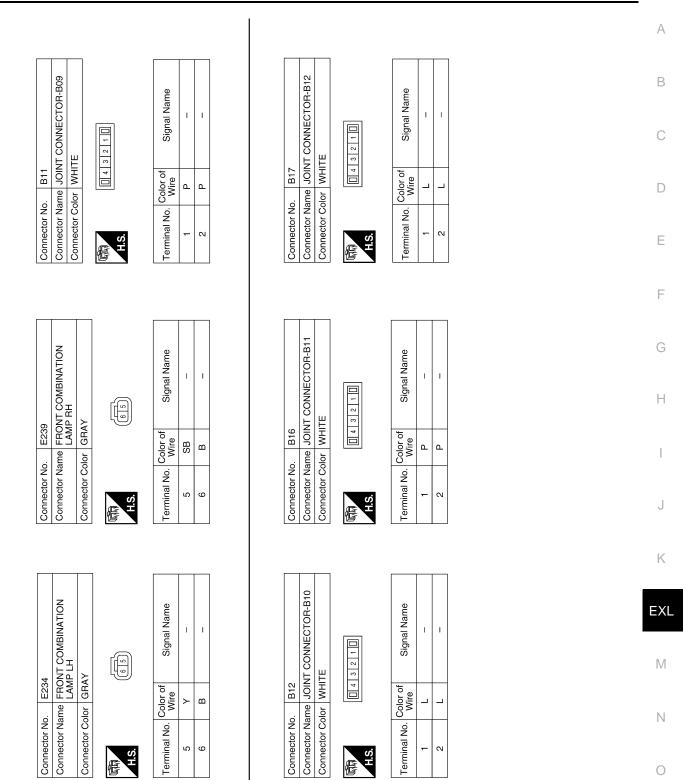


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Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

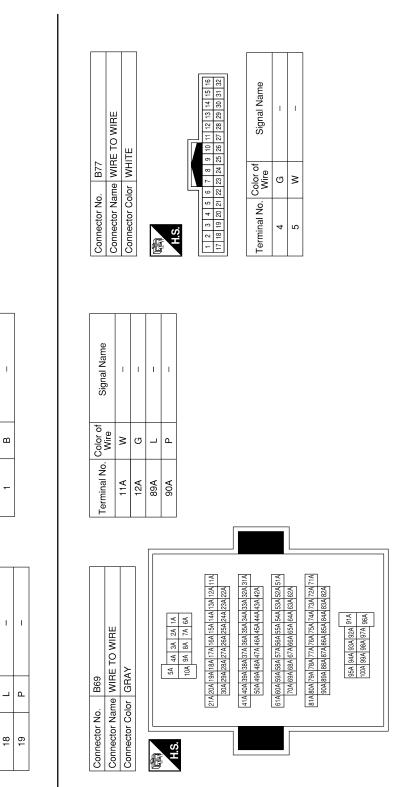
Terminal No.

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Connector Name WIRE TO WIRE

Connector Name WIRE TO WIRE

B32

Connector No.

Connector Color WHITE

B33

Connector No.

Connector Color BLACK

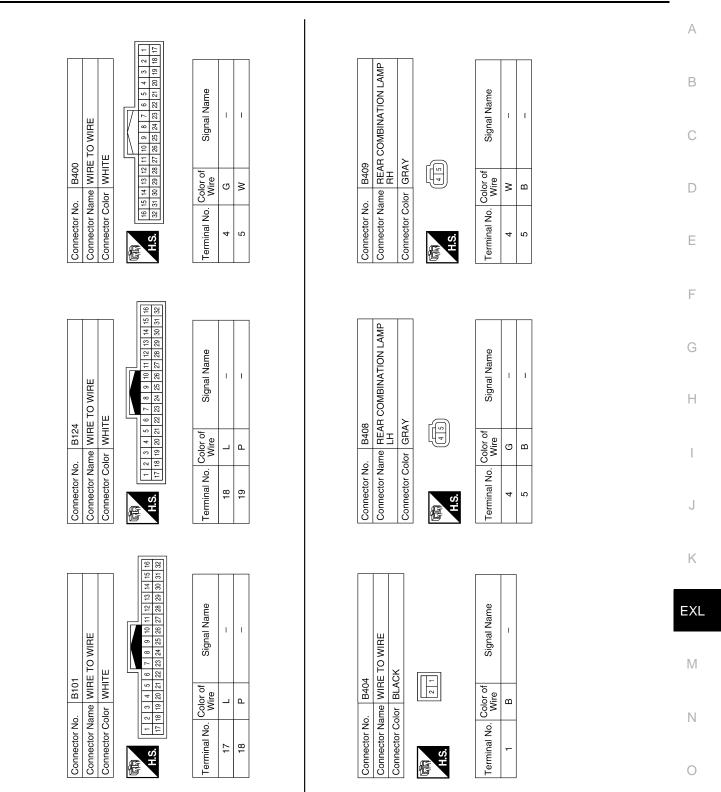
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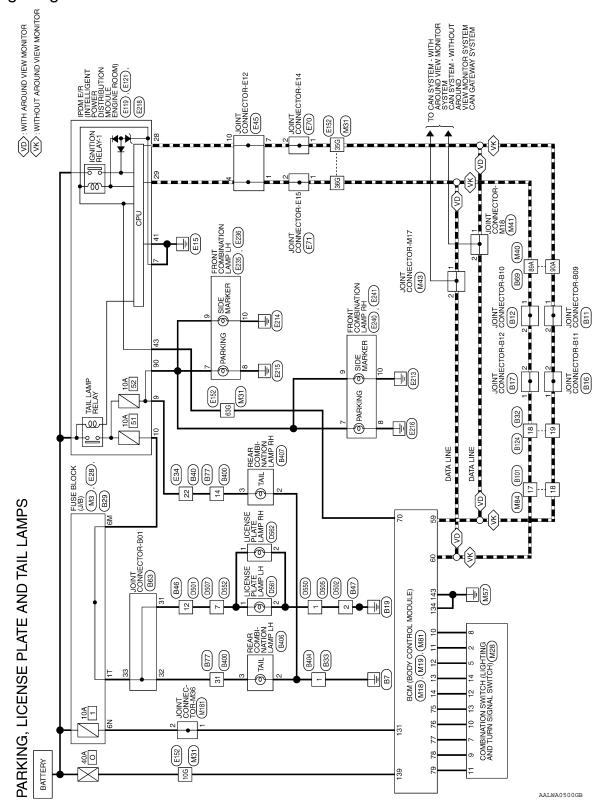
#### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram

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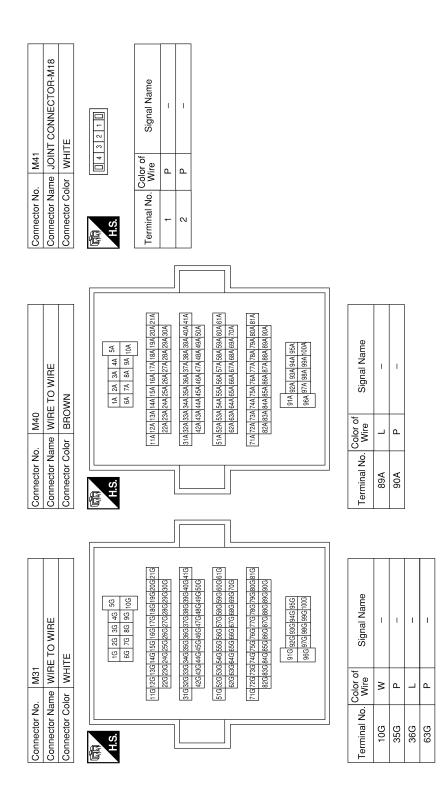
	А
M19 BCM (BODY CONTROL MODULE) BLACK BLACK CAN-H	В
M19 BLACK MODULE) BLACK BLACK BLACK BLACK CAN-H IGN USM OUT 1 CAN-H IGN USM OUT 1 COMBI SW OUT 2 COMBI SW OUT 2 COMBI SW OUT 2 COMBI SW OUT 1 COMBI SW OUT 1	С
	D
Connector No.           Connector Name           Connector Color           Terminal No.         Color           75         E           77         78           79         0           79         0	Е
	F
	G
Alls M18 M18 BCM (BODY CONTROL MODULE) GREEN GREEN GREEN GREEN GREEN COMBI SW IN 1 COMBI SW IN 1 CO	Н
Alternation       M18         Connector No.       M18         Connector Name       BCM (BC         Connector Color       GREEN         Connector Color       GREEN         Connector Color       GREEN         Color of       Terminal No.       Color of         Terminal No.       Color of       P         To       T       P       P         T       T       P       P         T       T       Wite       P         T       T       Wite       P       P         T       T       Wite       P       P         T       T       Wite       P       P       P         T       T       T	I
Terminal No.         Connector No.           Connector Name         Connector Name           Connector Name         Connector Name           Connector Name         Connector Name           Terminal No.         Col           11         1           12         1           13         1           13         1           14         1	J
	K
TE AND (J/B) (J	EXL
Signa Signa Signa	Μ
RKING, LICENS       Connector No.       Connector No.       Maine       FU       Maine       FU       Maine       FU       Maine       FU       Maine       FU       Maine       Maine       FU       Maine       FU       Maine       Maine  <	Ν
ARKING, LIC Connector Nan Connector No. 6N 6N Connector No.	0
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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

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Revision: October 2012

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM < WIRING DIAGRAM >



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#### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM < WIRING DIAGRAM >

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 В 4 3 2 1 16 15 14 13 Signal Name Signal Name Connector Name WIRE TO WIRE Т Т Connector Name WIRE TO WIRE ī 8 7 6 5 1 20 19 18 17 1 С Connector Color WHITE Connector Color WHITE M84 E34 Color of Wire Color of Wire 12 11 10 9 24 23 22 21 2 \_ ۰ G D Connector No. Connector No. Terminal No. Terminal No. 17 18 22 H.S. H.S. Е E 佢 F BCM (BODY CONTROL MODULE) **BAT POWER F/L** BAT BCM FUSE Signal Name Signal Name GND 2 GND 1 Connector Name FUSE BLOCK (J/B) 4M 3M 2M 1M 10M 9M 8M 7M 6M 5M T 137136135134133132131130129 143 142 141 140 139 138 Н Connector Color WHITE WHITE M81 Color of Wire E28 Color of Wire ≥ ш ≥ മ \_ Connector Name Connector Color Connector No. Connector No. Terminal No. Terminal No. 134 139 143 6M 131 H.S. H.S. J E 俉 Κ Connector Name JOINT CONNECTOR-M36 Connector Name JOINT CONNECTOR-M17 EXL Signal Name Signal Name I. Т T I 043210 Μ WHITE Connector Color WHITE M181 M43 Color of Wire Color of Wire \_ ≥ ≥ \_ Connector Color Connector No. Ν Connector No. Terminal No. Terminal No. N N H.S. --H.S.

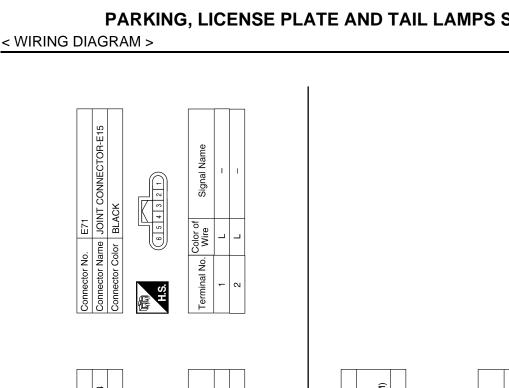
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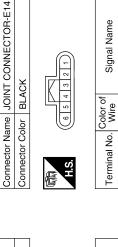
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E70

Connector No.

JOINT CONNECTOR-E12

Connector Name Connector No.

E45

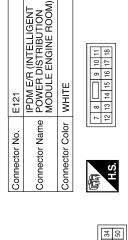
Connector Color BLUE

12 11 10 9 8 7 6 5 4 3 2 1	Signal Name	I	1	I		
1 10 9 8	Color of Wire	_	L	Ч	Р	
H.S.	Terminal No. Wire	÷	4	7	10	

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Connector Name	۲ N	an	e	ΞŽŽ	MODULE ENGINE ROOM)		524	<u>- 20</u>	Ηġ	∃∰Z	355	i Ö Ö i	, z ≥	Ê		
Connector Color WHITE	1 C	8	2	≥	Ξ	世										
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ò	35	35 36 37 38 39 40 41 42 43 44 45 46 47 48 49	37	38	39	40	41	42	43	44	45	46	47	48	49	
-																

Signal Name	CAN-L	CAN-H	GND (SIGNAL)	IGN SIGNAL
Color of Wire	٩	L	в	L
Terminal No.	28	29	41	43

GND (POWER)

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TAIL LH TAIL RH

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Signal Name

Color of Wire

Terminal No.

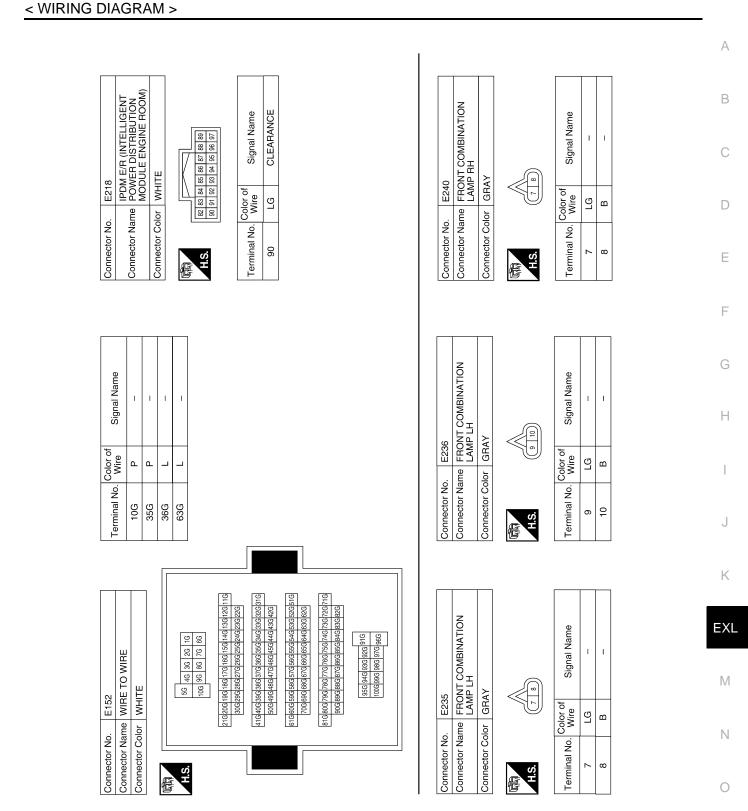
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Revision: October 2012

E119

Connector No.

## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM



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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM < WIRING DIAGRAM >

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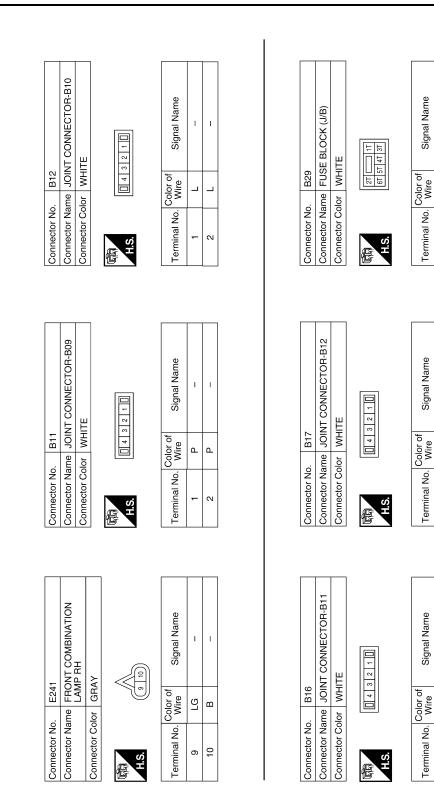
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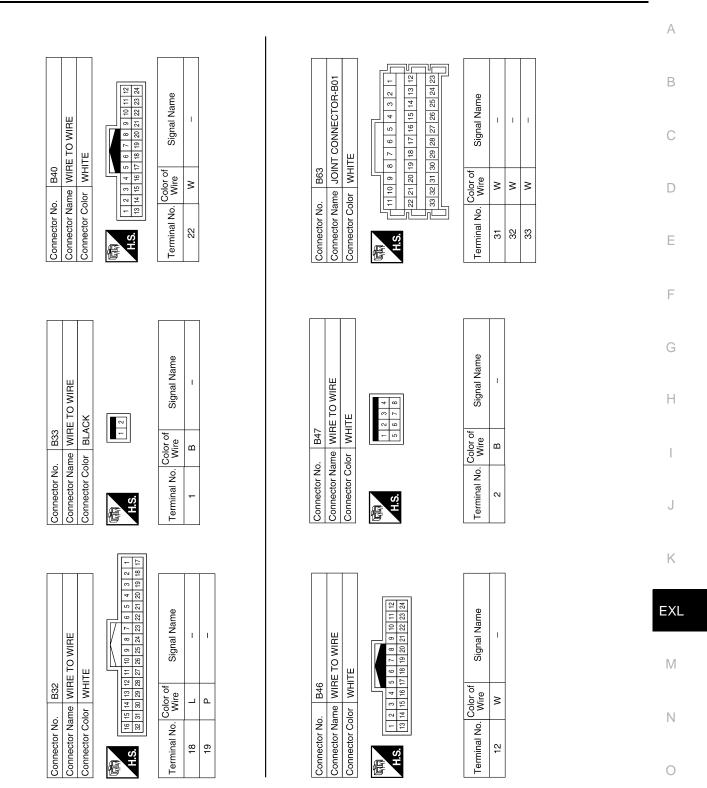
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## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

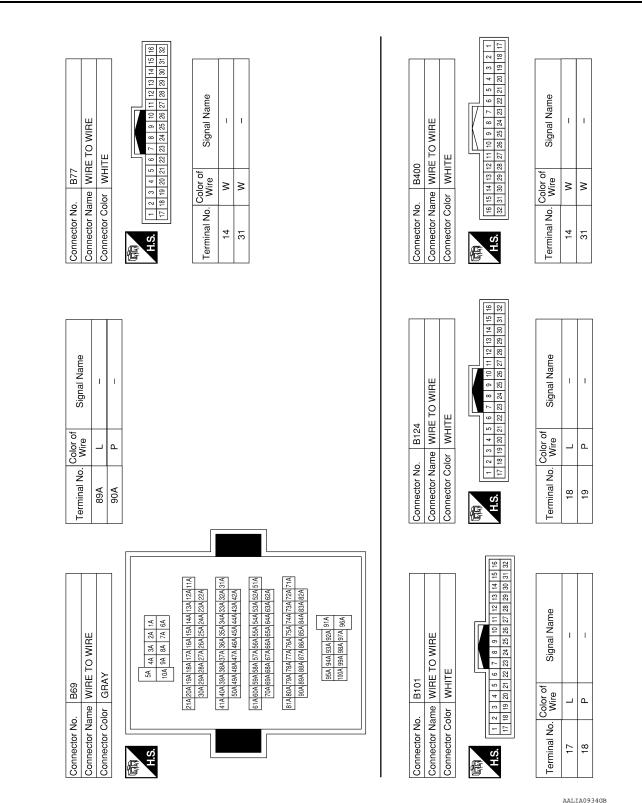
< WIRING DIAGRAM >



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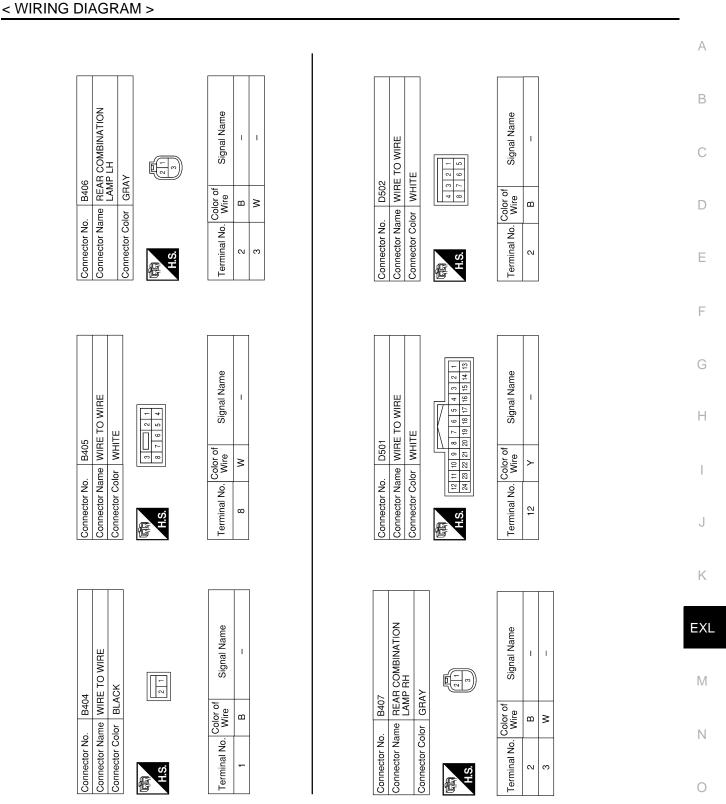
## PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< WIRING DIAGRAM >



Revision: October 2012

# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM



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# PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM < WIRING DIAGRAM >

Connector Name LICENSE PLATE LAMP RH Signal Name Signal Name I Connector Name WIRE TO WIRE 1 1 2 3 4 5 6 Connector Color BROWN Connector Color WHITE -D550 D562 Color of Wire Color of Wire ы ш Connector No. Connector No. Terminal No. Terminal No. --N H.S. H.S. f E Connector Name | LICENSE PLATE LAMP LH Signal Name Signal Name - o I. I Connector Name WIRE TO WIRE Т 10 2 8 7 6 5 4 3 2 16 15 14 13 12 11 1 Connector Color BROWN Connector Color WHITE 1 2 D507 D561 Color of Wire Color of Wire В ≻ Connector No. Connector No. Terminal No. Terminal No.  $\sim$ -N H.S. H.S. 倨 E Signal Name Signal Name 7 8 15 16 ī Connector Name WIRE TO WIRE T Connector Name WIRE TO WIRE 2 1 1 6 5 4 3 4 6 ę. Connector Color WHITE Connector Color WHITE ₽ D505 D552 2 3 10 11 Color of Wire Color of Wire ŋ ш - o Connector No. Connector No. Terminal No. Terminal No.  $\sim$ -H.S. H.S. 佢 佢

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Wiring Diagram



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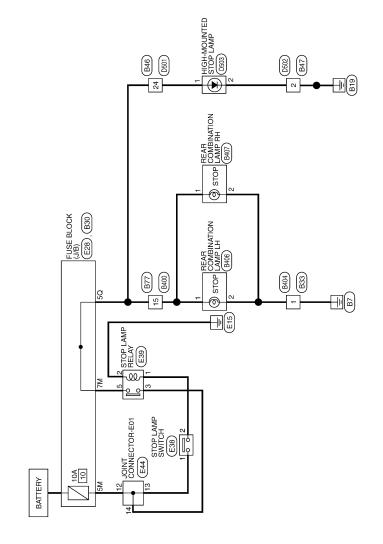
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STOP LAMP

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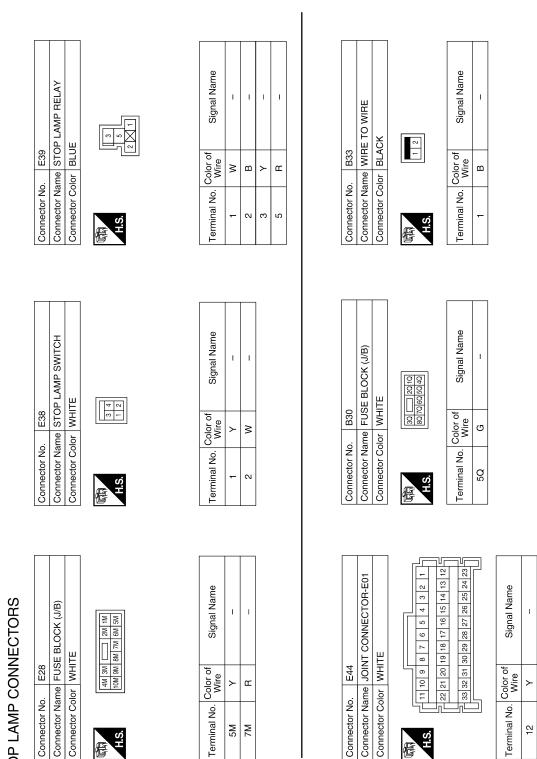
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Terminal No.

< WIRING DIAGRAM >



Connector No.

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Connector No.

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Terminal No.

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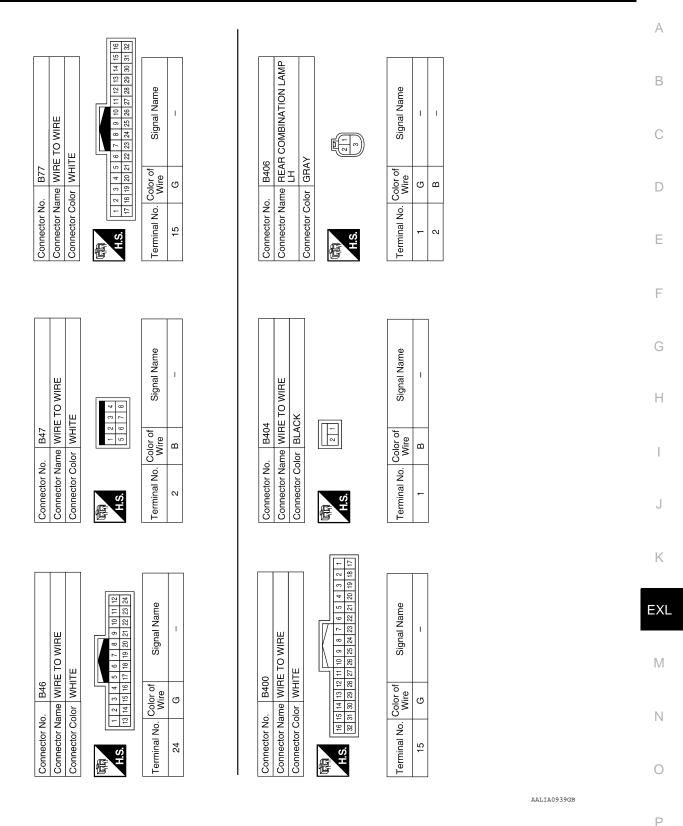
H.S.H

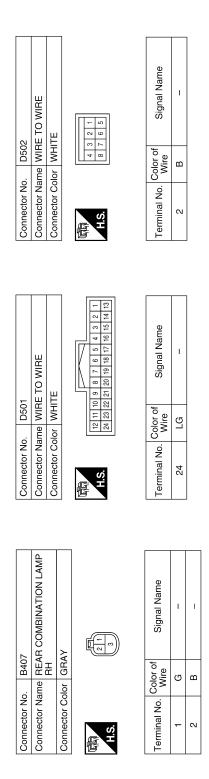
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## STOP LAMP

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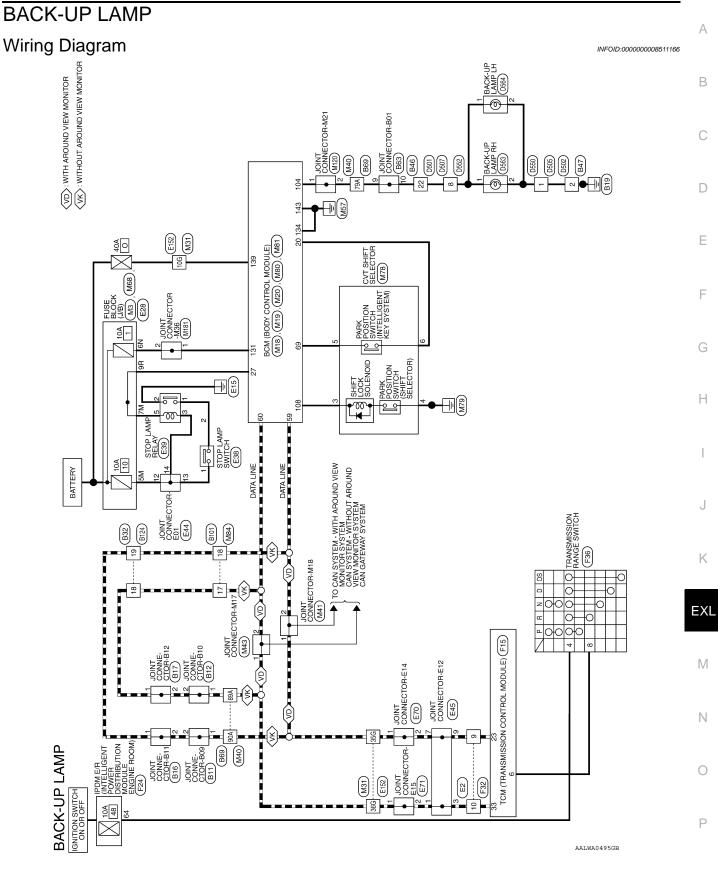


Connector No.	D503
Connector Name	Connector Name HIGH-MOUNTED STOP LAMP
Connector Color BROWN	BROWN
国 H.S.	5

Signal Name	I	I	
Color of Wire	ГG	в	
Terminal No. Color of Wire	Ļ	2	

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CTORS	Connector No. M18 Connector Name BCM (BODY CONTROL Connector Color GREEN	I Name Terminal No. Color of Signal Name Terminal No. Color of Signal Name Terminal No.	W SHIFT P 59 P	 69 G AT DEVICE OUT		ROL Connector Name WIRE TO WIRE 100 MIRE 100 WIRE 100 W		36G     L	83 82 81 95 94 93	11161/261/361/461/561/661/761/861/361/561/561/561/561/561/561/561/561/561/5	5162203303446356356377638635637763863956457638635637763863956457638635637763863956377638639563776386395637763863956377638639563577638639563577638639595637763863959563777438743895855577737777777777777777777777777777	5105z05306405505665770580599066140 2220632064055056657705805990506140	716726736746776776776776776776776776	911G 822G 932G 944G 935G	acc 99G 99G 99G 99G 99G 99G 99G 99G 99G 9
BACK-UP LAMP CONNECTORS	Connector No. M3 Connector Name FUSE BLOCK (J/B) Connector Color WHITE				Connector No. M20	Connector Name   BCM (BODY CONTROL   MODULE)	Connector Color GRAY		HLS (22 91 90 88 97 76 59 48 82 81 10 10 10 10 10 10 10 10 10 10 10 10 10	Terminal No Color of Signal Name	LG REVERSE LA			AALIAO	89

## **BACK-UP LAMP**

Revision: October 2012

< WIRING DIAGRAM >

Connector No. M41				vi	Terminal No. Color of Signal Name	с. Г	2 P -				Connector No. M78	Connector Name CVT SHIFT SELECTOR		H.S.	Terminal No. Color of Signal Name	3 GR –	<u></u> с	ו ו ז ≥ ≥ ה ע	:	
													_							
ame												B		2R 1R 9R 8R	ame					
Signal Name	I	T	I									FUSE BLOCK (J/B)		7R 6R 5R 4R [18] 18] 2R 2R 38 18 168 158 148 158 128 118 108 98	Signal Name	T				
Color of Wire	ГG	Γ	٩								o. M68	ame FUSE BL	_	7R 6R 5R 16R15R14R	Color of Wire	σ				
Terminal No.	79A	89A	90A								Connector No.	Connector Name		雨 H.S.	Terminal No.	9R				
												1010								
				5A 10A	19A 20A 21A	29A 30A	39A 40A 41A 49A 50A	59A 60A 61A 69A 70A	79A 80A 81A 89A 90A	स्रि		JR-M17			ue					ĺ
				2A 3A 4A 7A 8A 9A	15A 16A 17A 18A	25A 26A 27A 28A	31A)32A)33A)34A)35A)36A)37A)38A)39A 40A 41A 42A 43A 445A 46A 45A 46A 47A 43A 49A 50A	55A 56A 57A 58A 65A 66A 67A 68A	714724734744754764774784794804814 824834844854864874884894904	91A 92A 93A 94A 95A 96A 97A 98A 99A100A		Connector Name JOINT CONNECTOR-M17		2 1	Signal Name	I	I			
Connector No. M40		_		1A 6A	11A 12A 13A 14A	22A23A24A	31A 32A 33A 34A 42A 43A 44A	51A 52A 53A 54A 62A 63A 64A	71A 72A 73A 74A 82A 83A 84A	91/	M43			4         3         2	Color of Wire	_				
Connector No.	Connector Color			H.S.							Connector No.	Connector Name		H.S.	Terminal No.	-	N			
1818			E								1 2	2   2		E -	1 5					

Revision: October 2012

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Connector No. M84 Connector Name WIRE TO WIRE Connector Color WHITE	HUS. 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 1 28 31 30 29 28 27 26 25 44 23 22 21 20 19 18 17	Terminal No. Color of Signal Name	-18 I		Connector No. E2	Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 9 10 11 12 13 14 15 16	Terminal No. Color of Signal Name	۱ ۵	10 L –
M81 BCM (BODY CONTROL MODULE) WHITE	H3 [122] [H1] [H2] [23] [23] [23] [23] [23] [23] [23] [2	Signal Name BAT BCM FUSE	GND2	BAT POWER F/L GND1		JOINT CONNECTOR-M36 WHITE	3211	Signal Name	1	1
Connector No. M81 Connector Name BCM (B MODUL Connector Color WHITE	H.S.	Terminal No. Color of Wire		139 W 143 B	Connector No. M181	Connector Name JOINT ( Connector Color WHITE	国 H.S.	Terminal No. Color of Wire	1	2
M80 BCM (BODY CONTROL MODULE) BLACK	118/113/114/113/1111/103/108/10/108/105 128/127/128/125/123/122/121/120/119/119/119/11	Signal Name SHIFT I OCK	SOLENOID OUT		50	Connector Name JOINT CONNECTOR-M21 Connector Color WHITE	3 2 1	Signal Name	I	1
Connector No. M80 Connector Name BCM (B MODUL Connector Color BLACK	116115114113112 128127126125124	Terminal No. Color of Wire	r		Connector No. M120	Connector Name JOINT ( Connector Color WHITE		Terminal No. Wire	LG	ГG

## **BACK-UP LAMP**

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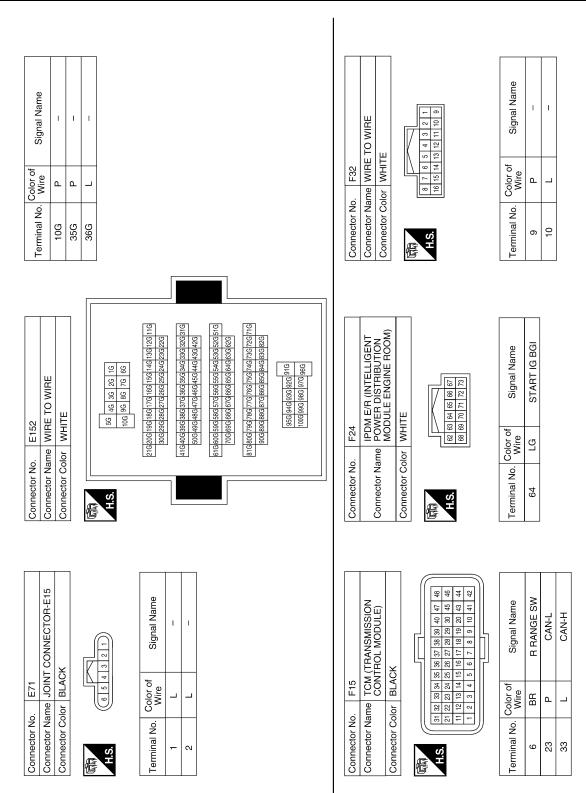
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Connector Name     STOP LAMP SWITCH       Connector Color     WHITE       Connector Color     WHITE       Image: State of the sta
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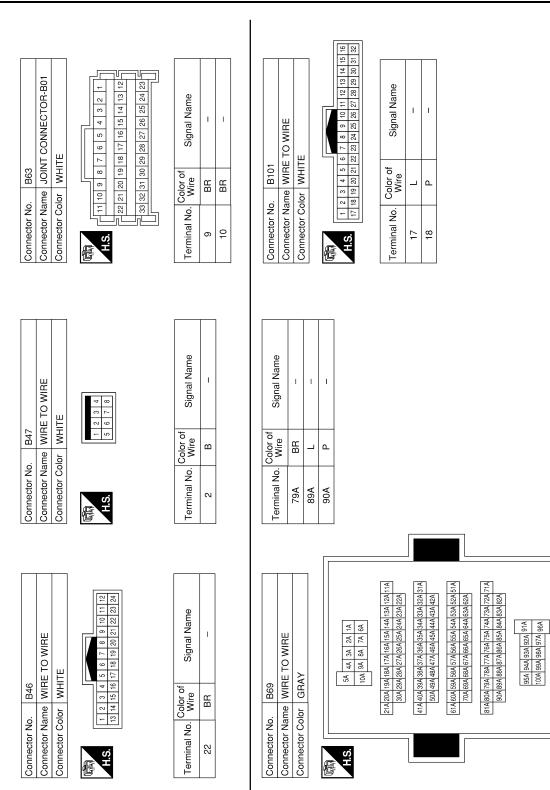
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r No. B12 r Name JOINT CONNECTOR-B10 r Color WHITE r Color WHITE r No. Color of Signal Name L L	B
Connector No.     B12       Connector Name     JOINT CONNECTOR-B10       Connector Name     JOINT CONNECTOR-B10       Connector Name     JOINT CONNECTOR-B10       Connector Name     JOINT CONNECTOR-B10       Terminal No.     Color of       Signal Name       Terminal No.       Virrie       2       1       1       1       1       2       1       2       1       2       1       2       1       2       1       1       2       1       1       1       1       1       1       2       1       2       1       2       1   <	D
Connector No. Connector Nan Connector Nan	Е
	F
VNECTOR-B09 Signal Name 	G
me     JOINT CONNE       me     JOINT CONNE       log     WHITE       log     WHITE       log     Wire       log     WHITE       log     WHITE       log     WHITE       log     WHITE       log     WHITE       log     WHITE       log     Vire       log     WHITE	
Connector No.     B11       Connector Name     JOINT CONNECTOR-B00       Connector Name     JOINT CONNECTOR-B00       Connector Name     JOINT CONNECTOR-B00       Connector Name     Image: Signal Name       Terminal No.     Color of       Signal Name       Terminal No.       Connector No.       B17       Connector No.       Dint Connector No.       Connector No.       Dint Connector No. </td <td>J</td>	J
	К
A Rest of the second se	<b>EXL</b>
Image: Switch of the state	Ν
Connector No.     F36       Connector Name     TRANS       Connector Name     TRANS       Connector Name     TRANS       Connector Name     TRANS       Mine     1       1     P       2     P	0
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## **BACK-UP LAMP**

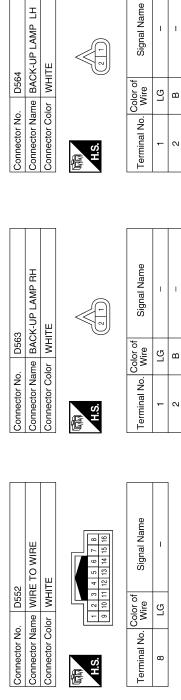
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WIRING DIAGRAM >	
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D502 WIRE TO WIRE WHITE WHITE Prof Signal Name S MIRE TO WIRE MIRE TO WIRE WIRE TO WIRE WIRE TO WIRE Signal Name S MIRE TO WIRE Signal Name S MIRE TO WIRE C MIRE TO MIRE C Signal Name C S S C C S S C C S S S C C C S S S C C C C S S S C C C C S S S S C C C C S S S S S C C C S	С
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Connector No. Connector Name Connector Name	Е
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Connector No.     D501       Connector Name     WIRE TO WIRE       Terminal No.     Color of Nire     Signal Name       22     LG     _       Econnector Name     MIRE TO WIRE       Connector No.     D507       MIRE TO WIRE     Onto       B     LG     _	Н
Image: No.         Image:	Ι
Connector Name Connector Name Connector Name 22 Connector Name 22 Connector Name 22 L Terminal No. Color 16111 22 Connector Name 22 L Connector Name 8 L	J
	K
0.     B124       mme     WIRE TO WIRE       blor     WHITE       old     WHITE       old     WHITE       old     B124       old     WHITE       old     WIRE TO WIRE       old     B12       and     WIRE TO WIRE       old     Signal Name       Color of Wire     Signal Name       B     -       B     -       B     -       B     -	EXL
B124       WIRE TO WI       WHITE       WHITE       WHITE       WHITE       Nine       Image: Sign of the state of the s	Μ
al No.	Ν
Connec Connec Connec Connec Connec Connec Connec	0

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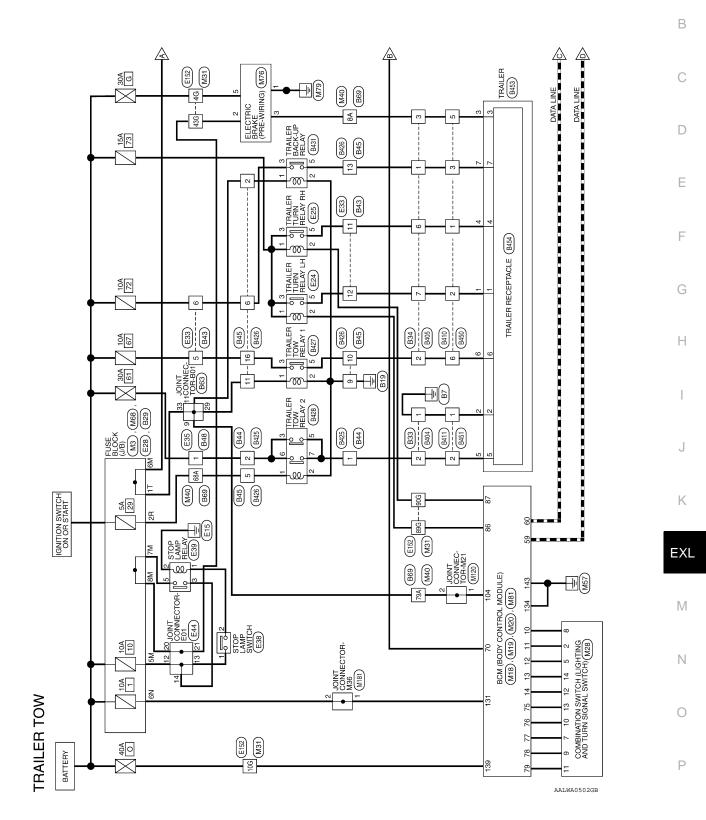
2013 Pathfinder NAM

**EXL-88** 

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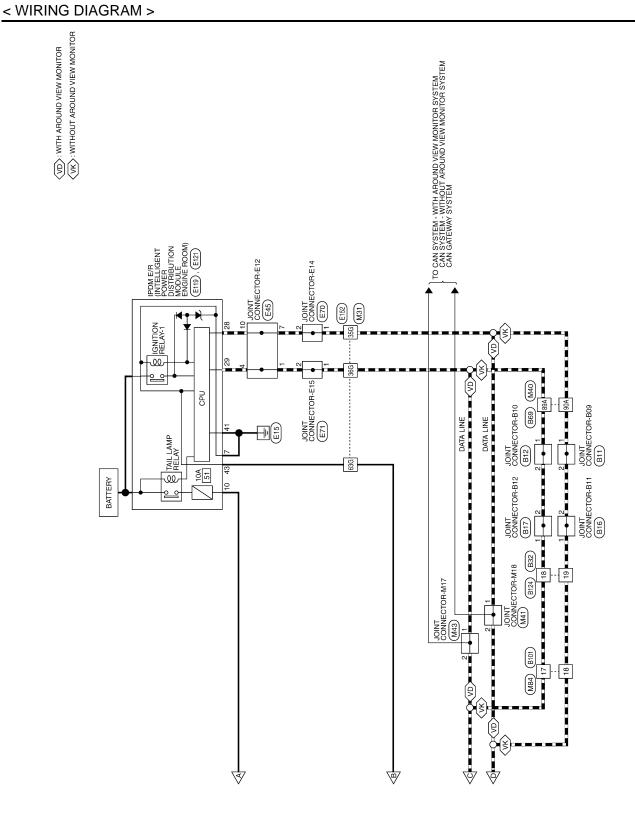
# TRAILER TOW

Wiring Diagram



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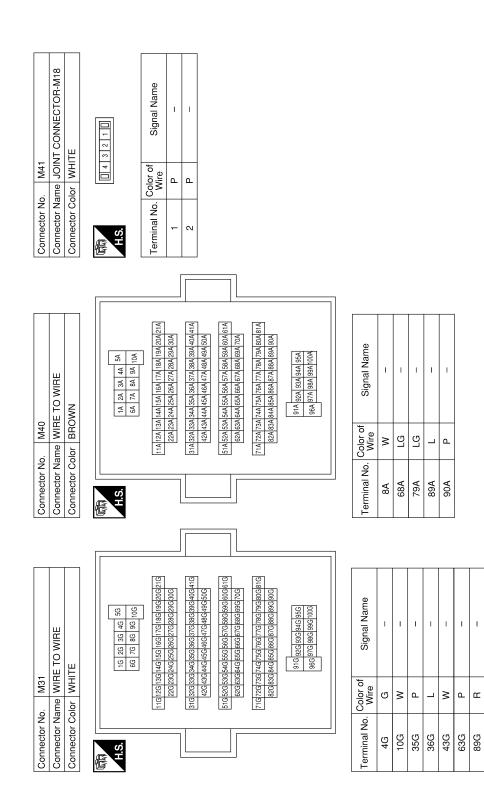


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	ONTROL	Image: Signal Name     Signal Name       Image: Signal Name     Image: Signal Name <td>В</td>	В
	M19 BCM (BODY CONTROL BCACK		С
	or Je		D
	Connector No. Connector Name Connector Color H.S.		E
			F
	NTROL	Signal Name Signal Name COMBI SW IN 5 COMBI SW IN 4 COMBI SW IN 1 COMBI SW IN 2 COMBI SW IN 1 COMBI SW IN 2 COMBI SW IN 1 COMBI SW IN 1 COMBI SW IN 1 COMBI SW IN 2 COMBI SW IN 1 COMBI SW IN 2 COMBI SW IN 2 COMBI SW IN 1 COMBI SW IN 1 COMBI SW IN 2 COMBI SW IN 1 COMBI SW IN 2 COMBI SW I	G
	M18 BCM (BODY CONTROL MODULE) GREEN	Image: Signal Name     Image: Signal Name       Image: Signal Name     Image: Signal Name <td>Н</td>	Н
	No. M18 Vame BCM (BK Color GREEN		I
	Connector No. Connector Name Connector Color		J
			K
rors	(1/B)	Signal Name 	EXI
TRAILER TOW CONNECTORS	Connector No. M3 Connector Name FUSE BLOCK (J/B) Connector Color WHITE		Μ
ow co	Vo. M3 Vame FUST		Ν
ILER T(	Connector No. M3 Connector Name FUSE E Connector Color WHITE	Terminal No.     Cole       6N     V       7     V       104     L	0
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#### < WIRING DIAGRAM >



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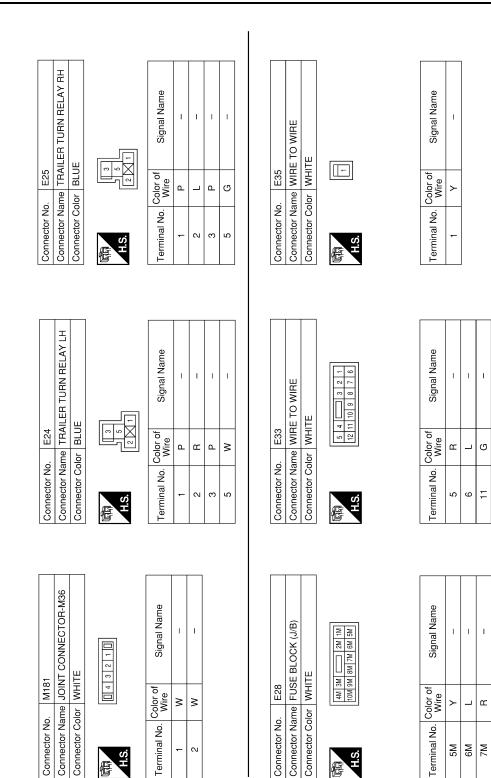
Revision: October 2012

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FRIC BRAKE	WIRING)		Signal Name	I	I	I			Connector Name JOINT CONNECTOR-M21 Connector Color WHITE		8 2 1 1 <b>[</b> ]	Signal Name	I	I				
M76 me ELEC	or WHITI	2	Color of Wire	в	8	≥ (	i	M120	ne JOINT ( or WHITE		0432	Color of Wire	ГG	ГG				
Connector No. M76 Connector Name ELECTRIC BRAKE	Connector Color WHITE	成词 H.S.	Terminal No.	-	N	ლ I		Connector No.	Connector Name Connector Color	ę	日 H.S.	Terminal No. Color of Wire	-	2				
BLOCK (J/B)	z	7R 6R 5R 4R 3 21 18 16R/15R/14R(13R)12R/11R/10R 9R 8R	Signal Name	1					TO WIRE		16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 1 32 31 30 29 28 27 28 28 24 23 22 21 20 19 18 17	Signal Name	1	I				
M68 Te FUSE I	or BROW	7R 6R 5 16R 15R 1	Color of Wire	LG	-			M84	ne WIRE T or WHITE		14 13 12 11 30 29 28 27	Color of Wire		۵.				
Connector No. M68 Connector Name FUSE BLOCK (J/B)	Connector Color BROWN	低雨 H.S.	Terminal No.	2R				Connector No.	Connector Name WIRE TO WIRE Connector Color WHITE	ą	H.S.	Terminal No. C		18				
				1					1 1							1		
Connector No. M43 Connector Name JOINT CONNECTOR-M17		2 1 0	Signal Name	I	I				BCM (BODY CONTROL MODULE)		137136136134133132[130128] 143 142 141 140 139 138	Signal Name	BAT BCM FUSE	GND 2 BAT DOWER E/I	GND 1			
M43 ne JOINT	or WHITE		Color of Wire		_			M81		or WHITE	137136135134 143 142 141	Color of Wire	×	8 ≥	s a			
Connector No. Connector Nam	Connector Color	品 H.S.H	Terminal No. C	-	5			Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	131	134	143	-		

## TRAILER TOW

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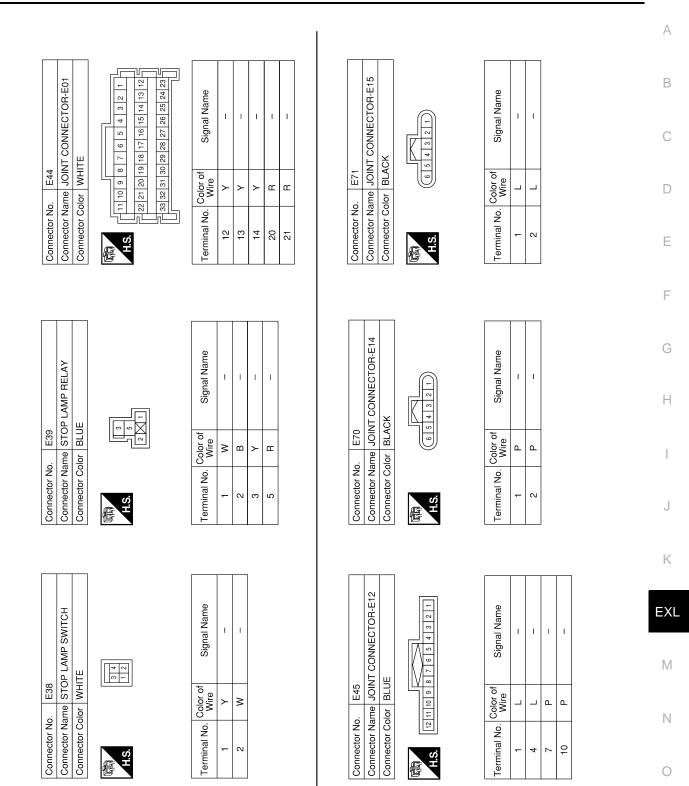
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Revision: October 2012

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										Connector No. B11	Connector Name JOINT CONNECTOR-B09					Color of	Terminal No. Wire Signal Name	с Г		
	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)			11	Signal Name	GND (POWER)	TAIL LH			Signal Name	1	1	1	1	1	1	1	1		
E121		or WHITE	7 8	12 13 14	Color of Wire	в	_			Color of	all R	<u>ط</u>	٩		œ	L	н			
Connector No.	Connector Name	Connector Color		H.S.	Terminal No.	7	10			Terminal No.	4G	10G	35G	36G	43G	63G	89G	90G		
			ſ	50									Γ							
6	M E/R (INTELLIGENT VER DISTRIBUTION DULE ENGINE ROOM)	ΤΕ		8 24 25 26 27 28 29 30 31 32 33 1 40 41 42 43 44 45 46 47 48 49	Signal Name	CAN-L	CAN-H	GND (SIGNAL)			IE TO WIRE	Щ.		56 20 20 40	3G 7G		216206196186176166156146136126116	G28G27G26G25G24G23G22G	41.0         40.0         39.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         37.0         38.0         38.0         37.0         38.0         38.0         37.0         38.0 <td< td=""><td>900(9890)880(9870)880(9850)880(9820) 950(940)390(920)920(916 1000(9905(9805(920)920)920)</td></td<>	900(9890)880(9870)880(9850)880(9820) 950(940)390(920)920(916 1000(9905(9805(920)920)920)
o. E119	ame POV MOE	olor WHITE		19         20         21         22         23         24         25           35         36         37         38         39         40         41	Color of Wire	٩	_	<u> </u>		o. E152	ame WIR	OIOF WHI					21G 20G 19	30G 29	41G40G39 50G491 61G60G591 70G690 81G80G790	6000
Connector No.	Connector Name POWER D MODULE I	Connector Color		vi	Terminal No.	28	29	41	2	Connector No.	Connector Name WIRE TO	Connector Color WHILE			5					

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Connector No. B17 Connector Name JOINT CONNECTOR-B12 Connector Color WHITE	Signal Name	Signal Name	
B17 JOINT CONNE WHITE			
Connector No. B17 Connector Name JOINT ( Connector Color WHITE	40. Color of Wire L	Connector No. B33 Connector Name WIRE T Connector Color BLACK Terminal No. Color of 1 B 2 W	
Connector No. Connector Nan Connector Cole	Terminal No. 2	Connector Narr Connector Narr Connector Colc H.S.	
DR-B11	e	au de la 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
CONNECTO	Signal Name		
B16 me JOINT CONN for WHITE	Color of Wire of P	or No. B32 or Name WIRE 7 or Color WHTE 2 22 31 30 29 28 27 14 No. Color of L	
Connector No. B16 Connector Name JOINT CONNECTOR-B11 Connector Color WHITE	Terminal No. 2	Connector No. B32 Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WHITE 331302322212522222	
810	e l		
	Signal Name	Signal Name	E
B12 a JOINT CONNE WHITE 043210	Color of Wire L	0.     B29       ame     FUSE BLO       alor     WHTE       alor     WHTE       alor     WHTE	
Connector No. B12 Connector Name JOINT CONNECTOR-B10 Connector Color WHITE	Terminal No. Co		
Conne Conne H.S	Term	Conne Conne H.S.	

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Connector No.		B34	Connector No.	No. B43		Connector No.	lo. B44	
Connector Na	ame W	Connector Name WIRE TO WIRE	Connector	Connector Name WIRE TO WIRE	E TO WIRE	Connector Name WIRE TO WIRE	lame WIRI	E TO WIRE
Connector Color		WHITE	Connector Color	Color WHITE	Ш	Connector Color	Color BLACK	X
品. H.S.		2 <b>2</b> 3	民 H.S.	1 2 3 6 7 8	3 <b>—</b> 4 5 8 9 10 11 12	国内 H.S.	1 2	
Terminal No.	Color of Wire	of Signal Name	Terminal No.	o. Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name
-	>	I	2	œ	I	-	>	1
2	3	1	9	_	I	5	3	1
e	σ	1	=	σ	1			
9	G	1	12	≥	I	T		
Connector No.	o. B45	15	Connector No.	No. B48		Connector No.	lo. B63	
Connector Name	Je	WIRE TO WIRE	Connector	e e	E TO WIRE	Connector Name		JOINT CONNECTOR-B01
Connector Color	olor W	WHITE	Connector Color	Color WHITE	Ш	Connector Color	color WHITE	Ш
H.S.	1 2 8 9	2 3 <b>—</b> 4 5 6 7 9 10 11 12 13 14 15 16	印 H.S.	-		H-S-	11 10 9 8 22 21 20 19	9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12
Terminal No.	Color of Wire	of Signal Name	Terminal No.	o. Color of Wire	Signal Name		33 32 31 30	30 29 28 27 26 25 24 23
2	BR	1	-	>	1		_	
5	۵.	1		-			Color of	Ciccol Nomo
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6	GR	1				6	BB	I
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11	æ	1				29	œ	I
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				7 8 9 10 11 12 13 14 15 16	23 24 2	Signal Name	1	I					TO WIRE		5 4	Signal Name	1	1	I	I	I	
. B101				3 4 5	5	Color of	Wire	۵.				o. B405	ame WIRE	olor WHITE	3 7 6 5	Color of Wire	>	N	U	თ	×	
Connector No. B101	Connector Color WHITE			[- 0	Ę	Terminal No	17	18				Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	低词 H.S.	Terminal No.	-	2	e l	9	7	
																			1			
Signal Name	1	1	1	I	I								TO WIRE			Signal Name	1	I				
Color of Wire	σ	۵.	BR		٩.							. B404	me WIRE 1	lor BLACK	5	Color of Wire		8				
Terminal No.	8A	68A	79 <b>A</b>	89A	90A							Connector No.	Connector Name WIRE TO WIRE	Connector Color	同 H.S.	Terminal No.	-	2				
		7											<b>—</b> — — —		14 15 16 30 31 32				٦			
				54 44 04 04 14	A 3A 2A 1A A 8A 7A 6A	214204194184174164154144134124114 304294284274284254254243234224	41A 40A 39A 38A 37A 36A 35A 34A 33A 32A 31A 50A 46A 47A 46A 47A 46A 47A 44A 47A 47A 47A	61A 60A 59A 58A 57A 56A 55A 54A 53A 52A 51A	704 694 684 674 664 654 644 634 624   804 794 784 774 764 754 744 734 724 714	90A 89A 88A 87A 86A 85A 84A 83A 82A	95A 94A 93A 92A 91A 100A 99A 98A 97A 96A		o wire		1         2         3         4         5         6         7         8         9         10         11         12         3         4         5         6         7         8         9         10         11         12         14         12         13         14         15         12         23         24         25         26         27         28         29         30         30	Signal Name		I				
Connector No. B69				5A	10A 9A 8A	21A20A19A18A 30A29A28A3	41A 40A 39A 38A	61A60A59A58A	70A 69A 68A	90A 89A 88A	95A 94 100A 99	0. B124	Connector Name WIRE TO WIRE	Connector Color WHITE	1 2 3 4 5 6 1 17 18 19 20 21 22 2	Color of		л <del>С</del>	-			
Connector No.	ž   č	5										Connector No.	2°	ŏ		Terminal No.						

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Р

## TRAILER TOW

#### < WIRING DIAGRAM >

	e of Signa
	н н В —
;;	
10 W -	

## **TRAILER TOW**

< WIRING DIAGRAM >

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X X	Signal Name	
0. B451 mme WIRE TC Nor BLACK	Color of Wire     Wire       Wire     Wire       No     Wire	
Connector No. B451 Connector Name WIRE TO WIRE Connector Color BLACK	Terminal No. Terminal No. 7 7 7 7 7 7 7 7 7 7 7 7 7	
O WIRE	Terminal No.     Color of Wire     Signal Name       2     W     -       3     Y     -       5     G     -       6     W     -       Connector No.     B454       Connector Name     TRAILER RECEPTACLE       Connector Nor     B454       Connector Name     TRAILER RECEPTACLE	
Connector No. B450 Connector Name WIRE TO WIRE Connector Color GRAY	Color of Wire W Vire B454 M Vire B454 M Vire Color of Color	
Connector No. Connector Name Connector Color H.S.	Terminal No. Col 2 3 3 5 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 7 6 7 7 7 8 7 7 7 7	
Connee Connee H.S.		
Connector No. B431 Connector Name TRAILER BACK-UP RELAY Connector Color BLUE	Signal Name Signal Name Signal Name	
B431 me TRAILL	Terminal No.     Color of Mire       1     G       2     B       3     Y       5     LG       5     LG    Connector No  B453  Connector Name TPAILER  Connector Name TPAILER  Connector Name TPAILER  Connector Name TPAILER  Connector Color B453  Connector Color B453  Connector Color B453  Connector Color B453  Connector Name TPAILER  Connector Name TPAIL	
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Conne Conne H.S.	Termin Termin Termin	

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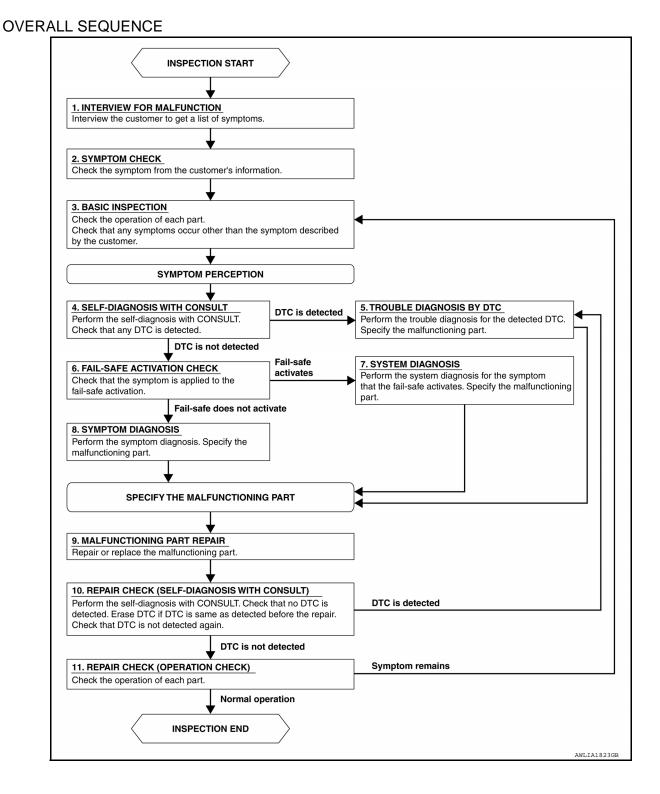
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#### < WIRING DIAGRAM >

## BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

#### Work Flow

INFOID:000000008511169



### DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	
DETAILED FLOW	А
1.INTERVIEW FOR MALFUNCTION	
Find out what the customer's concerns are.	В
>> GO TO 2.	_
2.SYMPTOM CHECK	C
Verify the symptom from the customer's information.	0
>> GO TO 3.	D
<b>3.</b> BASIC INSPECTION	
Check the operation of each part. Check any concerns that occur other than those mentioned in the customer interview.	Е
>> GO TO 4.	F
4.self-diagnosis with consult	
Perform the self-diagnosis with CONSULT. Check that any DTC is detected.	G
<u>Is any DTC detected?</u> YES >> GO TO 5.	
NO $>>$ GO TO 6.	Н
5. TROUBLE DIAGNOSIS BY DTC	
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.	Ι
>> GO TO 9.	
6.FAIL-SAFE ACTIVATION CHECK	J
Determine if the customer's concern is related to fail-safe activation.	
Does the fail-safe activate? YES >> GO TO 7.	K
YES >> GO TO 7. NO >> GO TO 8.	1.
7.SYSTEM DIAGNOSIS	EXL
Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part.	
	M
>> GO TO 9.	
8.SYMPTOM DIAGNOSIS	N
Perform the symptom diagnosis. Refer to EXL-127, "Symptom Table".	IN
>> GO TO 9.	0
9. MALFUNCTION PART REPAIR	0
Repair or replace the malfunctioning part.	Ρ
>> GO TO 10.	
10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)	
Perform the self-diagnosis with CONSULT. Verify that no DTCs are detected. Frase all DTCs detected prior to	

Perform the self-diagnosis with CONSULT. 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 WORKFLOW

< BASIC INSPECTION >

Check the operation of each part.

Does it operate normally?

YES >> Inspection End.

NO >> GO TO 3.

<b>PC</b> < DTC/CIRCUIT DIAGNOSI	OWER SUPPLY ANI	D GROUND CIRCU	Т
DTC/CIRCUIT D			
POWER SUPPLY A		СШТ	4
BCM (BODY CONTRO		0011	
BCM (BODY CONTRC		osis Procoduro	E
	"L MODOLL) . Diagin		INFOID:00000008932641
Regarding Wiring Diagram in	formation, refer to <u>BCS-53</u>	8, "Wiring Diagram".	(
1. CHECK FUSE AND FUSI			[
Check that the following fuse	and fusible link are not blo	own.	E
Terminal No.	Signal nam	e F	use and fusible link No.
139	Fusible link batter	y power	O (40A)
131 Is the fuse or fusible link blow	BCM battery f	use	1 (10A)
NO >> GO TO 2 2. CHECK POWER SUPPLY 1. Disconnect BCM connect			
BCM			Voltage
Connector	Terminal	Ground	(Approx.)
M81	131		Battery voltage
	139		Bullery Vollage
Is the inspection result norma YES >> GO TO 3 NO >> Repair or replace <b>3.</b> CHECK GROUND CIRCL Check continuity between BC	harness or connectors. JIT	ls 134, 143 and ground.	} E)
BCM			N
Connector	Terminal	Ground	Continuity
M81	134 143	_	Yes
Is the inspection result norma YES >> Inspection End. NO >> Repair or replace IPDM E/R (INTELLIGE	harness or connectors.	RIBUTION MODUL	E ENGINE ROOM)
IPDM E/R (INTELLIGE agnosis Procedure			

Regarding Wiring Diagram information, refer to PCS-21, "Wiring Diagram".

## POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

## 1. CHECK FUSIBLE LINKS

Check that the following fusible links are not blown.

Terminal No.	Signal name	Fusible link No.
1	Fusible link main	E (80A)
2	Fusible link IPDM E/R	A (250A), C (80A)
3	Fusible link ignition switch	A (250A), B (100A), K (40A)

Is the fusible link blown?

YES >> Replace the blown fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connectors E118 and E120.

2. Check voltage between IPDM E/R connectors and ground.

IPDI	M E/R	Ground	Voltage (Approx.)
Connector	Terminal	Gibuna	(Approx.)
E118	1		
EIIO	2		Battery voltage
E120	3		

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

 $\mathbf{3.}$  CHECK GROUND CIRCUIT

1. Disconnect IPDM E/R connectors E119 and E121.

2. Check continuity between IPDM E/R connectors and ground.

IPDM E	/R	Ground	Continuity
Connector	Terminal	Ground	Continuity
E121	7		Yes
E119	41	-	163

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

#### < DTC/CIRCUIT DIAGNOSIS >

## HEADLAMP (HI) CIRCUIT

## Description

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp high relay based on inputs from the BCM over the CAN communication lines. When the headlamp high relay is energized, power flows through fuses 34 and 35, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp high beam.

		C
Component Function Check	INFOID:000000008511173	C
<b>1.</b> CHECK HEADLAMP (HI) OPERATION		D
®WITHOUT CONSULT		
<ol> <li>Start IPDM E/R auto active test. Refer to <u>PCS-8, "Diagnosis Description"</u>.</li> <li>Check that the headlamp switches to the high beam.</li> </ol>		Е
WITH CONSULT     Select EXTERNAL LAMPS of IPDM E/R active test item.		
2. While operating the test items, check that the headlamp switches to the high beam.		F
HI : Headlamp switches to the high beam.		
OFF : Headlamp OFF		G
Does the headlamp switch to the high beam?		
YES >> Headlamp (HI) circuit is normal. NO >> Refer to <u>EXL-107, "Diagnosis Procedure"</u> .		Н
Diagnosis Procedure	INFOID:000000008511174	
Regarding Wiring Diagram - Refer to EXL-21. "Wiring Diagram".		
		.1

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

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

Unit	Location	Fuse No.	Capacity	EXL
Headlamp HI (LH)	IPDM E/R	35	10A	
Headlamp HI (RH)	IPDM E/R	34	10A	
Is the fuse blown?	· · · · · · · · · · · · · · · · · · ·			M
YES >> Replace the blown f	use after repairing the affected c	ircuit.		
NO >> GO TO 2.				
				N

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

#### CONSULT ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp harness connector E233 or E238.
- 3. Turn the ignition switch ON.
- 4. Select EXTERNAL LAMPS of IPDM E/R active test item.
- 5. With EXTERNAL LAMP ON, check the voltage between the combination lamp harness connector and P ground.

	(+)		()	Voltage
	Connector	Terminal	(-)	voltage
RH	E238	2	Ground	Pottory voltago
LH	E233	3	Giouna	Battery voltage

Revision: October 2012

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INFOID:000000008511172

## **HEADLAMP (HI) CIRCUIT**

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

**3.**CHECK HEADLAMP (HI) CIRCUIT FOR OPEN

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R harness connector E217.
- Check continuity between the IPDM E/R harness connector E217 and the front combination lamp harness connector.

IPDM E/R		Front combination lamp		Continuity		
Con	nector	Terminal	Connector	Terminal	Continuity	
RH	E217	80	E238	- 3	Yes	
LH		81	E233			

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32, "Removal and Installation"</u>.

NO >> Repair or replace the harness or connector.

## 4. CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

1. Turn the ignition switch OFF.

2. Check continuity between the front combination lamp harness connector terminal 4 and ground.

	Connector	Terminal	—	Continuity
RH	E238	4	Ground	Yes
LH	E233			

Is the inspection result normal?

```
YES >> Replace the headlamp bulb.
```

NO >> Repair or replace the harness or connector.

# **HEADLAMP (LO) CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

# HEADLAMP (LO) CIRCUIT

# Description

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM over the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 36 and 37, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp low beam.

Component Function Check	INFOID:000000008511176	С
<b>1.</b> CHECK HEADLAMP (LO) OPERATION		D
<ul> <li>WITHOUT CONSULT</li> <li>Start IPDM E/R auto active test. Refer to <u>PCS-8, "Diagnosis Description"</u>.</li> <li>Check that the headlamp is turned ON. NOTE:</li> </ul>		E
<ul> <li>HI/LO is repeated 1 second each when using the IPDM E/R auto active test.</li> <li>CONSULT</li> <li>Select EXTERNAL LAMPS of IPDM E/R active test item.</li> <li>While operating the test item, check that the headlamp is turned ON.</li> </ul>		F
LO : Headlamp ON OFF : Headlamp OFF		G
Is the headlamp turned ON?YES>> Headlamp (LO) is normal.NO>> Refer to EXL-109, "Diagnosis Procedure".		Η
Diagnosis Procedure	INFOID:000000008511177	I

Regarding Wiring Diagram information - Refer to <u>EXL-21, "Wiring Diagram"</u> .
---

1.CHECK HEADLAMP (LO) FUSES	К
1. Turn the ignition switch OFF.	

2. Check that the following fuses are not blown.

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

#### Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

## CONSULT

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp harness connector E232 or E237.
- 3. Turn the ignition switch ON.
- 4. Select EXTERNAL LAMPS of IPDM E/R active test item.
- 5. With EXTERNAL LAMP ON, check the voltage between the front combination lamp harness connector E232 or E237 terminal 1 and ground.

(+)		(-)	Voltage
Connector	Terminal		Voliage

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INFOID:000000008511175

# HEADLAMP (LO) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

RH	E232	1	Ground	Battery voltage
LH	E237	I	Cround	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

**3.**CHECK HEADLAMP (LO) CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector E217.

 Check continuity between the IPDM E/R harness connector and the front combination lamp harness connector E232 or E237.

IPDM E/R		Front combination lamp		Continuity		
Conr	nector	Terminal	Connector	Terminal	Continuity	
RH	E217	75	E232	1	Yes	
LH		76	E237		165	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32, "Removal and Installation"</u>.

NO >> Repair or replace the harness or connector.

# **4.**CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Check continuity between the front combination lamp harness connector E232 or E237 terminal 2 and ground.

Coni	nector	Terminal	<u> </u>	Continuity
RH	E232	2	Ground	Yes
LH	E237		Clouid	163

Is the inspection result normal?

- YES >> Replace the headlamp bulb.
- NO >> Repair or replace the harness or connector.

# < DTC/CIRCUIT DIAGNOSIS >

# DAYTIME LIGHT RELAY CIRCUIT Description The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The power flows through fuse 43 located in IPDM E/R to the daytime light relay coil. When the IPDM E/R operates the daytime light relay, power is sent to the daytime lamps. Diagnosis Procedure Regarding Wiring Diagram information, refer to EXL-29, "Wiring Diagram". 1.CHECK DAYTIME LIGHT RELAY VOLTAGE SUPPLY 1. Turn the ignition switch OFF. 2. Disconnect the daytime light relay harness connector E4. Turn the ignition switch ON. 3. 4. Check the voltage between the following daytime light relay harness connector E4 terminals and ground. (+)

	$(\cdot)$		Voltage	G
Connector	Terminal	()	voltage	
	2			
E4	5	Ground	Battery voltage	Н
	7	-		
le the ineraction regult no	rmol2	1	1	

Is the inspection result normal?

>> GO TO 3. YES

NO >> GO TO 2.

## 2.CHECK DAYTIME LIGHT RELAY CIRCUIT

- 1. Turn the ignition switch OFF.
- Disconnect IPDM E/R harness connector E121. 2.
- 3. Check continuity between the IPDM E/R harness connector E121 and the daytime light relay harness Κ connector E4.

Daytime light relay		IPDM E/R		Continuity	EXL
Connector	Terminal	Connector	Terminal	Continuity	
	2				5.4
E4	5	E121	14	Yes	IVI
	7				

Check continuity between the IPDM E/R harness connector E121 and ground. 4

Connector	Terminal	(—)	Continuity	
E121	14	Ground	No	0

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> Repair or replace the harness or connector.

3.CHECK DAYTIME LAMP RELAY COIL CIRCUIT

1. Check continuity between the IPDM E/R harness connector E218 and daytime light relay harness connector E4.

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# DAYTIME LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

2. Check continuity between the IPDM E/R harness connector E218 and ground.

Connector	Terminal	Ground	Continuity
E218	85	Gibana	No

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connector.

## **4.**CHECK DAYTIME LIGHT RELAY

Check the daytime light relay. Refer to EXL-112, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace relay.

**5.**CHECK DAYTIME LAMP CIRCUIT FOR OPEN

#### 1. Turn the ignition switch OFF.

- 2. Disconnect the front fog lamp harness connector E303 or E304 in question.
- 3. Check continuity between the daytime light relay harness connector E4 and the front fog lamp harness connector E303 or E304.

Front fo	g lamp Daytime ligh		Front fog lamp		Daytime light relay	
Connector	Terminal	Connector	Terminal	Continuity		
LH E303	2	E4	3	Yes		
RH E304	- 3	E4	6	Tes		

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the harness or connector.

#### **6.**CHECK DAYTIME LAMP GOUND CIRCUIT FOR OPEN

1. Disconnect front fog lamp harness connector E303 or E304 in question.

2. Check continuity between the front fog lamp harness connector E303 or E304 terminal 12 and ground.

Connector	Terminal	(-)	Continuity
LH E303	Δ	Ground	Yes
RH E304	7	Ciouna	160

Is the inspection result normal?

YES >> Check the daytime light system relay. Refer to EXL-112. "Component Inspection".

NO >> Repair or replace the harness or connector.

## **Component Inspection**

INFOID:000000008511182

### **1.** CHECK DAYTIME LIGHT RELAY CONTINUITY

- 1. Turn ignition switch OFF.
- 2. Remove daytime light relay.
- 3. Apply 12V direct current between daytime light relay terminals and check continuity.

# DAYTIME LIGHT RELAY CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

Terminal	Condition	Continuity	
3 - 5	12V direct current applied between terminals 1 and 2.	Yes	
6 - 7	No current applied.	No	
the inspection resu			-
O >> Replace	n End. daytime light relay.		

- Ν
- 0
- Р

## < DTC/CIRCUIT DIAGNOSIS >

# FRONT FOG LAMP CIRCUIT

## Description

The IPDM E/R (intelligent power distribution module engine room) controls the front fog lamp relay based on inputs from the BCM via the CAN communication lines. When the front fog lamp relay is energized, power flows from the front fog lamp relay in the IPDM E/R to the front fog lamps.

## **Component Function Check**

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

#### WITHOUT CONSULT

- 1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

#### ()WITH CONSULT

- 1. Select EXTERNAL LAMPS of IPDM E/R active test item.
- 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 front fog lamp turned ON?

- YES >> Front fog lamp circuit is normal.
- NO >> Refer to EXL-114, "Diagnosis Procedure".

### **Diagnosis** Procedure

Regarding Wiring Diagram information, refer to EXL-48, "Wiring Diagram".

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

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	42	15A

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# **2.**CHECK FRONT FOG LAMP OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front fog lamp harness connector E305 or E306.
- 3. Turn the ignition switch ON.
- 4. Turn the front fog lamps ON.
- 5. Check the voltage between the fog lamp harness connector E305 or E306 terminal 1 and ground.

	(+)			Voltage
С	onnector	Terminal	(-) (Approx.)	
LH	E305	1	Ground	Battory voltago
RH	E306	Ground Battery	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

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INFOID:000000008511188

# FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### 3. CHECK FRONT FOG LAMP OPEN CIRCUIT А 1. Turn the ignition switch OFF. Disconnect IPDM E/R harness connector E217. 2. 3. Check continuity between the IPDM E/R harness connector E217 and the front fog lamp harness connec-В tor E305 or E306. IPDM E/R Front fog lamp Continuity С Connector Terminal Connector Terminal LH 79 E305 E217 1 Yes D RH 78 E306 Is the inspection result normal? YES >> Replace IDPM E/R. Refer to PCS-32, "Removal and Installation". Ε >> Repair or replace the harness or connector. NO **4.**CHECK FRONT FOG LAMP GROUND CIRCUIT 1. Turn the ignition switch OFF. F Check continuity between the front fog lamp harness connector E305 or E306 terminal 2 and ground. 2. Terminal Continuity Connector LH E305 2 Ground Yes RH E306 Н Is the inspection result normal? YES >> Inspect the fog lamp bulb. NO >> Repair or replace the harness or connector. Κ EXL Μ Ν

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### < DTC/CIRCUIT DIAGNOSIS >

# PARKING LAMP CIRCUIT

## Description

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM via the CAN communication lines. When the tail lamp relay is energized, power flows through fuse 51 and 52, located in the IPDM E/R. Power then flows to the front combination lamps, rear combination lamps and license plate lamps.

## Component Function Check

**1.**CHECK PARKING LAMP OPERATION

#### WITHOUT CONSULT

- 1. Activate IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
- 2. Check that the parking lamp is turned ON.

(I) WITH CONSULT

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

#### TAIL : Parking lamp ON

#### Off : Parking lamp OFF

#### Is the parking lamp turned ON?

- YES >> Parking lamp circuit is normal.
- NO >> Refer to EXL-116, "Diagnosis Procedure".

## Diagnosis Procedure

INFOID:000000008511191

Regarding Wiring Diagram information, refer to EXL-64. "Wiring Diagram".

## **1.**CHECK PARKING LAMP FUSES

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

Unit	Location	Fuse No.	Capacity
Parking lamps		51	10A
r arking lamps		10A	

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

NO >> GO TO 2.

# 2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

1. Disconnect the front or rear combination lamp connector or license plate lamp connector in question.

2. Turn the ignition switch ON.

3. Turn the parking lamps ON.

4. With the parking lamps ON, check voltage between the front combination lamp (parking) connector and ground.

	Front combination lamp (parking)			Voltage
	Connector		(-)	(Approx.)
LH	E235	7	Ground	Battery voltage
RH	E240	7	Ground	Dattery voltage

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# PARKING LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

5. With the parking lamps ON, check voltage between the front combination lamp (side marker) connector and ground.

	Front combination lamp (side marker) Connector Terminal LH E236		(_)	Voltage	-
	Connector	Terminal	- (-)	(Approx.)	В
LH	E236	9	Ground	Pottony voltago	_
RH	E241	9	Ground	Battery voltage	С

# 6. With the parking lamps ON, check voltage between the rear combination lamp (tail) connector and ground.

Rear com	nbination lamp (tail)		()	Voltage	-
(	Connector	Terminal	()	(Approx.)	E
LH	B406	2	Ground	Battery voltage	-
RH	B407	3	Ground	Ballery vollage	

#### 7. With the parking lamps ON, check voltage between the license plate lamp connector and ground

					G
Lic	ense plate lamp		(_)	Voltage	0
	Connector	Terminal	(-)	(Approx.)	
LH	D561	1	Ground	Battery voltage	Н
RH	D562	I	Ground	Ballery Vollage	_

#### Are the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

# 3. CHECK PARKING LAMP CIRCUIT (OPEN)

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

	IPDM E/R		Front combination lamp (parking)		Continuity	EXL
Conne	ector	Terminal	Connector	Terminal	Continuity	_
LH	E218	90	E235	7	Yes	_
RH	E210	90	E240		fes	M

# 4. Check continuity between the IPDM E/R harness connector and the front combination lamp (side marker) harness connector.

	IPDM E/R		Front	Front combination lamp (side marker)		
Co	nnector	Terminal	Connector	Terminal		C
LH	E219	00	E236	0	Vee	_
RH E218	90	E241	9	Yes	Р	

# 5. Check continuity between the IPDM E/R harness connector and the rear combination lamp (tail) harness connector.

IPDM E/R	Rear combination	Continuity		
Connector	Terminal	Connector	Terminal	Continuity

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# PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

LH	E121	10	B406	3	Voc
RH		9	B407		Yes

6. Check continuity between the IPDM E/R harness connector and license plate lamp connector.

IPDM E/R		License	Continuity			
	Connector	Terminal	Connector Terminal		Continuity	
LH	E101	10	D561	1	Vaa	
RH	RH E121	10	D562		Yes	

Are the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32, "Removal and Installation"</u>.

NO >> Repair or replace the harness or connector.

## **4.**CHECK PARKING LAMP GROUND CIRCUITS

#### 1. Turn the ignition switch OFF.

2. Check continuity between the front combination lamp (parking) harness connector and ground.

	Front combination lamp (parking	(–)	Continuity	
	Connector			
LH	E235	Q	Ground	Yes
RH	E240	8	Ground	

#### 3. Check continuity between the front combination lamp (side marker) harness connector and ground.

	Front combination lamp (side mar	(–)	Continuity	
	Connector			
LH	E236	10	Ground	Yes
RH	E241	10		

#### 4. Check continuity between the rear combination lamp (tail) harness connector and ground.

Rear c	Rear combination lamp (tail) Connector		()	Continuity
			(-)	
LH	B406	2	Ground	Yes
RH	B407	2	Ground	tes

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

License plate lamp			()	Continuity	
	Connector		(-)	Continuity	
LH	D561	2	Ground	Yes	
RH	D562	2			

Are the inspection result normal?

YES >> Inspect the parking, side marker or license plate lamp bulb.

NO >> Repair or replace the harness or connector.

## **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS > TURN SIGNAL LAMP CIRCUIT А Description INFOID:000000008511192 The BCM monitors inputs from the combination switch (lighting and turn signal switch) to determine when to activate the turn signals. The BCM outputs voltage to the left and right turn signals during turn signal operation or both during hazard warning operation. The BCM sends a turn signal indicator request to the combination meter via the CAN communication lines. The BCM performs the fast flasher operation (fail-safe) if any bulb or harness of the turn signal lamp circuit is open. NOTE: Turn signal lamp blinks at normal speed when using the hazard warning lamp. D Component Function Check INFOID:00000008511193 1. CHECK TURN SIGNAL LAMP Е (P)CONSULT Select FLASHER of BCM (FLASHER) active test item. While operating the test items, check that the turn signal lamp blinks. LH : Turn signal lamps (LH) ON RH : Turn signal lamps (RH) ON Off : Turn signal lamps OFF Is the inspection result normal? Н YES >> Turn signal lamp circuit is normal. >> Refer to EXL-119, "Diagnosis Procedure". NO Diagnosis Procedure INFOID:000000008511194 Regarding Wiring Diagram information, refer to EXL-56, "Wiring Diagram". 1.CHECK TURN SIGNAL LAMP BULB Κ Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open. Is the inspection result normal? EXL YES >> GO TO 2. NO >> Replace the bulb. 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE M 1. Turn the ignition switch OFF. Disconnect the front or rear combination lamp harness connector in question. 2. 3. Turn the ignition switch ON. Ν 4. Operate the turn signal switch. 5. While the turn signal is operating, check the voltage between the front combination lamp harness connector and ground. (+) Voltage (-) (Approx.) Connector Terminal Ρ

# TURN SIGNAL LAMP CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

RH	E239			
LH	E234	5	Ground	

 While the turn signal is operating, check the voltage between the rear combination lamp harness connector and ground.

	(+)		()	Voltage (Approx.)
	Connector	Terminal	()	(Approx.)
RH	B409			
LH	B408	4	Ground	(V) 15 0 0 1 s FKID0926E

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

**3.**CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.

2. Disconnect BCM harness connector M20 or M80.

3. Check continuity between the BCM harness connector M80 and the front combination lamp harness connector.

BCM		Front comb	ination lamp	Continuity	
Cor	nnector	Terminal	Connector	Terminal	Continuity
LH	M80	117	E234	Б	Yes
RH	IVIOU	105	E239	5	165

4. Check continuity between the BCM harness connector M20 and the rear combination lamp harness connector.

BCM		Rear comb	ination lamp	Continuity	
Co	nnector	Terminal	Connector	Terminal	
LH	M20	103	B408	- 4	Yes
RH	M20	92	B409		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connector.

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

1. Check continuity between the BCM harness connector M80 and ground.

# **TURN SIGNAL LAMP CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

	BCM		-		Continuity
	nnector	Termina	al	Ground	,
LH	M80	117			No
RH		105			
Check conti	nuity between th	ne BCM harness	s connector M20	) and ground.	
	BCM				
Conne	ector	Terminal	_	Ground	Continuity
LH	M20	103		Ground	No
RH	MZO	92			110
Turn the ign	ition switch OFF nuity between th	ne front combina		ess connector and g	iround.
	Front com	bination lamp			Continuity
				(-)	Continuity
	Connector	<b>Fac</b> /	Terminal	(-)	
LH RH Check contiu	Connector	E234 E239	6	Ground	Yes
RH	Connector	E239	6 ition lamp harne	Ground ess connector and g	Yes round.
RH Check contin	Connector	E239	6	Ground	Yes
RH Check contin	Connector	E239 The rear combination lamp B408	6 ition lamp harne	Ground ess connector and g	Yes round.
RH Check contin LH RH	Connector	E239	6 Ition lamp harne Terminal	Ground ess connector and g	round.
RH Check contin LH RH the inspection ES >> Rep	Connector  Connector  Rear com  Connector  result normal?  lace the malfun	E239 ne rear combina bination lamp B408 B409	6 Ition lamp harne Terminal 5	Ground ess connector and g	round.

# **OPTICAL SENSOR**

## < DTC/CIRCUIT DIAGNOSIS >

# **OPTICAL SENSOR**

## Description

The optical sensor measures ambient light and transmits the optical sensor signal to the BCM.

## **Component Function Check**

# 1.CHECK OPTICAL SENSOR SIGNAL TO BCM

#### 

- 1. Turn the ignition switch ON.
- Select OPTI SEN (DTCT) of BCM (HEAD LAMP) DATA MONITOR item. 2.
- Turn the lighting switch to AUTO. 3.

Monitor item	Condition	Voltage (Approx.)
OPTI SEN (DTCT)	When outside of vehicle is bright	3.1 V or more *
	When outside of vehicle is dark	0.6 V or less

\*:Outside light varies. 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-122, "Diagnosis Procedure".

## **Diagnosis** Procedure

INFOID:000000008511197

Regarding Wiring Diagram information, refer to EXL-40, "Wiring Diagram".

## 1 CHECK OPTICAL SENSOR POWER SUPPLY INPUT

- 1. Turn ignition switch ON.
- Turn lighting switch AUTO. 2.

Check voltage between optical sensor harness connector and ground. 3.

(+)			
Optical	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.

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

 ${f 3.}$ CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

INFOID:000000008511195

INFOID:000000008511196

# **OPTICAL SENSOR**

### < DTC/CIRCUIT DIAGNOSIS >

	-)	4			Voltage
Optical		(-)		Condition	(Approx.)
Connector	Terminal				
M15	2	Ground	Optical sensor	When illuminating	3.1 V or more '
				When shutting off light	0.6 V or less
e inspection S >> GO T >> Repla HECK OPTIC Furn ignition Disconnect o Check contin Op Connector M15	ace the optical s CAL SENSOR C switch OFF. ptical sensor co	ensor. Refer to PEN CIRCUI nnector and E tical sensor h	to <u>EXL-144, "Re</u> IT BCM connector arness connect	emoval and Installation	
	CAL SENSOR S			nd around	
				na grouna.	
Orangeta	Optical sensor	Terrerierel		-	Continuity
Connector	-	Terminal		Ground	
M15		Terminal 1		-	Continuity No
M15 the inspection YES >> Repa NO >> Repa CHECK OPTIO Turn ignition Disconnect o	result normal? ace BCM. Refer air or replace the CAL SENSOR G switch OFF. ptical sensor co	1 to <u>BCS-78, "I</u> harness or c ROUND OPE	Removal and Ir onnector. EN CIRCUIT BCM connector.	Ground	No
M15 the inspection ES >> Repla IO >> Repa .CHECK OPTIC Turn ignition Disconnect o Check contin	result normal? ace BCM. Refer air or replace the CAL SENSOR G switch OFF. ptical sensor co	1 to <u>BCS-78, "I</u> harness or c ROUND OPE	Removal and Ir onnector. EN CIRCUIT 3CM connector. arness connector.	Ground	No onnector.
M15 ES >> Repla O >> Repa CHECK OPTIC Turn ignition Disconnect o Check contin	result normal? ace BCM. Refer air or replace the CAL SENSOR G switch OFF. ptical sensor con uity between op	1 to <u>BCS-78. "I</u> harness or c ROUND OPF nnector and E tical sensor h	Removal and Ir onnector. EN CIRCUIT 3CM connector. arness connector.	Ground	No
M15 s >> Repla >> Repla CHECK OPTIC Turn ignition Disconnect o Check contin O Connector M15	result normal? ace BCM. Refer air or replace the CAL SENSOR G switch OFF. ptical sensor con uity between op	1 to <u>BCS-78. "I</u> harness or c ROUND OPF nnector and E tical sensor h	Removal and Ir onnector. EN CIRCUIT 3CM connector. arness connector.	Ground	No onnector.

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

# **OPTICAL SENSOR**

## < DTC/CIRCUIT DIAGNOSIS >

Optica	l sensor	BCM				Continuity
Connector	Terminal	Connector	Terminal	Continuity		
M15	2	M18	4	Yes		

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace the harness or connector.

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-78, "Removal and Installation"</u>.

NO >> Repair or replace the harness or connector.

# **HAZARD SWITCH**

	319 -			
	<u> </u>			
HAZARD SWITCH				
Component Function	Check			INFOID:0000000851119
1. CHECK HAZARD SWIT	CH SIGNAL BY CO	NSULT		
OCONSULT DATA MONIT				
<ol> <li>Turn ignition switch ON</li> <li>Select HAZARD SW of</li> </ol>			em	
3. While operating the haz			5111.	
Monitor item		Condition		Monitor status
			ON	On
HAZARD SW	Hazard switch	h	OFF	Off
s the inspection result norn	nal?			
YES >> Hazard switch of NO >> Refer to EXL-12	circuit is normal. 25, "Diagnosis Proc	oduro"		
	23, Diagnosis Froc	edure		
Diagnosis Procedure				INFOID:0000000851119
		EVI 56 "Wiring F	Diagram".	
Regarding Wiring Diagram	information, refer to	EXE-50, Willig L		
1.CHECK HAZARD SWIT	CH SIGNAL INPUT			
Regarding Wiring Diagram i <b>1.</b> CHECK HAZARD SWITC 1. Turn ignition switch OF 2. Disconnect hazard swit	CH SIGNAL INPUT F.			
<ol> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect hazard swit</li> <li>Turn ignition switch ON</li> </ol>	CH SIGNAL INPUT F. ch harness connect	or M26.		
CHECK HAZARD SWITC     Turn ignition switch OF     Disconnect hazard swit     Turn ignition switch ON	CH SIGNAL INPUT F. ch harness connect	or M26.		
<ol> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect hazard swit</li> <li>Turn ignition switch ON</li> <li>Check voltage between</li> </ol>	CH SIGNAL INPUT F. Ich harness connect I. I hazard switch harn	or M26. ness connector M2	6 and ground.	/oltage
CHECK HAZARD SWITC Turn ignition switch OF Disconnect hazard switch Turn ignition switch ON Check voltage between (+ Hazard	CH SIGNAL INPUT F. Ich harness connect In hazard switch harn ) switch	or M26.	6 and ground.	/oltage Approx.)
<ol> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect hazard swit</li> <li>Turn ignition switch ON</li> <li>Check voltage between</li> </ol>	CH SIGNAL INPUT F. Ich harness connect I. I hazard switch harn	or M26. ness connector M2	6 and ground.	
<ol> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect hazard swit</li> <li>Turn ignition switch ON</li> <li>Check voltage between</li> </ol>	CH SIGNAL INPUT F. Ich harness connect In hazard switch harn ) switch	or M26. ness connector M2	6 and ground. (/ (V)	
1. CHECK HAZARD SWITC 1. Turn ignition switch OF 2. Disconnect hazard swit 3. Turn ignition switch ON 4. Check voltage between (+) Hazard Connector	CH SIGNAL INPUT F. tch harness connect hazard switch harn ) switch Terminal	tor M26. ness connector M2	6 and ground. (4	
<ol> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect hazard swit</li> <li>Turn ignition switch ON</li> <li>Check voltage between</li> </ol>	CH SIGNAL INPUT F. Ich harness connect In hazard switch harn ) switch	or M26. ness connector M2	6 and ground. (/ (/)	
CHECK HAZARD SWITC     Turn ignition switch OF     Disconnect hazard swit     Turn ignition switch ON     Check voltage between     (+)     Hazard     Connector	CH SIGNAL INPUT F. tch harness connect hazard switch harn ) switch Terminal	tor M26. ness connector M2	6 and ground. (/ (/ 15 10 5 0	
1.CHECK HAZARD SWITC 1. Turn ignition switch OF 2. Disconnect hazard swit 3. Turn ignition switch ON 4. Check voltage between (+) Hazard Connector	CH SIGNAL INPUT F. tch harness connect hazard switch harn ) switch Terminal	tor M26. ness connector M2	6 and ground. (/ (/ 15 10 5 0	
1. CHECK HAZARD SWITC 1. Turn ignition switch OF 2. Disconnect hazard swit 3. Turn ignition switch ON 4. Check voltage between (+) Hazard Connector M26 Is the inspection result norm	CH SIGNAL INPUT F. ch harness connect hazard switch harn ) switch Terminal	tor M26. ness connector M2	6 and ground. (/ (/ 15 10 5 0	Approx.)
1. CHECK HAZARD SWITC 1. Turn ignition switch OF 2. Disconnect hazard swit 3. Turn ignition switch ON 4. Check voltage between (+; Hazard Connector M26 Is the inspection result norm YES >> GO TO 4.	CH SIGNAL INPUT F. ch harness connect hazard switch harn ) switch Terminal	tor M26. ness connector M2	6 and ground. (/ (/ 15 10 5 0	Approx.)
1.CHECK HAZARD SWITE         1. Turn ignition switch OF         2. Disconnect hazard swit         3. Turn ignition switch ON         4. Check voltage between         (+         (+         Hazard         (+         Hazard         M26         Is the inspection result norm         YES >> GO TO 4.         NO >> GO TO 2.	CH SIGNAL INPUT F. the harness connect hazard switch harn ) switch Terminal 2 nal?	tor M26. mess connector M2 (–) Ground	6 and ground. (/ (/ 15 10 5 0	Approx.)
1. CHECK HAZARD SWITC         1. Turn ignition switch OF         2. Disconnect hazard swit         3. Turn ignition switch ON         4. Check voltage between         (+         Hazard         (+         Hazard         Connector         M26         Is the inspection result norm         YES >> GO TO 4.         NO >> GO TO 2.         2.CHECK HAZARD SWITC	CH SIGNAL INPUT F. ch harness connect hazard switch harn ) switch Terminal 2 nal? CH SIGNAL OPEN	tor M26. mess connector M2 (–) Ground	6 and ground. (/ (/ 15 10 5 0	Approx.)
1.CHECK HAZARD SWITC         1. Turn ignition switch OF         2. Disconnect hazard swit         3. Turn ignition switch ON         4. Check voltage between         (+         Hazard         (+         Hazard         Connector         M26         Is the inspection result norm         YES       >> GO TO 4.         NO       >> GO TO 2.         2.CHECK HAZARD SWITC       1. Turn ignition switch OF         1. Turn ignition switch OF       2. Disconnect BCM harne	CH SIGNAL INPUT F. the harness connect hazard switch harn switch Terminal 2 CH SIGNAL OPEN F. ss connector M18.	tor M26. ness connector M2 (-) Ground CIRCUIT	6 and ground. (/ (/ 15 10 5 0 •••••••••••••••••••••••••••••	Approx.)
1.CHECK HAZARD SWITC         1. Turn ignition switch OF         2. Disconnect hazard swit         3. Turn ignition switch ON         4. Check voltage between         (+         Hazard         (+         Hazard         Connector         M26         Is the inspection result norm         YES       > GO TO 4.         NO       >> GO TO 2.         2.CHECK HAZARD SWITC       1. Turn ignition switch OF         2. Disconnect BCM harne       1. Turn ignition switch OF	CH SIGNAL INPUT F. the harness connect hazard switch harn switch Terminal 2 CH SIGNAL OPEN F. ss connector M18.	tor M26. ness connector M2 (-) Ground CIRCUIT	6 and ground. (/ (/ 15 10 5 0 •••••••••••••••••••••••••••••	Approx.)
<ol> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect hazard swit</li> <li>Turn ignition switch ON</li> <li>Check voltage between</li> <li>(+</li> <li>Hazard</li> <li>Connector</li> <li>M26</li> <li>s the inspection result norm</li> <li>YES &gt;&gt; GO TO 4.</li> <li>NO &gt;&gt; GO TO 2.</li> <li>CHECK HAZARD SWITC</li> <li>Turn ignition switch OF</li> <li>Disconnect BCM harne</li> </ol>	CH SIGNAL INPUT F. ch harness connect hazard switch harn ) switch Terminal 2 CH SIGNAL OPEN F. ss connector M18. en hazard switch ha	tor M26. Thess connector M2 (-) Ground CIRCUIT Arness connector a	6 and ground. (/ (/ 15 10 5 0 •••••••••••••••••••••••••••••	Approx.)
1.CHECK HAZARD SWITC         1. Turn ignition switch OF         2. Disconnect hazard swit         3. Turn ignition switch ON         4. Check voltage between         (+)         (+)         Hazard         Connector         M26         Is the inspection result norm         YES       > GO TO 4.         NO       >> GO TO 2.         2.CHECK HAZARD SWITC       1. Turn ignition switch OF         2. Disconnect BCM harne       3. Check continuity betwee	CH SIGNAL INPUT F. ch harness connect hazard switch harn ) switch Terminal 2 CH SIGNAL OPEN F. ss connector M18. en hazard switch ha	tor M26. Thess connector M2 (-) Ground CIRCUIT Arness connector a	6 and ground. (/) 15 10 5 0 10 5 0 10 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1	Approx.)

### < DTC/CIRCUIT DIAGNOSIS >

# $\mathbf{3}$ .check hazard switch signal short circuit

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity
Connector	Connector Terminal		Continuity
M26	2		No

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-78, "Removal and Installation"</u>.

NO >> Repair or replace the harness or connector.

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazard	d switch		Continuity
Connector	Connector Terminal		Continuity
M26	3		Yes

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-146, "Removal and Installation".

NO >> Repair or replace the harness or connectors.

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

#### < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

## Symptom Table

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#### **CAUTION:**

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

Sym	ptom	Possible cause	Inspection item
Headlamp does not	One side	<ul> <li>Fuse</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>Harness between the front com- bination lamp and ground</li> </ul>	Headlamp (HI) circuit Refer to <u>EXL-107</u> .
switch to the high beam.	Both sides	_	Symptom diagnosis BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM Refer to <u>EXL-130</u> .
High beam indicator lamp lamp switched to the high		<ul><li>BCM</li><li>Combination meter</li></ul>	<ul> <li>Combination meter Data monitor HI-BEAM IND</li> <li>BCM (HEAD LAMP) Active test "HEADLAMP"</li> </ul>
Headlamp does not switch	n to the low beam.	<ul> <li>Combination switch (lighting and turn signal switch)</li> <li>Harness between the combina- tion switch and BCM</li> <li>BCM</li> <li>IPDM E/R</li> </ul>	Combination switch (lighting and turn signal switch) Refer to <u>BCS-77</u> .
		High beam request signal • BCM • IPDM E/R	IPDM E/R Data monitorHL HI REQ
Headlamp does not turn ON.	One side	<ul> <li>Fuse</li> <li>Harness between IPDM E/R and the front combination lamp</li> <li>Front combination lamp</li> <li>Harness between the front com- bination lamp and ground</li> </ul>	Headlamp (LO) circuit Refer to <u>EXL-109</u> .
	Both sides	_	Symptom diagnosis BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON Refer to <u>EXL-131</u> .
Headlamp doop not turn	When the ignition switch is turned ON	<ul> <li>BCM</li> <li>Combination switch (lighting and turn signal switch)</li> </ul>	Combination switch (lighting and turn signal switch) Refer to <u>BCS-77</u> .
Headlamp does not turn OFF.	The ignition switch is turned OFF (After acti- vating the battery sav- er).	IPDM E/R	_
Headlamp is not turned ON/OFF with lighting switch		<ul> <li>Combination switch (lighting and turn signal switch)</li> <li>Harness between combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <u>BCS-77</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-122</u> .

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

### < SYMPTOM DIAGNOSIS >

Symp	otom	Possible cause	Inspection item
Daytime light system does not activate. (if equipped)		<ul> <li>Fuse</li> <li>Harness between IPDM E/R and the daytime light relay</li> <li>Harness between daytime light relay and the daytime lamp</li> <li>Harness between the daytime lamp and ground</li> <li>Daytime light bulb</li> <li>IPDM E/R</li> <li>Daytime light relay</li> <li>BCM</li> </ul>	<b>Symptom diagnosis</b> Daytime light system inoperative. Refer to <u>EXL-134</u> .
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>Front fog lamp</li> <li>IPDM E/R</li> </ul>	Front fog lamp circuit Refer to <u>EXL-114</u> .
tumed ON.	Both sides	_	Symptom diagnosis BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON Refer to <u>EXL-114</u> .
Parking lamp is not turned ON.	One side	<ul> <li>Parking lamp bulb</li> <li>Harness between IPDM E/R and front/rear combination lamp</li> <li>Harness between front/rear combination lamp and ground</li> <li>Front/rear combination lamp</li> <li>IPDM E/R</li> </ul>	Parking lamp circuit Refer to <u>EXL-116</u> .
	Both sides		Symptom diagnosis PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON Refer to <u>EXL-132</u> .
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (The applicable side performs the high flash- er activation).	<ul> <li>Hazard BCM and each turn signal lamp</li> <li>Turn signal lamp bulb</li> </ul>	Turn signal lamp circuit Refer to <u>EXL-119</u> .
	One side	Combination meter	_
Turn signal indicator lamp	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>BCM</li> <li>Combination meter</li> </ul>	<ul> <li>Combination meter Data monitor TURN IND</li> <li>BCM (FLASHER) Active test FLASHER</li> </ul>
does not blink.	Both sides (Does blink when acti- vating hazard warning lamp with the 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-59</u> .
<ul> <li>Hazard warning lamp do</li> <li>Hazard warning lamp co signal is normal).</li> </ul>		<ul> <li>Hazard switch</li> <li>Harness between the hazard switch and BCM</li> <li>BCM</li> </ul>	Hazard switch Refer to <u>EXL-125</u> .

## < SYMPTOM DIAGNOSIS > NORMAL OPERATING CONDITION

# Description

## AUTO LIGHT SYSTEM

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

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INFOID:000000008511201

# BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

## < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

# Description

INFOID:000000008511202

The headlamps (both sides) do not switch to high beam when the lighting switch is in the HI or PASS setting.

## **Diagnosis** Procedure

INFOID:000000008511203

# 1.COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to BCS-77, "Symptom Table".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

#### **CONSULT DATA MONITOR**

1. Select HL HI REQ of IPDM E/R DATA MONITOR item.

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

Monitor item	Condition		Monitor status
HL HI REQ	Lighting switch position	HI or PASS	ON
	Lighting switch position Except for HI or PASS		OFF

Is the inspection results normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-78, "Removal and Installation"</u>.

 $\mathbf{3}$ .HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-107. "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32</u>, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description			INFOID:00000008511204
	a) da natitura ON in any lighting	owitch patting	
	s) do not turn ON in any lighting	switch setting.	
Diagnosis Procedure	;		INFOID:00000008511205
1.CHECK COMBINATION	N SWITCH (LIGHTING AND TU	RN SIGNAL SWITCH)	
	itch (lighting and turn signal swi	tch). Refer to <u>BCS-77, "</u>	Symptom Table".
s the inspection results no	<u>irmal?</u>		
YES >> GO TO 2.	ace the malfunctioning part.		
YES >> GO TO 2. NO >> Repair or repla	ace the malfunctioning part. .O) REQUEST SIGNAL INPUT		
YES >> GO TO 2. NO >> Repair or repla CHECK HEADLAMP (L	.0) REQUEST SIGNAL INPUT		
YES >> GO TO 2. NO >> Repair or replace CHECK HEADLAMP (L CONSULT DATA MONIT Select HL LO REQ of	.O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter		
YES >> GO TO 2. NO >> Repair or replace CHECK HEADLAMP (L CONSULT DATA MONIT Select HL LO REQ of	.0) REQUEST SIGNAL INPUT		
YES >> GO TO 2. NO >> Repair or replace CHECK HEADLAMP (L CONSULT DATA MONIT Select HL LO REQ of	.O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter	status.	Monitor status
YES >> GO TO 2. NO >> Repair or repla 2.CHECK HEADLAMP (L CONSULT DATA MONI Select HL LO REQ of While operating the lig	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phting switch, check the monitor	status. n Headlamp	ON
YES >> GO TO 2. NO >> Repair or repla 2.CHECK HEADLAMP (L CONSULT DATA MONI Select HL LO REQ of While operating the lig Monitor item	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phing switch, check the monitor Conditio Lighting switch position	status.	
YES >> GO TO 2. NO >> Repair or repla 2.CHECK HEADLAMP (L CONSULT DATA MONIT Select HL LO REQ of While operating the lig Monitor item HL LO REQ	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phing switch, check the monitor Conditio Lighting switch position	status. n Headlamp	ON
YES >> GO TO 2. NO >> Repair or repla 2.CHECK HEADLAMP (L CONSULT DATA MONI Select HL LO REQ of While operating the lig Monitor item HL LO REQ Sthe inspection results no YES >> GO TO 3.	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phing switch, check the monitor Conditio Lighting switch position	status. n Headlamp OFF	ON
YES >> GO TO 2. NO >> Repair or repla CHECK HEADLAMP (L CONSULT DATA MONI Select HL LO REQ of While operating the lig Monitor item HL LO REQ Sthe inspection results no YES >> GO TO 3. NO >> Replace BCM	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phting switch, check the monitor Conditio Lighting switch position ormal? . Refer to <u>BCS-78, "Removal an</u>	status. n Headlamp OFF	ON
YES >> GO TO 2. NO >> Repair or repla 2.CHECK HEADLAMP (L CONSULT DATA MONI Select HL LO REQ of While operating the lig Monitor item HL LO REQ Sthe inspection results no YES >> GO TO 3. NO >> Replace BCM 3.HEADLAMP (LO) CIRC	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phting switch, check the monitor Conditio Lighting switch position ormal? . Refer to <u>BCS-78, "Removal an</u>	status. n Headlamp OFF of Installation".	ON
YES >> GO TO 2. NO >> Repair or repla 2.CHECK HEADLAMP (L CONSULT DATA MONI Select HL LO REQ of While operating the lig Monitor item HL LO REQ S the inspection results no YES >> GO TO 3. NO >> Replace BCM 3.HEADLAMP (LO) CIRC	O) REQUEST SIGNAL INPUT TOR IPDM E/R DATA MONITOR iter phing switch, check the monitor Condition Lighting switch position Drmal? Curral? Curral? Curral? Curral? Curral?	status. n Headlamp OFF of Installation".	ON

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

< SYMPTOM DIAGNOSIS >

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

## Description

INFOID:000000008511206

The parking, license plate, tail lamps and side marker lamps do not turn ON with the combination switch in any setting.

## Diagnosis Procedure

INFOID:000000008511207

## **1.**COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) INSPECTION

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-77, "Symptom Table"</u>. Is the inspection results normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

T. Select TAIL & CLR REQ of IPDM E/R DATA MONITOR item.

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

Monitor item	Condition		Monitor status
TAIL&CLR REQ	Lighting switch position	Parking lamp	ON
TAILOULININEQ		OFF	OFF

Is the inspection results normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-78, "Removal and Installation"</u>.

**3.** PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-116. "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-32</u>, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description			INFOID:00000008511208
The front fog lamps do no	t turn ON in any setting.		
Diagnosis Procedure	e		INFOID:00000008511209
1.COMBINATION SWITC	CH (LIGHTING AND TUR	RN SIGNAL SWITCH) INSPECTIO	N
Check the combination sw s the inspection results no		nal switch). Refer to <u>BCS-77, "Sy</u>	mptom Table".
YES >> GO TO 2. NO >> Repair or repl	ace the malfunctioning pa		
YES >> GO TO 2. NO >> Repair or repl 2.CHECK FRONT FOG	LAMP REQUEST SIGNA		
YES >> GO TO 2. NO >> Repair or repl CHECK FRONT FOG WITH CONSULT DATA Select FR FOG REQ	LAMP REQUEST SIGNA	L INPUT	
YES >> GO TO 2. NO >> Repair or repl CHECK FRONT FOG WITH CONSULT DATA Select FR FOG REQ	LAMP REQUEST SIGNA MONITOR of IPDM E/R DATA MON	L INPUT	Monitor status
YES >> GO TO 2. NO >> Repair or repl CHECK FRONT FOG WITH CONSULT DATA Select FR FOG REQ While operating the fr	LAMP REQUEST SIGNA MONITOR of IPDM E/R DATA MON ont fog lamp switch, chec	L INPUT ITOR item. ck the monitor status. Condition Front fog lamp and Headlamp	ON
YES >> GO TO 2. NO >> Repair or repl CHECK FRONT FOG WITH CONSULT DATA Select FR FOG REQ While operating the fr	LAMP REQUEST SIGNA MONITOR of IPDM E/R DATA MON ont fog lamp switch, chec Lighting switch position	L INPUT ITOR item. ck the monitor status.	

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

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# DAYTIME LIGHT SYSTEM INOPERATIVE

#### < SYMPTOM DIAGNOSIS >

# DAYTIME LIGHT SYSTEM INOPERATIVE

## Description

INFOID:000000008511210

The daytime light system is inoperative even though the combination switch (lighting and turn signal switch) and parking brake switch are in the normal setting, also whenever the engine is operating.

## **Diagnosis Procedure**

INFOID:000000008511211

# 1. CHECK DAYTIME LIGHT OPERATION

- 1. Perform BCM(HEADLAMP) DAYTIME RUNNING LIGHT active test. Refer to <u>BCS-17, "HEADLAMP :</u> <u>CONSULT Function (BCM - HEADLAMP)"</u>.
- 2. Check that the daytime lights turn on.

#### Is the inspection results normal?

YES >> Replace BCM. Refer to <u>BCS-78. "Removal and Installation"</u>.

NO >> GO TO 2.

2. CHECK DAYTIME LIGHT RELAY FUSE

1. Turn ignition switch OFF.

2. Check that the following fuse is not blown.

Unit	Fuse No.	Capacity
Daytime light	43	10 A

Is the inspection result normal?

YES >> GO TO 3.

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

**3.**CHECK DAYTIME LIGHT BULBS

Check that the daytime light bulbs are not open.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the bulbs.

**4.**PERFORM DAYTIME LIGHT CIRCUIT INSPECTION

Check the daytime light circuit. Refer to EXL-111, "Diagnosis Procedure".

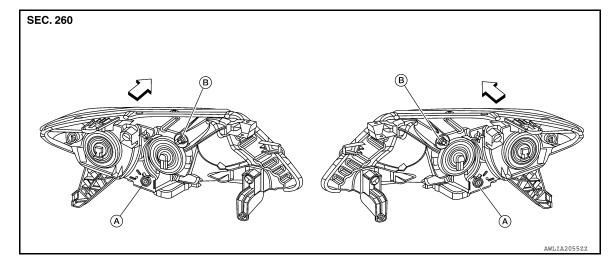
Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-32. "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

# < PERIODIC MAINTENANCE > PERIODIC MAINTENANCE HEADLAMP

Inspection	INFOID:000000008511212	В
<ul> <li>PREPARATION BEFORE ADJUSTING</li> <li>Before performing aiming adjustment, check the following:</li> <li>Ensure all tires are inflated to correct pressure.</li> <li>Place vehicle and screen on level surface.</li> </ul>		С
<ul> <li>Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver'</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>	s position).	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>		Е
<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</li> <li>Place the front tires in the straight ahead position.</li> </ul>	static load.	F
<ul> <li>Confirm headlamp aiming switch is set to "0" (zero) position.</li> <li>Aim each headlamp individually and ensure other headlamp beam pattern is blocked from so NOTE:</li> </ul>	creen.	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 adjustable.</li> <li>Use adjusting screw to perform aiming adjustment.</li> </ul>	vertical aim is	Н
<ul> <li>Perform headlamp aiming if:</li> <li>The vehicle front body has been repaired.</li> <li>The front combination lamp has been removed or replaced.</li> </ul>		I
<ul> <li>Any outfitting has been installed.</li> <li>The vehicle's standard load condition has been substantially increased.</li> <li>AIMING ADJUSTMENT SCREW</li> </ul>		J



A. Headlamp HI/LO (UP/DOWN) adjust- B. Headlamp HI/LO (Left/Right) adjust- <>>> Front ment screw

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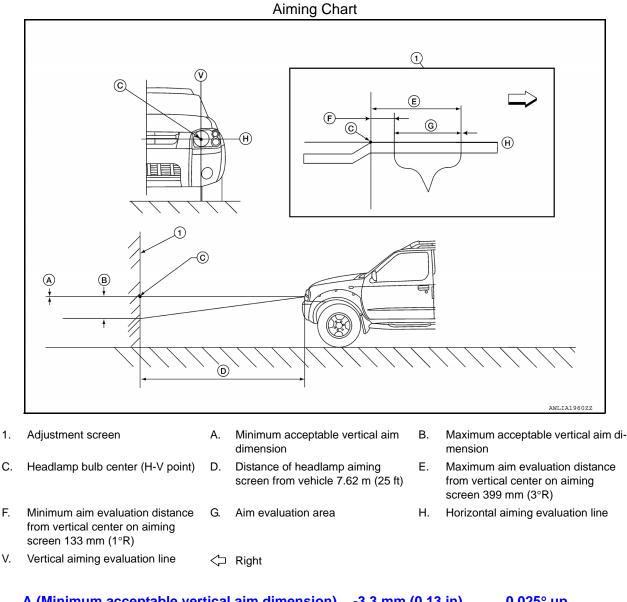
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## **HEADLAMP**

### < PERIODIC MAINTENANCE >

## **Aiming Adjustment Procedure**

INFOID:000000008511213



A (Minimum acceptable vertical aim dimension) -3.3 mm (0.13 in) 0.025° up **B** (Maximum acceptable vertical aim dimension) 36.6 mm (1.44 in) 0.275° down

#### LOW BEAM AND HIGH BEAM

#### NOTE:

F.

- 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 (if equipped) are turned off.
- Block the opposite headlamp from projecting a beam pattern onto the adjustment screen, using a suitable 2. object. Aim each headlamp individually. **CAUTION:**

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

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

	Distance (D) between the headlamp center and the screen : 7.62 m (25 ft)	A
5. 6. 7.	Start the engine and turn the headlamp on. Determine the preferred vertical aim range dimensions, using the aiming chart. Measure the projected beam within the aim evaluation segment on the screen.	В
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.	С
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# FRONT FOG LAMP AIMING ADJUSTMENT

### < PERIODIC MAINTENANCE >

# FRONT FOG LAMP AIMING ADJUSTMENT

## **Aiming Adjustment**

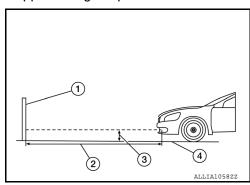
#### NOTE:

Check the following conditions before performing the aiming adjustment.

- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver seat.
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.
- 1. Set the distance between the screen and the center of the fog

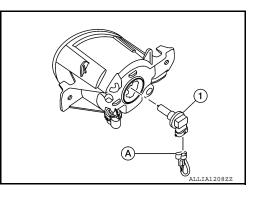
lamp lens as shown.

- (1) Aiming screen or a matte white surface
- (2) 7.62 m (25 ft)
- (3) Floor to center of fog lamp lens
- (4) Floor

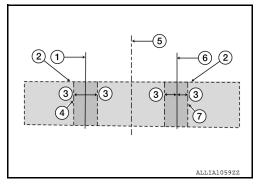


INFOID:000000008511214

- 2. Turn front fog lamps ON.
- 3. Access adjustment screw from underneath front bumper. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown. Turn screw clockwise to raise pattern and counterclockwise to lower pattern.



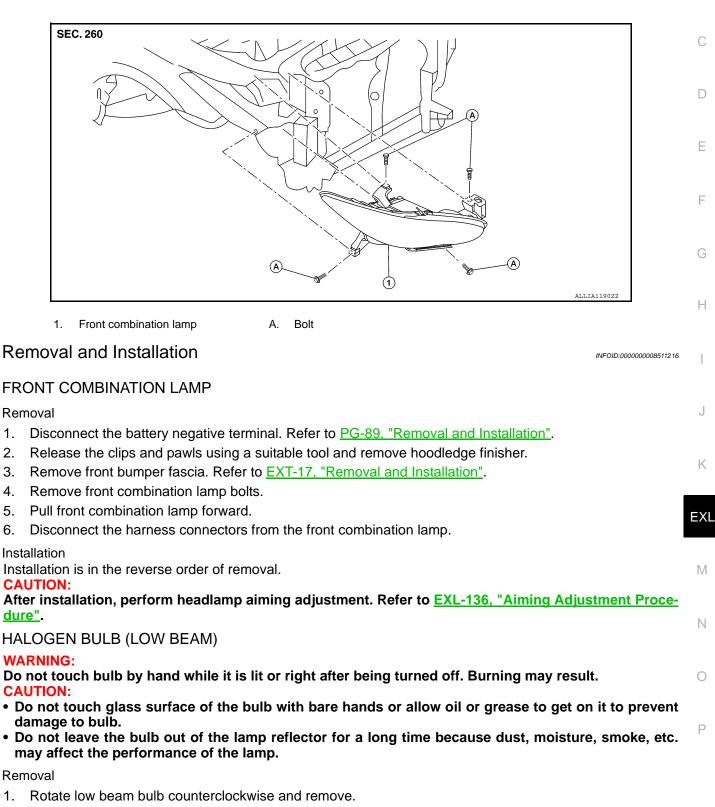
- (1) Vertical center line of (LH) fog lamp
- (2) Lamp center above ground
- (3) 100 mm (4 in) (0.76 deg) below lamp center above ground
- (4) (LH) fog lamp high intensity area
- (5) Vehicle center axis
- (6) Vertical center line of (RH) fog lamp
- (7) (RH) fog lamp high intensity area



# Exploded View

INFOID:000000008511215

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2. Disconnect the harness connector from the low beam bulb.

#### Installation

< REMOVAL AND INSTALLATION >

Installation is in the reverse order of removal.

#### **CAUTION:**

After installation, perform headlamp aiming adjustment. Refer to EXL-136, "Aiming Adjustment Procedure".

#### HALOGEN BULB (HIGH BEAM)

#### 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 the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.

Removal

- 1. Rotate high beam bulb counterclockwise and remove.
- 2. Disconnect the harness connector from the high beam bulb.

## Installation

Installation is in the reverse order of removal.

#### **CAUTION:**

After installation, perform headlamp aiming adjustment. Refer to EXL-136, "Aiming Adjustment Procedure".

#### PARKING LAMP BULB

#### 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 the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.

#### Removal

- 1. Remove the front combination lamp.
- 2. Rotate parking lamp socket counterclockwise and remove.
- 3. Remove parking lamp bulb from the bulb socket.

#### Installation

Installation is in the reverse order of removal.

#### **CAUTION:**

After installing, be sure to install the bulb socket securely to ensure watertightness.

#### FRONT TURN SIGNAL LAMP BULB

#### 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 the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.

#### Removal

- 1. Remove the front combination lamp.
- 2. Rotate front turn signal lamp socket counterclockwise and remove.
- 3. Remove front turn signal lamp bulb from the bulb socket.

#### Installation

Installation is in the reverse order of removal.

#### **CAUTION:**

After installing, be sure to install the bulb socket securely to ensure watertightness.

< REMOVAL AND INSTALLATION >	
FRONT SIDE MARKER LAMP BULB	
<ul> <li>WARNING:</li> <li>Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.</li> <li>CAUTION:</li> <li>Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent domage to bulb</li> </ul>	A
<ul> <li>damage to bulb.</li> <li>Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.</li> </ul>	С
Removal	0
<ol> <li>Remove the front combination lamp.</li> <li>Rotate front side marker lamp socket counterclockwise and remove.</li> <li>Remove front side marker lamp bulb from the bulb socket.</li> </ol>	D
Installation Installation is in the reverse order of removal. CAUTION:	E
After installing, be sure to install the bulb socket securely to ensure watertightness.	F
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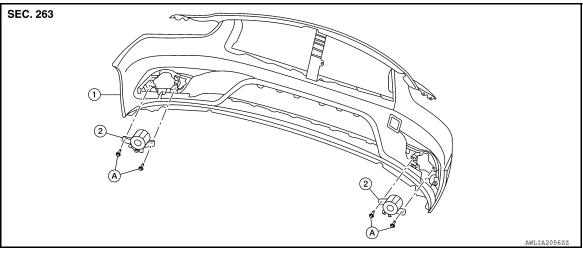
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# FRONT FOG LAMP

# Exploded View

INFOID:000000008511217



- 1. Front bumper fascia
- 2. Front fog lamp

A. Bolt

# Removal and Installation

INFOID:000000008511218

## FRONT FOG LAMP

#### Removal

- 1. Partially remove the fender protector. Refer to EXT-28. "FENDER PROTECTOR : Removal and Installation".
- 2. Disconnect the harness connector(s) from the front fog lamp and daytime running lamp (if equipped).
- 3. Remove bolts and the front fog lamp.

#### Installation

Installation in the reverse order of removal.

#### **CAUTION:**

## After installation, perform fog lamp aiming adjustment. Refer to EXL-138, "Aiming Adjustment".

## FRONT FOG LAMP BULB

#### 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 the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.

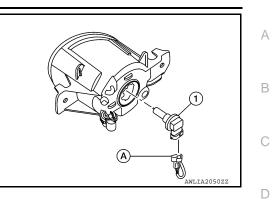
Removal

1. Partially remove the front fender protector. Refer to <u>EXT-28</u>, "FENDER PROTECTOR : Removal and <u>Installation"</u>.

# FRONT FOG LAMP

### < REMOVAL AND INSTALLATION >

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



Installation Installation is in the reverse order of removal.



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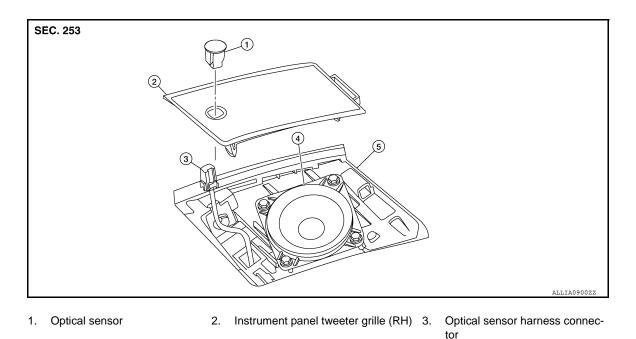
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# OPTICAL SENSOR

# Exploded View

INFOID:000000008511219



4. Instrument panel tweeter (RH) 5. Instrument panel

## Removal and Installation

INFOID:000000008511220

#### **CAUTION:**

# Whenever a suitable tool is used, always wrap the a cloth around the end of the tool to protect components from damage.

#### REMOVAL

- 1. Remove the instrument panel tweeter grille (RH) using a suitable tool.
- 2. Disconnect the harness connector from the optical sensor.
- 3. Release pawls and remove the optical sensor from the instrument panel tweeter grille (RH).

#### INSTALLATION

Installation is in the reverse order of removal.

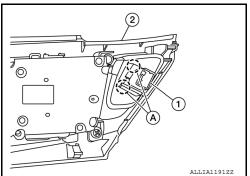
< REMOVAL AND INSTALLATION > LIGHTING & TURN SIGNAL SWITCH	
Removal and Installation	А
The lighting and turn signal switch is integrated into the combination switch and is replaced as an assembly. Refer to <u>BCS-79. "Removal and Installation"</u> .	В
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# HAZARD SWITCH

# Removal and Installation

REMOVAL

- 1. Remove cluster lid C. Refer to IP-22, "Removal and Installation Cluster Lid C".
- Release the pawls (A) and remove the hazard switch (1) from cluster lid C (2).
   (\_):Pawl



INSTALLATION Installation is in the reverse order of removal. INFOID:000000008511223

# **REAR COMBINATION LAMP**

## < REMOVAL AND INSTALLATION >

# **REAR COMBINATION LAMP**

# Exploded View

INFOID:000000008511224

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AWLIA2031ZZ       1. Rear combination lamp       2. Rear combination lamp bolt cover       A. Bolt	G
Removal and Installation	Н
REAR COMBINATION LAMP	
<ol> <li>Removal</li> <li>Release metal clip and pawls using a suitable tool and remove rear combination lamp bolt cover.</li> <li>Remove rear combination lamp bolts.</li> <li>Pull rear combination lamp rearward.</li> </ol>	l J
<ol> <li>Disconnect the harness connector from the rear combination lamp.</li> <li>Installation</li> <li>Installation is in the reverse order of removal.</li> <li>REAR TURN SIGNAL LAMP BULB</li> </ol>	K
WARNING: Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.	ΕX
<ul> <li>CAUTION:</li> <li>Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.</li> <li>Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.</li> </ul>	Μ
Removal	Ν
<ol> <li>Remove the rear combination lamp.</li> <li>Rotate the rear turn signal lamp socket counterclockwise and remove.</li> <li>Remove the rear turn signal lamp bulb from bulb socket.</li> </ol>	0
Installation Installation is in the reverse order of removal.	Ρ

# HIGH-MOUNTED STOP LAMP

Removal and Installation

## REMOVAL

- 1. Remove rear spoiler. Refer to EXT-41, "Removal and Installation".
- 2. Remove high-mounted stop lamp nuts and remove.

### INSTALLATION

Installation is in the reverse order of removal.

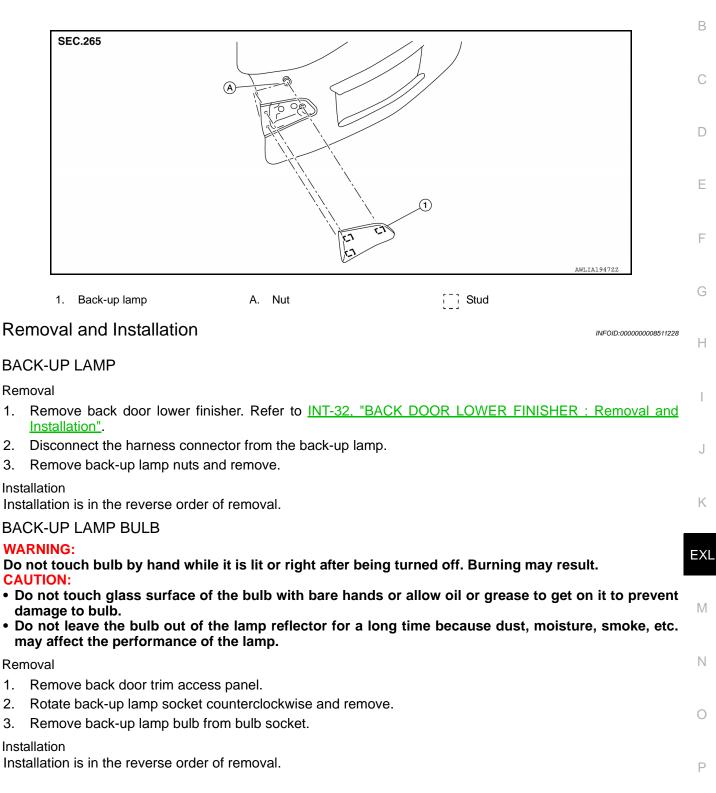
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# BACK-UP LAMP

# Exploded View

INFOID:000000008511227

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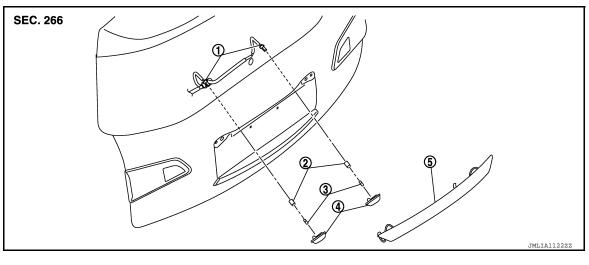


# LICENSE PLATE LAMP

# **Exploded View**

INFOID:000000008511229

INFOID:00000008511230



- License plate lamp harness
   License plate lamp gasket
- License plate lamp socket
   License plate lamp
- 3. License plate lamp bulb

# Removal and Installation

## LICENSE PLATE LAMP

#### Removal

- 1. Remove license lamp finisher. Refer to EXT-43. "Removal and Installation".
- 2. Release clips using a suitable tool and remove license plate lamp.

#### Installation

Installation is in the reverse order of removal.

# LICENSE PLATE LAMP BULB

Removal

#### WARNING:

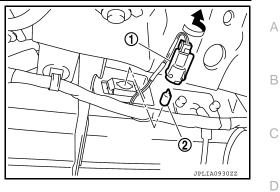
Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.

- CAUTION:
- Do not touch glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.
- 1. Remove back door lower finisher. Refer to <u>INT-32</u>, "BACK DOOR LOWER FINISHER : Removal and <u>Installation"</u>.
- 2. Disconnect the harness connector from the license plate lamp.

# LICENSE PLATE LAMP

## < REMOVAL AND INSTALLATION >

- 3. Rotate license plate lamp socket (1) counterclockwise and remove.
- 4. Remove license plate lamp bulb (2) from bulb socket.



Installation Installation is in the reverse order of removal.



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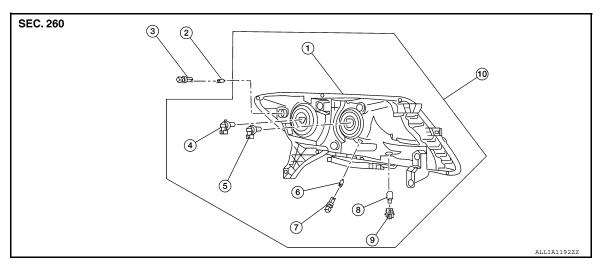
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# **Exploded View**

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- 1. Front combination lamp
- 4. Halogen lamp bulb (low beam)
- 7. Parking lamp bulb socket
- 10. Front combination lamp assembly
- Side marker lamp bulb
   Halogen lamp bulb (high l
- 8. Parking lamp bulb
- 3. Side marker bulb socket
- Halogen lamp bulb (high beam) 6. Front turn signal lamp bulb
  - 9. Front turn signal bulb socket

Disassembly and Assembly

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#### 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 the bulb with bare hands or allow oil or grease to get on it to prevent damage to bulb.
- Do not leave the bulb out of the lamp reflector for a long time because dust, moisture, smoke, etc. may affect the performance of the lamp.

#### DISASSEMBLY

- 1. Remove the front combination lamp. Refer to EXL-139, "Removal and Installation".
- 2. Rotate the halogen lamp bulb (low beam) counterclockwise and remove.
- 3. Rotate the halogen lamp bulb (high beam) counterclockwise and remove.
- 4. Rotate parking lamp socket counterclockwise and remove.
- 5. Remove parking lamp bulb from parking bulb socket.
- 6. Rotate front turn signal lamp socket counterclockwise and remove.
- 7. Remove front turn signal lamp bulb from front turn signal bulb socket.
- 8. Rotate side marker lamp socket counterclockwise and remove.
- 9. Remove side marker lamp bulb from side marker bulb socket.

#### ASSEMBLY

Assembly is in the reverse order of disassembly.

## **REAR COMBINATION LAMP**

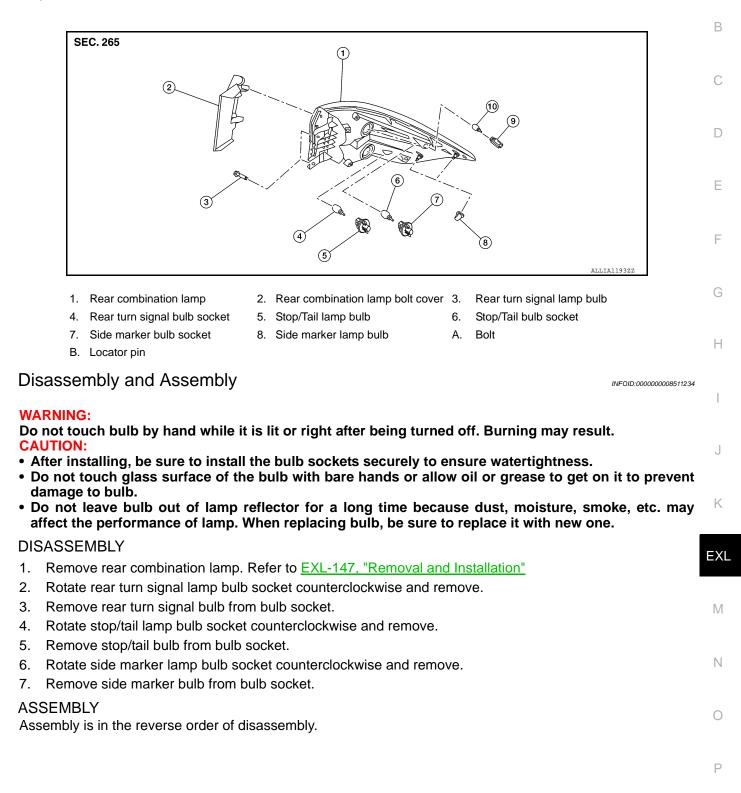
## < UNIT DISASSEMBLY AND ASSEMBLY >

# REAR COMBINATION LAMP

# **Exploded View**

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# SERVICE DATA AND SPECIFICATIONS (SDS)

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# **Bulb Specifications**

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	Item	Wattage (W) *
	High beam	60
	Low beam	55
Front combination lamp	Front turn signal lamp	21
	Parking lamp	5
	Side marker lamp	5
Front fog lamp	Fog lamp (if equipped)	55
Daytime running lamp built-in for	g lamp (Canada only)	19
	Stop/Tail lamp	21/5
Rear combination lamp	Turn signal lamp	21
	Side marker lamp	5
Back-up lamp		16
License plate lamp		5
High-mounted stop lamp		_

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