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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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the 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 three minutes before performing any service.

Precaution for Work

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

PREPARATION

< PREPARATION >

PREPARATION

PREPARATION

Special Service Tool

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

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

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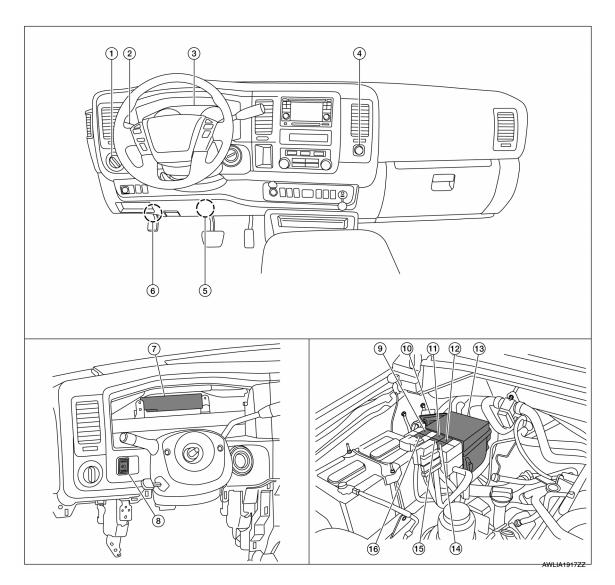
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SYSTEM DESCRIPTION

COMPONENT PARTS EXTERIOR LIGHTING SYSTEM

EXTERIOR LIGHTING SYSTEM: Component Parts Location



- 1. Lighting switch
- 4. Hazard switch
- BCM (view with instrument panel removed)
- 10. ECM
- 13. IPDM E/R
- 16. Daytime running light relay 2
- 2. Combination switch (high beam and turn signal switch)
- 5. Stop lamp switch
- 8. Front fog lamp switch (passenger van, 9. if equipped)
- 11. Trailer tow relay 1
- 14. Trailer turn relay RH

- 3. Combination meter
- 6. Parking brake switch
- 9. Daytime running light relay 1

INFOID:0000000012519657

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- 12. Trailer tow relay 2
- 15. Trailer turn relay LH

EXTERIOR LIGHTING SYSTEM: Component Description

Part name Description

BCM Controls the exterior lighting system.

COMPONENT PARTS

< SYSTEM DESCRIPTION >

Combination meter	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (via CAN communication). Turns the tail lamp indicator lamp and high beam indicator lamp ON according to the request from BCM (via CAN communication).
Combination switch (high beam and turn signal switch)	Refer to BCS-7, "COMBINATION AND LIGHTING SWITCH READING SYSTEM: System Description".
Hazard switch	Hazard flasher request signal is output to the BCM.
IPDM E/R	Controls the integrated relays, and supplies voltage to the load according to the request from BCM (via CAN communication).
Lighting switch	Refer to BCS-7, "COMBINATION AND LIGHTING SWITCH READING SYSTEM: System Description".
Stop lamp switch	Stop lamp signal is output to the rear combination lamps and high-mounted stop lamp.
Parking brake switch	Parking brake request signal is output to the combination meter.
Front fog lamp switch	Front fog lamp switch signal input to BCM.

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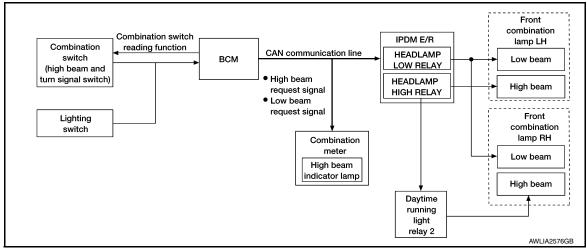
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SYSTEM HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Diagram - For USA

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HEADLAMP SYSTEM: System Description - For USA

INFOID:0000000012519659

LOW BEAM OPERATION

When the lighting switch is in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R via the CAN communication lines.

The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the LH and RH low beam headlamps.

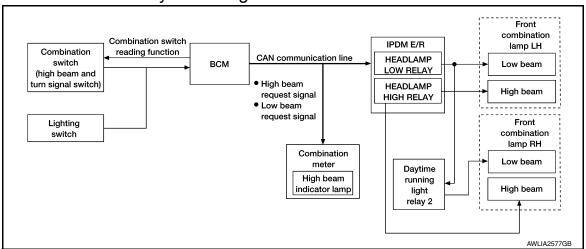
HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the 2ND position and the combination switch (high beam and turn signal switch) 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 via 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 LH high beam headlamp and the daytime running light relay 2 which then supplies power to the RH high beam headlamp. The combination meter receives a high beam request signal (ON) via the CAN communication lines and turns the high beam indicator lamp ON.

HEADLAMP SYSTEM: System Diagram - For Canada

INFOID:0000000012519660



HEADLAMP SYSTEM: System Description - For Canada

INFOID:0000000012519661

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LOW BEAM OPERATION

Revision: August 2015

When the lighting switch is in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R via the CAN communication lines.

The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the LH low beam headlamp and the daytime running light relay 2 which then supplies power to the RH low beam headlamp.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the 2ND position and the combination switch (high beam and turn signal switch) 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 via the CAN communication lines. The CPU of the combination meter controls the ON/OFF status off the HIGH BEAM indicator.

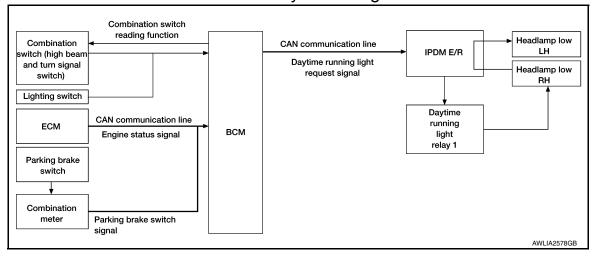
The CPU of the IPDM E/R controls the headlamp high relay coil which supplies power to the LH and RH high beam headlamps.

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

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM: System Diagram - For USA

INFOID:0000000012519662



DAYTIME RUNNING LIGHT SYSTEM: System Description - For USA

INFOID:0000000012519663

The headlamp system is equipped with a daytime running light relay 1 that activates the low beam headlamps at approximately half illumination whenever the engine is operating and the lighting switch is in the OFF position. If the parking brake is applied before the engine is started the daytime running lights will not be illuminated. The daytime running lights will illuminate once the parking brake is released. With the lighting switch in the 2nd position the headlamps function the same as conventional light systems.

The BCM monitors inputs from the parking brake switch and the lighting switch to determine when to activate the daytime running light system. The BCM sends a daytime running light request to the IPDM E/R via the CAN communication lines.

The IPDM E/R grounds the daytime running light relay 1 which in turn, provides power to the ground side of the RH low beam lamp. Power flows backward through the RH low beam lamp to the IPDM E/R, through fuse 41, through fuse 40 and to the LH low beam lamp and on to ground. The low beam lamps are wired in series which causes them to illuminate at a reduced intensity.

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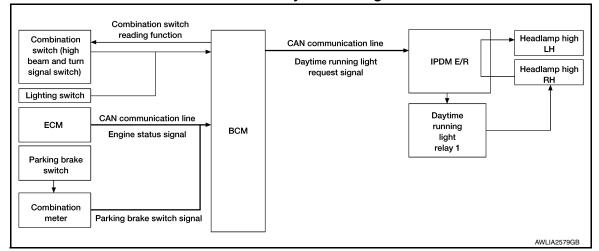
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DAYTIME RUNNING LIGHT SYSTEM: System Diagram - For Canada

INFOID:0000000012519664



DAYTIME RUNNING LIGHT SYSTEM: System Description - For Canada INFOID:000000012519665

The headlamp system is equipped with a daytime running light relay 1 that activates the high beam headlamps at approximately half illumination whenever the engine is operating and the lighting switch is in the OFF position. If the parking brake is applied before the engine is started the daytime running lights will not be illuminated. The daytime running lights will illuminate once the parking brake is released. With the lighting switch in the 2nd position the headlamps function the same as conventional light systems.

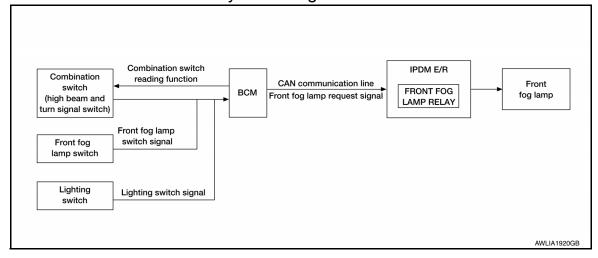
The BCM monitors inputs from the parking brake switch and the lighting switch to determine when to activate the daytime running light system. The BCM sends a daytime running light request to the IPDM E/R via the CAN communication lines.

The IPDM E/R grounds the daytime running light relay 1 which in turn, provides power to the ground side of the RH high beam lamp. Power flows backward through the RH high beam lamp to the IPDM E/R, through fuse 34, fuse 35 and to the LH high beam lamp and on to ground. The high beam lamps are wired in series which causes them to illuminate at a reduced intensity.

FRONT FOG LAMP SYSTEM

FRONT FOG LAMP SYSTEM: System Diagram

INFOID:0000000012519666



FRONT FOG LAMP SYSTEM: System Description

INFOID:0000000012519667

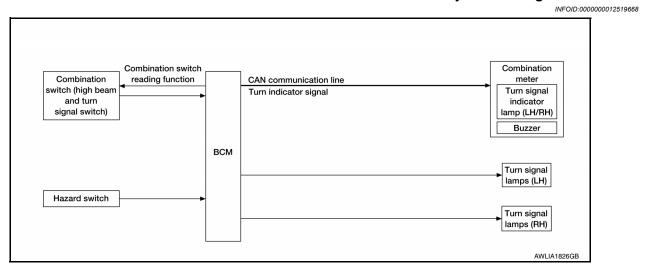
FRONT FOG LAMP OPERATION

The lighting switch must be in the 2ND position (low beam headlamps ON) for front fog lamp operation. With the front fog lamp switch in the ON position, the front fog lamp switch signal to the BCM is monitored with the BCM combination switch reading function. 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 sending power to the front fog lamps.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM: System Diagram



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM: System Description

INFOID:0000000012519669

TURN SIGNAL OPERATION

When the combination switch (high beam and turn signal switch) is in LH or RH position with the ignition switch in ON position, the BCM detects the TURN RH or TURN LH ON request. The BCM outputs the flasher signal 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 ON position, the BCM detects the hazard switch signal ON. The BCM outputs the flasher signal (right and left). The BCM sends a hazard indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the hazard indicator and audible buzzer.

REMOTE KEYLESS ENTRY OPERATION

The remote keyless entry receiver transmits a hazard request signal to the BCM, then BCM controls hazard

Refer to DLK-13, "REMOTE KEYLESS ENTRY SYSTEM: System Description".

PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM

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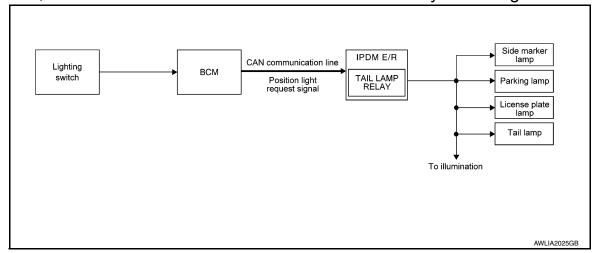
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PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM: System Diagram INFOID:000000012519670



PARKING, LICENSE PLATE AND TAIL LAMP SYSTEM: System Description

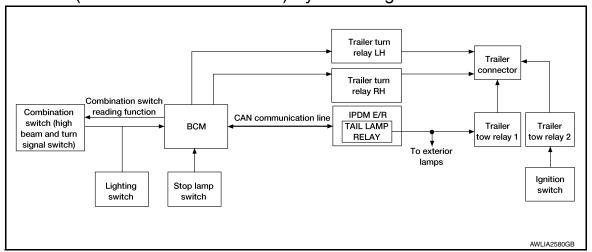
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When the lighting switch is in 1ST position, BCM detects the LIGHTING SWITCH 1ST POSITION ON. The BCM sends a parking light ON request via the CAN communication lines to the IPDM E/R. The IPDM E/R then activates the tail lamp relay which sends power to the parking and instrument illumination circuits.

TAIL LAMPS

TAIL LAMPS: (TRAILER TOW SYSTEM) System Diagram

INFOID:0000000012519672



TAIL LAMPS: (TRAILER TOW SYSTEM) System Description

INFOID:0000000012519673

TRAILER TAIL LAMP OPERATION

The trailer tail lamps are controlled by the trailer tow relay 1. With the lighting switch in the 1st position, the BCM detects the LIGHTING SWITCH 1ST POSITION ON. 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 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 (high beam 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

SYSTEM

< SYSTEM DESCRIPTION >

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

TRAILER BRAKE LAMP OPERATION

The trailer brake lamps are controlled by the BCM. When the brake pedal is depressed, the stop lamp switch sends the brake signal to the BCM. The BCM then sends a control signal to both trailer turn relays which send power to the trailer connector.

EXTERIOR LAMP BATTERY SAVER SYSTEM

EXTERIOR LAMP BATTERY SAVER SYSTEM: System Description

INFOID:0000000012519674

With the lighting switch in the 2ND 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 5 minutes unless the lighting switch position is changed. If the lighting switch position is changed, then the headlamps are turned off.

This setting can be changed by CONSULT. Refer to <u>BCS-24</u>, "<u>BATTERY SAVER</u>: <u>CONSULT Function (BCM - BATTERY SAVER</u>)".

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000012815310

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	 The vehicle specification can be read and saved. The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

		Direct Diagnostic Mode						
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK			×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Combination switch	COMB SW			×				
BCM	ВСМ	×	×			×	×	×
Immobilizer	IMMU		×		×			
Interior room lamp battery saver	BATTERY SAVER			×		×		
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×		×		
Signal buffer system	SIGNAL BUFFER			×	×			
Panic alarm system	PANIC ALARM				×			

BUZZER

< SYSTEM DESCRIPTION >

BUZZER: CONSULT Function (BCM - BUZZER)

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DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
REVERSE SW CAN [On/Off]	Indicates reverse switch signal received from TCM on CAN communication line.
TAIL LAMP SW [On/Off]	Indicates condition of lighting switch.
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.
BUCKLE SW [On/Off]	Indicates condition of seat belt buckle switch.
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.

ACTIVE TEST

Test Item	Description
IGN KEY WARN ALM	This test is able to check key warning chime operation [Off/On].
SEAT BELT WARN TEST	This test is able to check seat belt warning operation [Off/On].
LIGHT WARN ALM	This test is able to check light reminder warning operation [Off/On].

HEADLAMP

HEADLAMP: CONSULT Function (BCM - HEADLAMP)

INFOID:0000000012815312

DATA MONITOR

Monitor Item [Unit]	Description	
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
HI BEAM SW [On/Off]	Indicates condition of combination switch.	
HEAD LAMP SW 1 [On/Off]		
HEAD LAMP SW 2 [On/Off]	Indicates condition of lighting switch.	
TAIL LAMP SW [On/Off]		
PASSING SW [On/Off]	Indicates condition of combination switch.	
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.	
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 back door switch.	
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.	
BACK DOOR SW [On/Off]	Indicates condition of back door switch.	
TURN SIGNAL R [On/Off]	Indicates condition of combination switch.	
TURN SIGNAL L [On/Off]	indicates condition of combination switch.	
KEY ON SW [On/Off]	Indicates condition of key switch.	
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.	
PKB SW [On/Off]	Indicates parking brake switch signal received from combination meter on CAN communication line.	
ENGINE RUN [On/Off]	Indicates run condition of engine.	
VEHICLE SPEED [km/h/mph]	Indicates vehicle speed signal received from combination meter on CAN communication line.	

< SYSTEM DESCRIPTION >

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting		Description		
BATTERY SAVER SET	Off		Exterior lamp battery saver function OFF.		
BATTERT SAVER SET	On*		Exterior lamp battery saver function ON.		
	MODE1*	With twiligh	nt ON custom & with wiper INT, LO and HI		
	MODE2	With twiligh	nt ON custom & with wiper LO and HI		
AUTO LIGHT LOGIC SET	MODE3	With twiligh	nt ON custom & without		
AUTO LIGHT LOGIC SET	MODE4	Without twi	light ON custom & with wiper INT, LO and HI		
	MODE5	Without twi	ilight ON custom & with wiper LO and HI		
	MODE6	Without twilight ON custom & without			
	MODE8	180 sec			
	MODE7	150 sec			
	MODE6	120 sec			
ILL DELAY SET	MODE5	90 sec	Sets delay timer function operation time (all doors closed).		
ILL DELAT SET	MODE4	60 sec	Sets delay little function operation time (all doors closed).		
	MODE3	30 sec			
	MODE2	OFF			
	MODE1*	45 sec			

^{*:} Initial setting

FLASHER

FLASHER: CONSULT Function (BCM - FLASHER)

INFOID:0000000012815313

DATA MONITOR

Monitor Item [Unit]	Description	
HAZARD SW [On/Off]	Indicates condition of hazard switch.	
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch.	
TURN SIGNAL L [On/Off]		

ACTIVE TEST

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

COMB SW

COMB SW: CONSULT Function (BCM - COMB SW)

INFOID:0000000012815314

DATA MONITOR

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	A
TURN SIGNAL R [On/Off]	Indicates condition of turn signal appretion of combination quitab	
TURN SIGNAL L [On/Off]	Indicates condition of turn signal operation of combination switch.	
HI BEAM SW [On/Off]	Indicates condition of HI beam operation of combination switch.	В
HEAD LAMP SW 1 [On/Off]		
HEAD LAMP SW 2 [On/Off]	Indicates condition of lighting switch.	С
TAIL LAMP SW [On/Off]		
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.	
FR FOG SW [On/Off]	Indicates condition of front fog lamp switch.	D
FR WIPER HI [On/Off]		
FR WIPER LOW [On/Off]	Indicates condition of front wiper operation of combination switch.	F
FR WIPER INT [On/Off]		_
FR WASHER SW [On/Off]	Indicates condition of front washer operation of combination switch.	
INT VOLUME [1 - 5]	Indicates condition of intermittent wiper operation of combination switch.	F

BCM

BCM: CONSULT Function (BCM - BCM)

INFOID:0000000012815315

ECU IDENTIFICATION

The BCM part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to BCS-39, "DTC Index".

WORK SUPPORT

Support Item	Support Item Setting Descript	
RESET SETTING VALUE	Reset	Returns BCM to initial value in factory shipment.
MESET SETTING VALUE	Cancel	Cancels the reset function.

CONFIGURATION

Refer to BCS-48, "CONFIGURATION (BCM): Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

BATTERY SAVER

BATTERY SAVER: CONSULT Function (BCM - BATTERY SAVER)

INFOID:0000000012815316

DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
KEY ON SW [On/Off]	Indicates condition of key switch.
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 back door switch.
DOOR SW-RL [On/Off]	Indicates condition of sliding door switch.
BACK DOOR SW [On/Off]	Indicates condition of back door switch.
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.

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< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
KEYLESS LOCK [On/Off]	Indicates condition of lock signal from keyfob.
KEYLESS UNLOCK [On/Off]	Indicates condition of unlock signal from keyfob.
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.
ACC SW [On/Off]	Indicates condition of ignition switch ACC position.

WORK SUPPORT

Support Item	Setting		Description
ROOM LAMP TIMER SET	MODE3	10 min	
	MODE2	60 min	Sets the interior room lamp battery saver timer operating time.
	MODE1*	15 min	

^{*:} Initial setting

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

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AUTO ACTIVE TEST

Description

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

- Oil pressure low warning indicator
- Rear window defogger (if equipped)
- Front wipers
- Tail, license plate, side marker and parking lamps
- Front fog lamps (if equipped)
- Headlamps (Hi, Lo)
- A/C compressor (magnetic clutch)
- Cooling fan

Operation Procedure

Close the hood and front door RH, and lift the wiper arms from the windshield (to prevent windshield damage due to wiper operation).

NOTE:

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

- 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.
- Turn the ignition switch ON within 10 seconds. After that, the horn sounds once and the auto active test starts.
- After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

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

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-50</u>, "<u>Description</u>".
- · Do not start the engine.

Inspection in Auto Active Test Mode

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

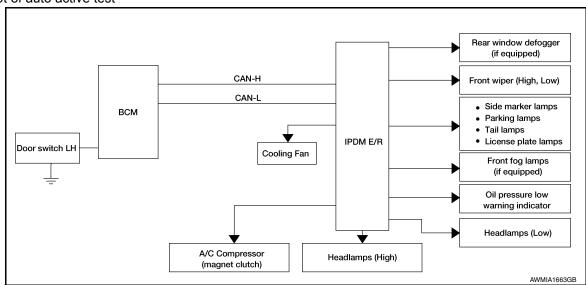
Operation sequence	Inspection Location	Operation
1	Oil pressure low warning indicator	Blinks continuously during operation of auto active test
2	Rear window defogger (if equipped)	10 seconds
3	Front wipers	LO for 5 seconds → HI for 5 seconds
4	Tail, license plate, side marker, parking lamps and front fog lamps (if equipped)	10 seconds
5	Headlamps	LO for 10 seconds → HI on-off for 5 seconds
6	A/C compressor	ON ⇔ OFF 5 times
7	Cooling fan	10 seconds

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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
Oil pressure low warning indicator does not operate	Perform auto active test. Does the oil pressure low warning indicator blink?		IPDM E/R signal input circuit CAN communication signal between ECM and combination meter Oil pressure switch wiring Oil pressure switch
		NO	CAN communication signal between IPDM E/R, BCM and combination meter
		YES	BCM signal input circuit
Rear window defogger (if equipped) does not operate	Perform auto active test. Does the rear window defogger operate?	NO	Harness or connector between front air control CAN communication signal between BCM and IPDM E/R Rear window defogger Rear window defogger ground IPDM E/R
		YES	BCM signal input system
Any of the following components do not operate Front wipers Tail lamps License plate lamps Parking lamps Front fog lamps (if equipped) Headlamps (Hi, Lo) Side marker lamps	Perform auto active test. Does the applicable system operate?	NO	Lamp or front wiper motor malfunction Lamp or front wiper motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R

< SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause	
A/C compressor does not operate	Perform auto active test. Does the A/C compressor op-	YES	BCM signal input circuit CAN communication signal between BCM and ECM CAN communication signal between ECM and IPDM E/R	
A C compressor does not operate	erate?	NO	Magnetic clutch malfunction Harness or connector between IPDM E/R and magnetic clutch IPDM E/R (integrated relay malfunction)	
		YES	ECM signal input circuit CAN communication signal between ECM and IPDM E/ R	
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	Cooling fan motor malfunction Harness or connector between IPDM E/R and cooling fan IPDM E/R (integrated relay malfunction)	

CONSULT Function (IPDM E/R)

INFOID:0000000012815318

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
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.

SELF DIAGNOSTIC RESULT

Refer to PCS-17, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [1/2/3/4]	×	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 communication line
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communication 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 fog lamp request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line

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< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Main Signals	Description
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
ST RLY REQ [On/Off]		Indicates starter request signal received from ECM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
RR DEF REQ [On/Off]	×	Indicates rear defogger request signal received from AV control unit on CAN communication line
OIL P SW [Open/Close]		Indicates condition of oil pressure switch
DTRL REQ [On/Off]		Indicates daytime running light request signal received from BCM on CAN communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

ACTIVE TEST

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

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

BCM, IPDM E/R

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

ECU	Reference
	BCS-28, "Reference Value"
BCM	BCS-39, "Fail-safe"
DCIVI	BCS-39, "DTC Inspection Priority Chart"
	BCS-39, "DTC Index"
	PCS-12, "Reference Value"
IPDM E/R	PCS-16, "Fail Safe"
	PCS-17, "DTC Index"

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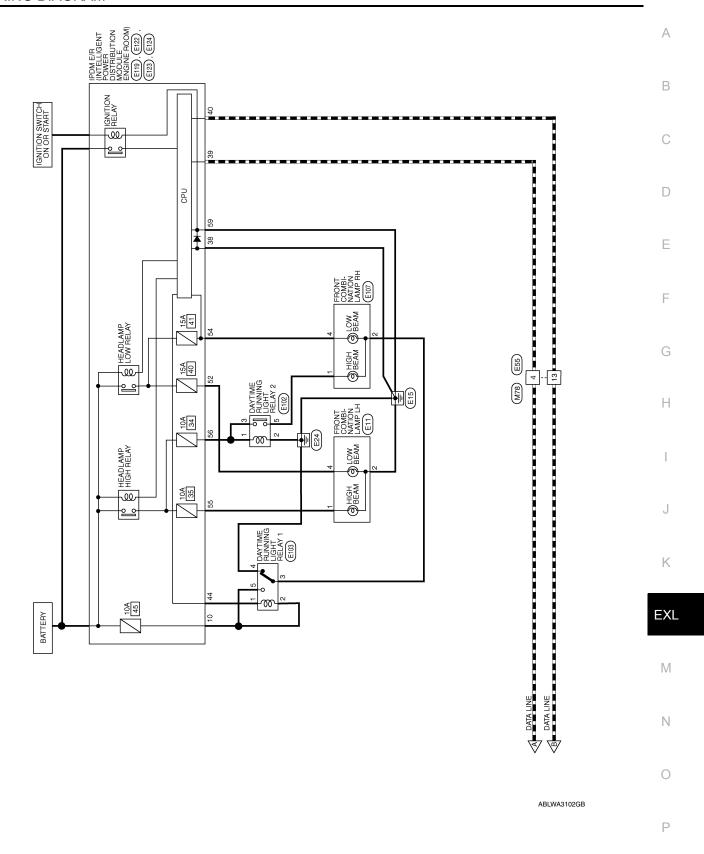
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WIRING DIAGRAM

HEADLAMP

Wiring Diagram -For USA

COMBINATION METER (M23), (M24) JOINT CONNECTOR-M01 (M45) IGNITION SWITCH ACC OR ON 401 9 UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) LIGHTING SWITCH (M34) HIGH BEAM 10A BCM (BODY CONTROL MODULE) (M18), (M20) JOINT CONNECTOR-M04 M14 TO CAN SYSTEM IGNITION SWITCH ON OR START 10A E152 **HEADLAMP - FOR USA** 40**4**□ BATTERY W57



HEADLAMP CONNECTORS - FOR USA

M3	Connector Name FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

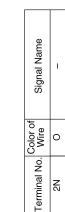
Connector Name JOINT CONNECTOR-M04

Connector No. M14

Connector Color BLUE







Signal Name

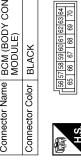
Color of Wire Œ <u>_</u> Œ

Terminal No.

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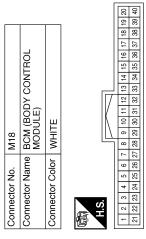
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Signal Name	GND	BATTERY (F/L)
Color of Wire	В	В
Terminal No.	29	70

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	_	Ь	re	0	В	SB	В	>	BR	Υ	В	٦	Ь
Terminal No.	2	8	4	5	9	32	33	34	35	36	38	39	40



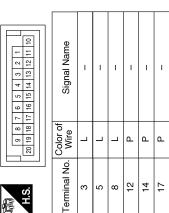
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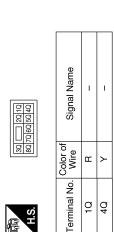
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Connector No. M23 Connector Color MHITE H.S. Selection Signal Name 25 Y BATTERY 31 B GND (POWER) 32 R RUN START	Connector No. M28 Connector Name COMBINATION SWITCH Connector Color WHITE Terminal No. Wire Signal Name 2 P	EXL
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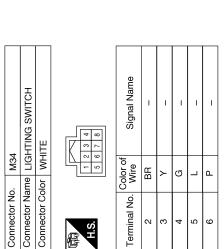


Connector No. M39



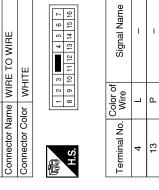


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Connector No.	Connector Name WIRE TO WIRE	Connector Color
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Connector No.	E11
Connector Name	Connector Name FRONT COMBINATION LAMP LH
Connector Color GRAY	GRAY
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Connector Color	原 H.S.	Terminal No.	1	2	4

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Connector Name WIRE TO WIRE

Connector Color

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Connector No.

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E103	Connector Name DAYTIME RUNNING LIGHT RELAY 1	ILACK	2 4 4 1	of Signal Name	ı	1	ı	1
Connector No.	Connector Name	Connector Color BLACK	H.S.	Terminal No. Wire	1 BR	2	3 B	4 B
E102	Connector Name DAYTIME RUNNING LIGHT RELAY 2 (FOR USA)	LUE	2 X 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	of Signal Name	1	1	1	1
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9	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	ZS SS 190 49	Signal Name	HEAD/L LO LH	HEAD/L LO RH	HEAD/L HI LH	HEAD/L HI RH
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E122	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Color WHITE	 	Terminal No. Wire Signal Name	B GND (SIGNAL)	L CAN-H	P CAN-L	BR DTRL RLY DRIVE

	IGENT JTION ROOM)			me	SUPPLY
6	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	TE	9 8 7 6 5 4 3	Signal Name	DTRL RLY SUPPLY
. E 119		lor WHI	9 8 7	Color of Wire	В
Connector No.	Connector Name	Connector Color WHITE	用.S.	Terminal No.	10

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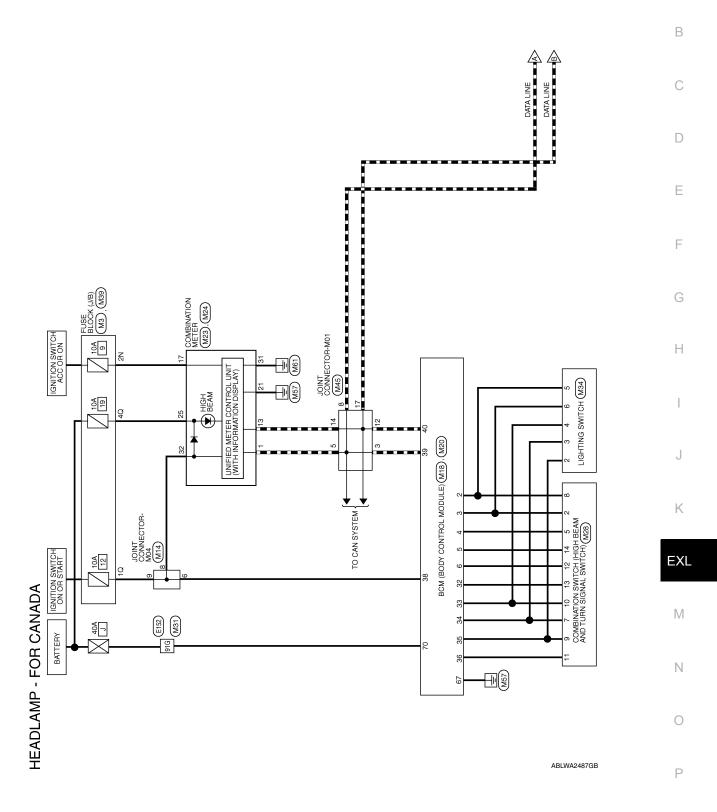
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Color of		916								
No. E152	Connector Name WIRE TO WIRE	Color WHITE		50 46 36 26 16 105 90 80 76 86	216 206 196 176 166 156 146 136 126 116 306 296 286 276 256 246 236 226	416 406 396 396 376 366 356 346 336 326 316	50G 49G 48G 47G 46G 45G 44G 43G 42G	61G 600 59G 58G 57G 56G 55G 54G 53G 52G 51G 70G 69G 68G 67G 66G 65G 64G 63G 62G	81.G 80.G 79.G 78.G 77.G 75.G 72.G 71.G 90.C 89.G 80.G 85.G 85.G 85.G 82.G 82.G	95G 94G 93G 92G 91G 100C 99G 98G 97G 96G
Connector No.	Connector N	Connector Color	á d	H.S.						
E124	DDM E/R (INTELLIGENT	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BLACK	75 58 57 78 68 57	5	of Signal Name	GND (POWER)			
Connector No.	<u></u>	Connector Name P	Connector Color B			Terminal No. Wire	59 B			

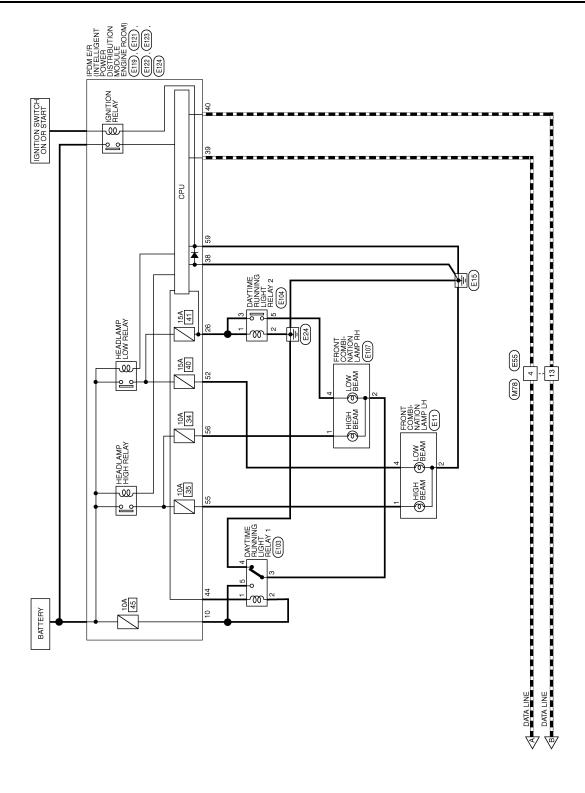
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Wiring Diagram -For Canada

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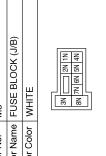
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HEADLAMP CONNECTORS - FOR CANADA

Connector No.	M3
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE

Connector No. M14
Connector Name JOINT CONNECTOR-M04

Connector Color BLUE

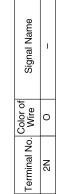


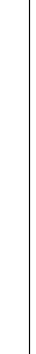
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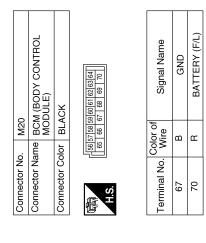
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Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
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Connector No.	Connector Name BCM (BODY CONTROL MODULE)	Connector Color WHITE		Ŀ	2

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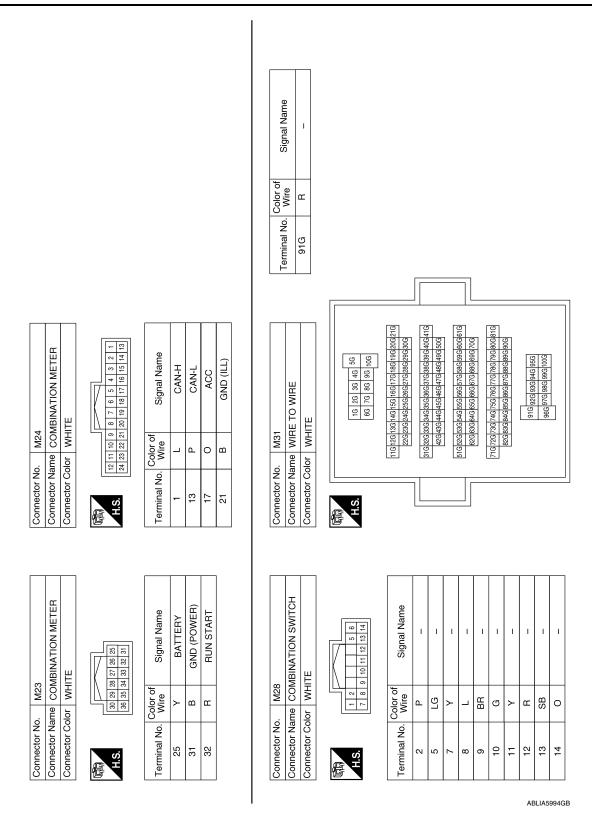
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(J/B)	Signal Name	SINATION	Signal Name	G
SE BI		E11 FRONT COMBINATION LAMP LH GRAY		Н
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Connector Name FRONT COMBINATION LAMP RH Connector Color GRAY	H.S. (6 5 4	Terminal No. Wire Signal Name	+ α - π	>		Connector No. E122		VHITE	Terminal No. Wire Signal Name	38 B GND (SIGNAL)	39 L CAN-H	- 6
E104 DAYTIME RUNNING LIGHT RELAY 2 (FOR CANADA) BLUE	2 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 × 3 ×	r of e Signal Name	1 1		1	E121	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN 29 28 28 27 26 25 86 35 34 38 32 31 30	r of Signal Name	LEVELIZER		
Connector Name I Connector Color E	原 H.S.	Terminal No. Wire	- °		2	Connector No.	-	Connector Color E	Color of Wire	26 R		
No. E103 Name DAYTIME RUNNING LIGHT RELAY 1 Color BLACK	2 4 1	Color of Signal Name		J 6	- I	No. E119		Color WHITE 9 8 7 6 5 4 3 18 17 16 15 14 13 12 11 10	Color of Signal Name	G DTRL RLY SUPPLY		
Connector No. Connector Name Connector Color	H.S.	Terminal No.	- 0	ı (n	4	Connector No.	Connector Name	Connector Color	Terminal No.	10		

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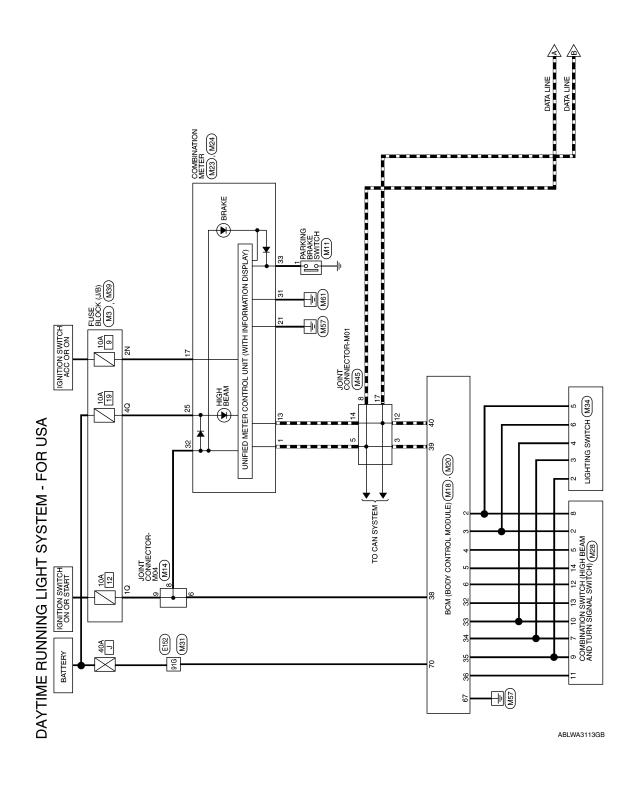
				А
				В
				С
				D
				Е
]			F
E124 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) BLACK		Signal Name GND (POWER)	Signal Name	G
E124 IPDM E/R (IN POWER DIST MODULE ENC	59 58 57 62 61 60			Н
		No. Wire B	No. Color of Mire	I
Connector No. Connector Name Connector Color	H.S.	Terminal No. 59	Terminal No.	J
	1			K
E123 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) BROWN	55 82 82 82	Signal Name HEAD/L LO LH HEAD/L HI LH HEAD/L HI RH	# WIRE TO WIRE WHITE FG 46 36 26 16 16 16 16 16 16 1	EXI
	51 50 49 55 54 53 52	Color of Wire R R R	C E 152	N
Connector No. Connector Name Connector Color	赋 H.S.	Terminal No. 52 55 56	Connector No. E152	0
			ABLIA6025GB	P

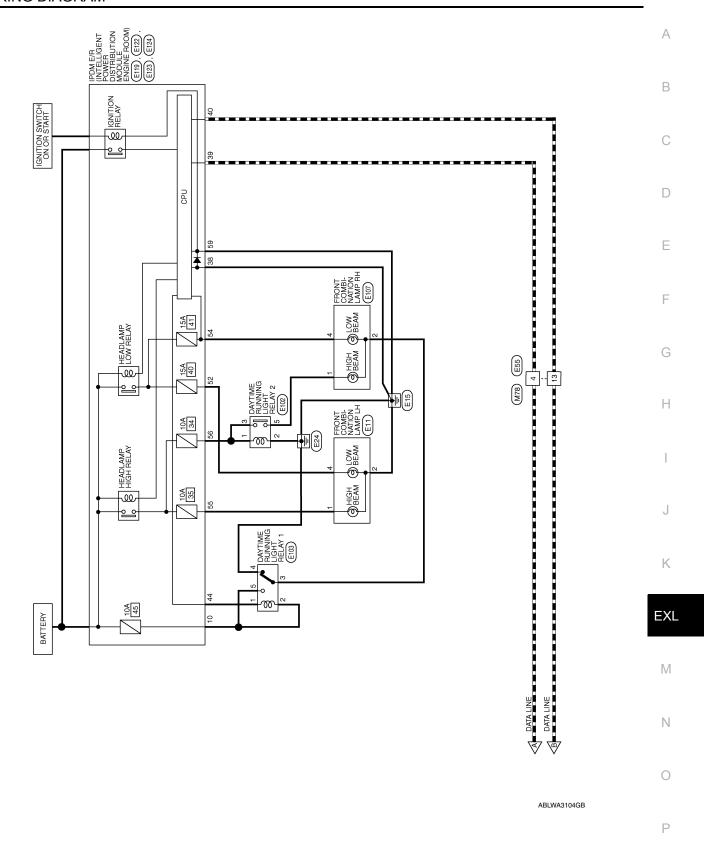
Revision: August 2015 EXL-37 2016 NV NAM

DAYTIME RUNNING LIGHT SYSTEM

Wiring Diagram - For USA

INFOID:0000000012519687





Connector Name | JOINT CONNECTOR-M04

M14

Connector No.

Connector Color BLUE

DAYTIME RUNNING LIGHT SYSTEM CONNECTORS - FOR USA

Connector No.	M3
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE

iame FUSE BLOCK (J/B) color WHITE



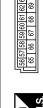
M11	Connector Name PARKING BRAKE SWITCH	BLACK	-
Connector No. M11	Connector Name	Connector Color BLACK	H.S.

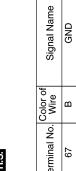
Color of Wire	9	
Terminal No.	ŀ	

Signal Name	_	
Color of Wire	G	
Terminal No.	ı	

Signal Name	I	I	ı	
Color of Wire	ш	В	В	
Terminal No.	9	8	6	

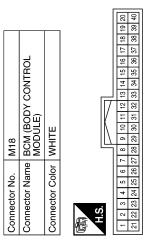
M20	Connector Name BCM (BODY CONTRC MODULE)	BLACK	
Connector No.	Connector Name	Connector Color BLACK	





65 66 67 68 69 70	Signal Name	QN5	BATTERY (F/L)
56 57 58 59 6 65 66 67	Color of Wire	В	В
H.S.	Terminal No.	29	70

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	7	۵	ГG	0	æ	SB	ŋ	>	BR	Υ	Œ	_	Ь
Terminal No.	2	3	4	2	9	32	33	34	35	36	38	39	40
				•			•						

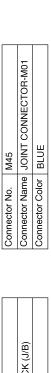


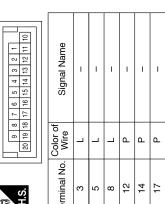
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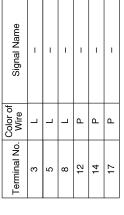
		Color of Signal Name R —	
		Terminal No. 91G	
Connector No. M24 Connector Name COMBINATION METER Connector Color WHITE	Color of Wire Signal Name L CAN-H P CAN-L O ACC B GND (ILL)	M31 Connector No. M31 Connector Name WIRE TO WIRE Connector Color WHITE 16 26 36 46 56 105	
Connector Nar Connector Col	Terminal No. 1 13 17 21	Connector No. Connector Name Connector Color	
Connector No. M23 Connector Name COMBINATION METER Connector Color WHITE MATE 10 29 28 27 28 23 H.S. 18 38 34 38 32 31	Signal Name BATTERY GND (POWER) RUN START PARK BRAKE SW	Connector No. M28 Connector Name COMBINATION SWITCH Connector Color MHITE Terminal No. Wire Signal Name 2 P	
Vo. M23 Vame COM Color WHI 30 29 28 36 35 34	Color of Wire O	N N N N N N N N N N	
Connector No. M23 Connector Name COMBIL Connector Color WHITE	Terminal No. 25 31 32 33	Connector No. Connector Name Connector Color Frminal No. W 2 5 7 7 7 8 8 9 9 11 11 11 11 11 11 11	
		ABLIA5999GB	

Revision: August 2015 **EXL-41** 2016 NV NAM

DAYTIME RUNNING LIGHT SYSTEM

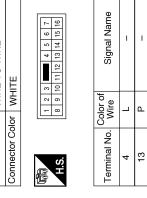






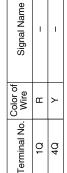
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_	7	Ь	Ь	Ь	
ר	8	12	14	17	



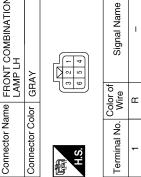








	E11	Connector Name FRONT COMBINATION LAMP LH	
	Connector No.	Connector Name	



M34	Connector Name LIGHTING SWITCH	WHITE
Connector No.	Connector Name	Connector Color WHITE



Signal Name	1	_	1	1	1
Color of Wire	BR	У	В	٦	Ь
Terminal No.	2	3	4	2	9

	ŀ	l	l	l		ı	ı	l	l	
Connector No.	_	M78	00							
Connector Name WIRE TO WIRE	_	₹	묾	$ $ \vdash	>	≝	Щ			
Connector Color WHITE	_	∣₹		ш						
										_
NATION IN	7	9	9	4	Ш	П	က	7	-	
8:	16	15	14	13	16 15 14 13 12 11 10 9	Ξ	10	6	8	

Signal Name	I	I
Color of Wire	٦	Ь
erminal No.	4	13

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DAYTIME RUNNING LIGHT SYSTEM

	Γ								
2	Connector Name FRONT COMBINATION LAMP RH	٩Y		Signal Name	_	ı	ı		
E107	ne FR(or GR		Solor of Wire	Υ	В	>		
Connector No.	Connector Nar	Connector Color GRAY	H.S.	Terminal No. Wire	1	7	4		
						•			
3	Connector Name DAYTIME RUNNING LIGHT RELAY 1	CK	© 0 4	Signal Name	ı	ı	1	1	I
E103	ne DAY REL	or BLA		color of Wire	HH HH	ŋ	<u>_</u>	В	_o
Connector No.	Connector Nan	Connector Color BLACK	原 H.S.	Terminal No. Wire	-	2	က	4	2
02	Connector Name DAYTIME RUNNING LIGHT RELAY 2 (FOR USA)	UE		Signal Name	1	1	ı	1	
. E102	me DA	lor BLI		Color of Wire	>	В	>	>	
Connector No.	Connector Na	Connector Color BLUE	H.S.	Terminal No. Wire	-	2	က	2	

E122			Conne	Connector No.	E123	3
IPDM E POWEF MODUI	##J	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Conne	Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
WHITE	[쁜]		Conne	Connector Color	-	BROWN
42 41 40 34 48 47 46 41	8 4	39 88 37 45 44 43	E.S.		56 55 54	22 20 49 20 20 20 20 20
Color of Wire		Signal Name	Termi	Terminal No.	Color of Wire	Signal Name
В		GND (SIGNAL)	(,	52	_	HEAD/L LO LH
		CAN-H	(1)	54	>	HEAD/L LO RH
Ь		CAN-L	ريا ا	55	æ	HEAD/L HI LH
BR		DTRL RLY DRIVE	(,	56	>	HEAD/L HI RH

Connector No.	. E119	6
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	-	WHITE
际 H.S.	9 8 7	9 8 7 6
Terminal No.	Color of Wire	Signal Name
10	Э	DTRL RLY SUPPLY

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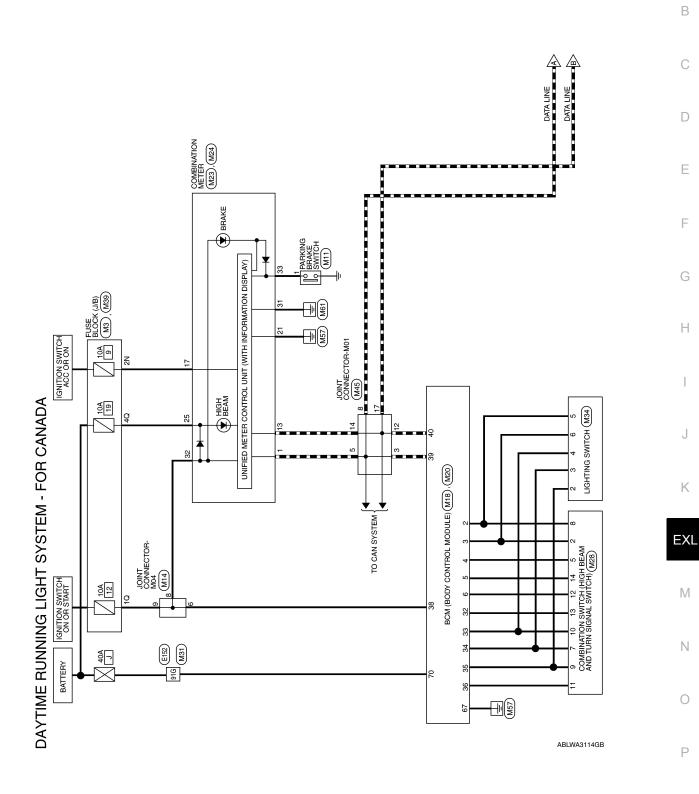
	ם מומוופ								
Torminal No	91G R								
No. E152	Name WIRE TO WIRE		56 46 36 26 16 106 96 86 76 66	21G20G19G18G17G16G15G14G13G12G11G 30G29G28G27G26G25G24G23G22G	4164063963863763663563463366326316	50G 49G 48G 47G 46G 45G 44G 43G 42G	619 600 590 580 570 560 550 540 530 520 510 700 690 680 670 660 650 640 630 620	81G80G79G78G77G76G75G74G73G72G71G 90G89G88G87G86G85G84G83G82G	976 976 986 986 970 986 986 986 986 986
Connector No.	Connector Name Connector Color	ą	山 H.S.						
E124	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	BLACK	0 58 57 1 61 60		of Signal Name	GND (POWER)			
Connector No. E1	Connector Name PC	Connector Color BL	(58) (82) (83) (83) (83) (83) (83) (83) (83) (83		Terminal No. Wire	29 B			

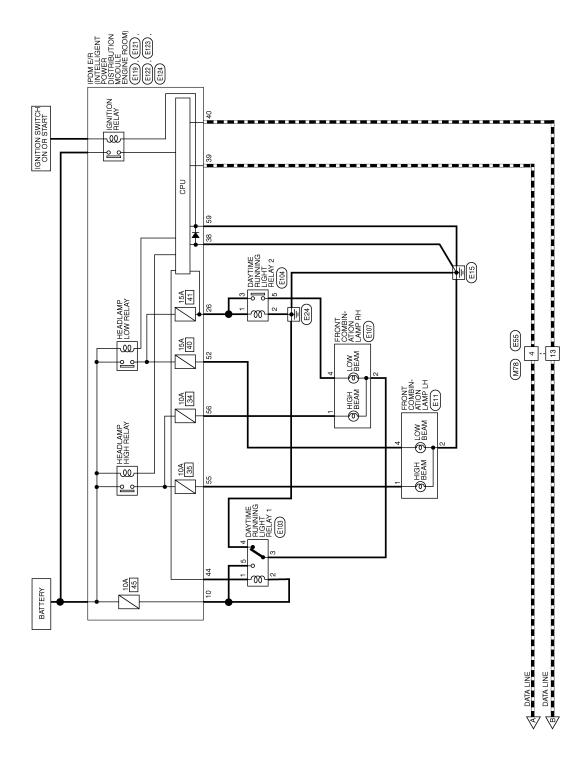
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Wiring Diagram - For Canada

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Connector Name JOINT CONNECTOR-M04

M14

Connector No.

Connector Color BLUE

DAYTIME RUNNING LIGHT SYSTEM CONNECTORS - FOR CANADA

M11	Connector Name PARKING BRAKE SWITCH	BLACK	
Connector No.	Connector Name	Connector Color BLACK	
M3	Connector Name FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

	J/B)		
МЗ	FUSE BLOCK (J/B)	WHITE	3N 2N 1N 8N 1N 8N 5N 4N

Signal Name	1	
Color of Wire	0	
erminal No.	2N	

7 6 5 4 3 2 1	Signal Name	ı	I	ı
20 19 18	Color of Wire	Œ	н	æ
H.S.	Terminal No. Wire	9	8	6

Signal Name	I	
Color of Wire	5	
Terminal No.	-	

Connector No.	M20
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	_	۵	ГG	0	æ	SB	Б	>	BR	Y	В	7	Ь
Terminal No.	2	က	4	S	9	32	33	34	35	36	38	39	40

ပိ	Connector No.	ect	ō	ž	٠,	_	M18	æ												
ပိ	Connector Name BCM (BODY CONTROL MODULE)	ect	ō	Na	Ĕ.	-	88	BCM (BOI MODULE)	E(B)	SD E)	<u>></u>	20	Ξ	Ä	7					
ပြ	Connector Color WHITE	ect	ō	ပြ	힏	_	∣₹		ш											
優工	H.S.	16							I IN	I IV	l 17							,		
-	2	က	4	5	9	7	00	6	9	Ξ	12	9 10 11 12 13 14 15 16 17 18	4	15	16	7	8	6	20	
21	21 22 23 24 25 26 27 28	23	24	25	26	27	28	29	30	29 30 31 32 33	32	33	34 35	33	36 37		38	39	40	

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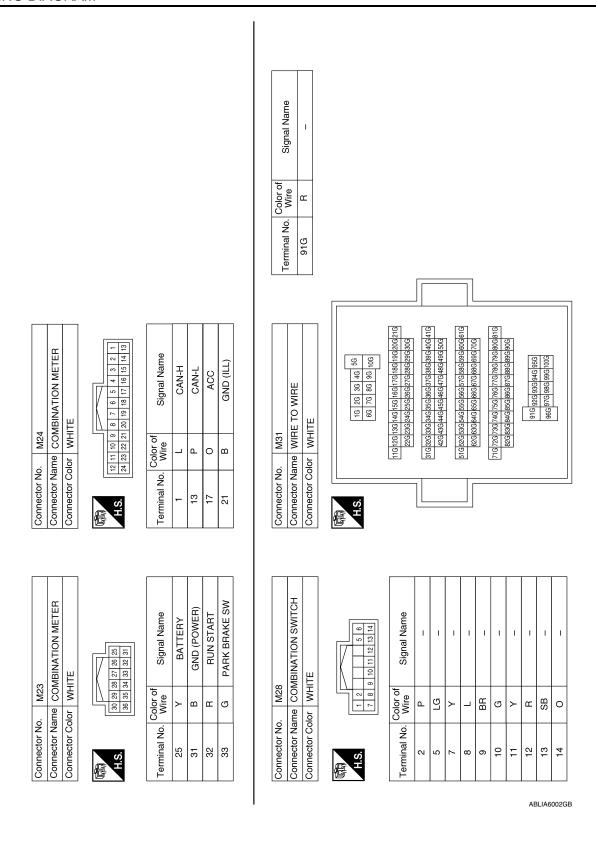
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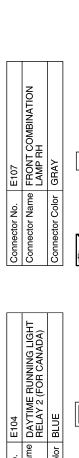
DAYTIME RUNNING LIGHT SYSTEM

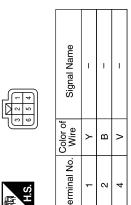
< WIRING DIAGRAM >

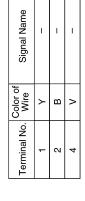
		А
Signal Name	WIRE 1 1 1 1 1 1 1 1 1 1	В
		С
No. M45 Name JOIN Color of Residue Relution of Wire P P P P P P P P P P P P P P P P P P P	No. E55 No. Color of R 8 9 1 L L L L L L P P P P P P P P P P P P P	D
Connector No. Connector Name Connector Color H.S. H.S. 3 5 8 8 8 14 17	Connector No. Connector Name Connector Color Terminal No. 4 4 4 13	Е
		F
OCK (J/B)	OMBINATION Signal Name	G
TTE BLC	NA A DILLO	Н
Vo. M39 Vame FUSI Solor Of White R R R R		I
Connector No. Connector Name Connector Color H.S. 10	Connector No. Connector Name Connector Color H.S. 1 1 2 2 1 2 4 4	J
		K
Signal Name	WIRE Signal Name	EXL
M34 LIGHTING SN WHITE Sr of Sig	0 D D D D D D D D D D D D D D D D D D D	M
No. M34 Color of Col	No. M78 Name WIRI Color WHI	N
Connector No. M34	Connector No. Connector Name Connector Color H.S. 4 4 4 13 13	0
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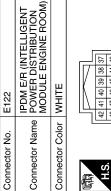
DAYTIME RUNNING LIGHT SYSTEM



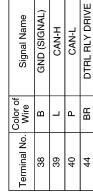




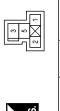








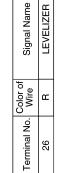
Connector No.	E104
Connector Name	Connector Name DAYTIME RUNNING LIG
Connector Color BLUE	BLUE



Signal Na	I	I	_	I
Color of Wire	Я	В	н	^
erminal No.	1	2	3	5

Connector No.	E121
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM
Connector Color BROWN	BROWN

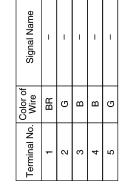




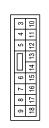
	IGHT	
E103	Connector Name DAYTIME RUNNING LIGHT RELAY 1	BLACK
Connector No.	Connector Name	Connector Color BLACK



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Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	WHITE





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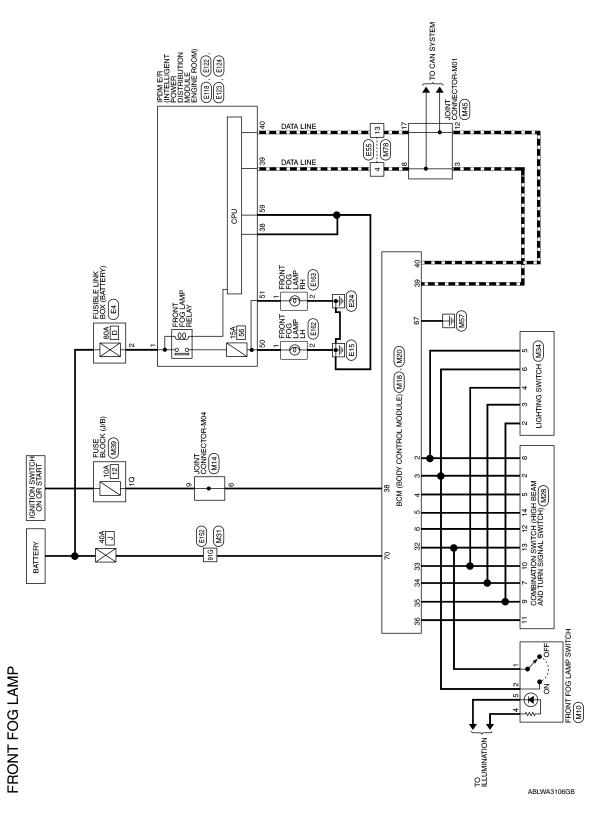
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	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)			Signal Name	GND (POWER)			Signal Name						G
E124		BLACK	59 58 57 62 61 60	Jo e	<u>м</u>		or of	Wire B						Н
Connector No.	Connector Name	Connector Color	H.S.	No.	29			Terminal No.						I
Co	Con	Con		Ter				Te L						J
	L S									13G 12G 11G 23G 22G 33G 32G 31G	43G 42G 53G 52G 51G	73G72G71G 83G82G		K
	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	NN	50 49	Signal Name	HEAD/L LO LH HEAD/L HI LH	HEAD/L HI RH		WIRE TO WIRE	5G 4G 3G 2G 1G 10G 9G 8G 7G 6G	21 G 20 G 19 G 19 G 17 G 16 G 15 G 14 G 13 G 19 G 29 G 20 G 29 G 20 G	50G 49G 48G 47G 46G 45G 44G 43G 61G 60G 59G 58G 57G 56G 55G 54G 53G	81G80G79G78G77G76G75G74G73G 90G89G88G87G86G85G84G83G	95G 94G 93G 92G 91G 100G 99G 98G 97G 96G	EXL M
No. E123		Solor BROWN	51 50 49 56 55 54 53 52	Color of Wire	_ R	>				21G20G1 30G2 41G40G3	616609	8168067		N
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	52	56	Connector No	Connector Name	H.S.					0
							1						ABLIA6021GE	P.

FRONT FOG LAMP

Wiring Diagram



FRONT FOG LAMP CONNECTORS

Connector No.	M10
Connector Name	Connector Name FRONT FOG LAMP SWITCH
Connector Color WHITE	WHITE

Connector Name | JOINT CONNECTOR-M04

Connector No. M14

Connector Color BLUE



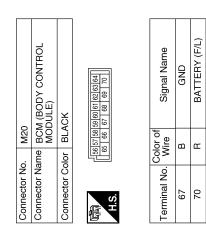
Signal Name

Color of Wire

Terminal No. 6

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Signal Name	ı	1	I	I
Color of Wire	SB	Д	^	BR
Terminal No.	-	2	4	5



Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	_	۵	FG	0	æ	SB	g	>	BR	>	Œ	_	Ъ
Terminal No.	2	ဧ	4	22	9	32	33	34	35	36	88	39	40

	Connector Name BCM (BODY CONTROL MODULE)			10 11 12 13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
<u>&</u>	BCM (BOE MODULE)	Connector Color WHITE		6	28
M18	8≥	∣₹		80	ď
	a)			~	27
٠.	€	<u>ē</u>		9	8
ž	<u> </u>	ပြ		2	25
ō	ъ	5		4	24
S	凉	덩		m	23
Ĕ	ΙĚ	Ĕ	H.S.	2	33
Connector No.	ပြ	ုဂ္ပ	優王	_	2

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Revision: August 2015 EXL-53 2016 NV NAM

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Signal Name	1													JOINT CONNECTOR-M01	ш	7 6 5 4 3 2 1	Signal Name	ı	1	-	ı	
Color of Wire	æ												No. M45		olor BLUE	20 19 18 1	Color of Wire	_	_	Ь	۵	
Terminal No.	91G												Connector No.	Connector Name	Connector Color	南利 H.S.	Terminal No.	3	80	12	17	
Connector No. M31 Connector Name WIRE TO WIRE	Connector Color WHITE	16 26 36 46 56 66 76 86 96 10G	11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G 22G 23G 24G 25G 26G 27G 28G 29G 30G	31 G 32 G 33 G 34 G 35 G 36 G 37 G 38 G 38 G 36 G 41 G	426436446456466476486496506	51 G 52 G 53 G 54 G 55 G 56 G 57 G 58 G 59 G 80 G 1 G	82G 63G 64G 65G 66G 67G 68G 69G 70G	716726736746756766776786796816	82G 83G 84G 85G 86G 87G 88G 89G 90G	916 923 933 946 956	96G 97G 98G 96G 100G		Connector No. M39	_	Connector Color WHITE		Terminal No. Wire Signal Name	1Q R -				
M28 COMBINATION SWITCH	TE	9 100 111 12 13 14	Signal Name	1	ı	1 1	1	1	1	1	-	I		LIGHTING SWITCH	<u> </u>	4 ®	Signal Name	1	1	_	ı	1
		2/ 8/ 1- 1-	Color of Wire	۵	P P		BB	g	>	В	SB	0	lo. M34		olor WHITE	- 20	Color of Wire	BR	>	G	_	۵
Connector No.	Connector Color	L.S.	Terminal No.	2	1 2	_ &	6	9	=	12	13	14	Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	2	က	4	2	9

Connector No. E55	Connector No. E123 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BROWN Terminal No. Wire Signal Name 50 L FR FOG LAMP LH 51 Y FR FOG LAMP RH
Connector No. E4 Connector Name FUSIBLE LINK BOX (BATTERY) Connector Color BROWN Terminal No. Wire Signal Name 2 W/R	Connector No. F122 Connector Name POWER DISTRIBUTION POWER DISTRIBUTION MODULE ENGINE ROCM) Connector Color WHITE ### ### ### ### ### ### ### ### ### #
Connector No. M78	Connector No. E118 Connector Name PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color BLACK

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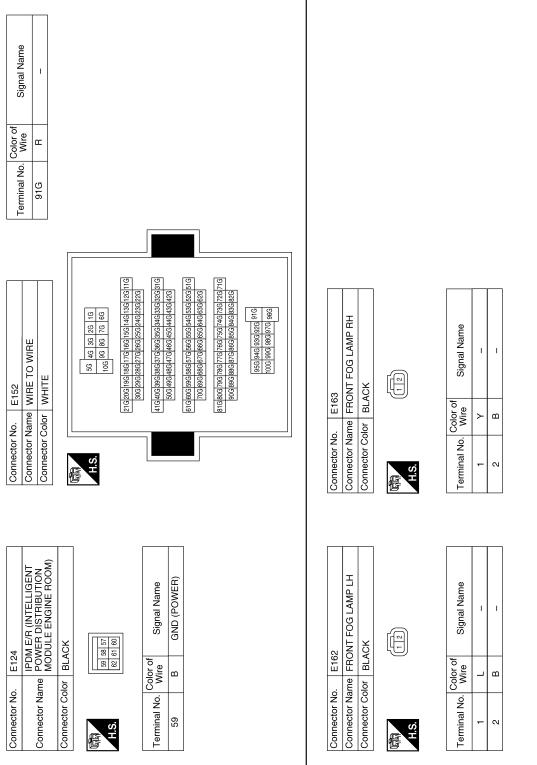
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< WIRING DIAGRAM > TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM Α Wiring Diagram INFOID:0000000012519690 TO TIRE PRESSURE MONITORING SYSTEM ⟨CY⟩: CARGO VAN ⟨VY⟩: PASSENGER VAN В HAZARD SWITCH (M55) С FRONT COMBIN-ATION LAMP RH TO CAN SYSTEM D TURN M31 E152 Е JOINT CONNECTOR-M01 (M45) ◆ TURN SIGNAL B20 F REAR COMBINATION LAMP RH R17): CY TURN SIGNAL , MZO Н COMBINATION METER (M23), (M24) BCM (BODY CONTROL MODULE) (M18). REAR COMBINATION LAMP LH (R16): CY TURN TURN TURN REAR COMBINATION LAMP LH (B51): (VY) TURN SIGNAL J O TURN SIGNAL UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) TURN SIGNAL AND HAZARD WARNING LAMPS K FRONT COMBINATION LAMP LH (E11) IGNITION SWITCH ACC OR ON 9 to A EXL 10A TURN SIGNAL M78 E55 M W25/ JOINT CONNECTOR-M04 (M14) 9 7 10 13 12 14 5 2 COMBINATION SWITCH (HIGH BEAM AND TURN SIGNAL SWITCH) Ν IGNITION SWITCH ON OR START 10A 0 32 91G M31 E152

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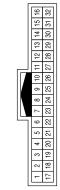
Connector No. M14
Connector Name JOINT CONNECTOR-M04

Connector Color BLUE

TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

ctor No. M1	Sonnector Name WIRE TO WIRE	Connector Color WHITE
Connector No.	Connector N	Connector C

1	otor No	6		7	١,										Г		
2	2	· i		≥	_												
š	ector Name WIRE TO WIRE	am	е	≥	프	Ш	0	Š	R								
둟	ector Color WHITE	응	_	∣≥	Ξ	世											
							$\ \cdot \ $		И		\Box						
	Ŀ	2	က	4	5	9	7	8 9 10 11 12 13 14 15 16	6	9	Ξ	12	13	4	15	16	
	17	17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	19	20	21	22	23	24	52	56	27	28	65	8	31	33	
			ı	ı	ı	l	ı	ı	ı	ı	ı	ı	ı	ı	ı	l	



Signal Name	ı	ı
Color of Wire	g	У
Terminal No.	8	6

	Connector Name FUSE BLOCK (J/B)	III.	3N	Signal Name
2	e FUS	r WHITE	NE NE	Color of Wire
Collinector No.	Connector Nam	Connector Color	明.S.	Terminal No. Wire

Signal Name	1	-	_	
Color of Wire	В	В	В	
Terminal No.	9	8	6	
				,

Signal Name	-	
Color of Wire	0	
inal No.	2N	

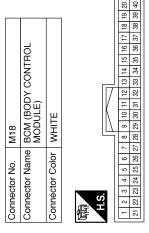
M20	Connector Name BCM (BODY CONTROL MODULE)	BLACK	
Connector No.	Connector Name	Connector Color BLACK	

Z		١,	
Connector Name BCM (BODY CON MODULE)	BLACK		56 57 58 59 60 61 62 63 64
Connector Name	Connector Color BLACK		

657 58 59 60 65 66 67
i≽∐l

Signal Name	FLASHER OUTPUT (LEFT)	FLASHER OUTPUT (RIGHT)	GND	BATTERY (F/L)
Color of Wire	>	Ö	В	В
Terminal No.	09	61	29	70

Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2	INPUT 1	HAZARD SW	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	Г	۵	ГG	0	Œ	0	SB	В	>	BR	Υ	Œ	L	Ь
Terminal No.	2	က	4	5	9	29	32	33	34	35	98	38	39	40



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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

	Signal Name	
	Color of Wire G	α
	o s	26
4 4 3 2 1 1 13 16 15 14 13	Vame I-H C C (ILL)	100 100
NATION	Terminal No. Color of Wire Signal Name 1 L CAN-H 13 P CAN-L 17 O ACC 21 B GND (ILL) Connector No. M31 Connector Name WIRE TO WIRE Connector Color WHITE	16 26 36 46 56 66 76 86 96 106 76 86 96 106 76 86 96 106 76 86 96 106 76 86 96 106 76 86 96 106 76 86 96 106 76 86 96 106 76 86 96 96 96 96 96 96 9
No. M24 Name COMBIN Color WHITE (2 11 10 9 8 12 12 12 12 12 12 12	O. Wire P P P P P P P P P P P P P P P P P P P	11612612 226262 3168268 8268 8268 8268 8268 8268 8268 826
Connector Name Connector Color Connector Color Line H.S.	Terminal No. Volumettor No. Connector Name Connector No. Connector Name Connector Color	SH SH
Connector Name COMBINATION METER Connector Color WHITE MACHINE M	Terminal No. Color of Wire Signal Name 25 Y BATTERY 31 B GND (POWER) 32 R RUN START Connector No. M28 Connector Name COMBINATION SWITCH Connector Color WHITE	Signal Name
30. M23 ame COMBINATIO alor WHITE 30.88.87.86.28 88.83.83.82.31	Color of Wire Y Y Y R B R R R R R R R R R R R R R R R	
Connector Name Connector Color M.S.	Terminal No. World 25 31 32 Connector No. Connector Name Connector Color	Terminal No. 2 2 5 5 5 7 7 7 7 7 11 11 11 12 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14
		ABLIA6007GB

	Connector Color WHIIE	Terminal No. Nire Signal Name 1\Q R - 4\Q Y	Connector No. M78
Signal Name	-		Connector No. M55 Connector Color MHITE MHITE MH.S. Terminal No. Wire 1 B
Wire G	i >-		Solor of Wire B
Terminal No.	537		Connector No. Connector Name Connector Color H.S. Terminal No. W
Connector No. M32 Connector Name WIRE TO WIRE	Ш	11, [2, [3, [4, 4]] [5, [4, 4]] [4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4, 4	M45 JOINT CONNECTOR-M01 BLUE 8 8 7 6 5 4 3 2 1
тшт	WHILE	111 121 131 222 233 311 223 331 42 143 51 523 531 62 163 77 17 723 731 82 163	
Connector No. M32 Connector Name WIRI	Connector Color	11	Connector No. Connector Cold Connector Cold Connector Cold Terminal No. 3

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

	WHITE WHITE	Connector Color H.S. H.S.	GRAY
S	20lor of Wire Y	Si Si	_
Signal Name	Solor of Wire Y		N
3 Y — 5 B — — nector No. E152 nector Name WIRE TO WIRE nector Color WHITE 56 46 36 26 16 106 96 86 76 66 S. Freedom Fre			Color of Signal Name
5 B — — — — — — — — — — — — — — — — —		ო	- 5
nector No. E152 nector Name WIRE TO WIRE nector Color WHITE S6 46 36 26 16 106 96 86 76 66		5	- В
nector Name WIRE TO WIRE nector Color WHITE \$6 46 36 26 16		Connector No.	B51
56 46 36 26 16 106 96 86 76 86	Connector Name WIRE TO WIRE Connector Color WHITE	Connector Name	REAR COMBINATION LAMP LH (PASSENGER VAN)
56 46 36 26 16 10 100 96 86 76 86		Connector Color	_
C T T C C T C C T T C C C T C C C T C	54 44 34 22 14 100 90 80 72 60	H.S.	
21 Jo Zub 189 189 17 John 189 17 John 189 129 11 John 189 129 189 189 189 189 189 189 189 189 189 18	21.1 200 190 180 177 160 155 14.1 130 121 11.1 30.1 29.1 28.1 27.1 28.1 25.5 24.1 23.1 22.1	Terminal No. Vo	Color of Signal Name
416 40 G 39 G 38 G 37 G 38 G 38 G 38 G 28 G 38 G 28 G 38 G 28 G 38 G 3	41J 40J 39J 38J 37J 38J 35J 34J 33J 32J 31J 50J 49J 48J 47J 46J 45J 44J 43J 42J	4 (0	u >
	61.1 60.4 53.4 53.4 53.4 53.4 53.4 53.4 53.4 53		
81G 800G 778G 777G 776G 775G 744G 873G 772G 771G 90G 881G 887G 88G 877G 86G 885G 847G 882G 887G	81 80 72 72 72 72 72 72 72 7		
95G 94G 93G 92G 91G 00C 99G 98G 97G 96G	1951 944 959 914 914 915 914 915 914 915		
Terminal No. Wire Signal Name Terminal No.	Color of Wire Signal Name		
	- B		
91G R – 53J			

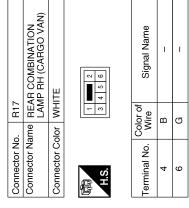
Revision: August 2015 **EXL-61** 2016 NV NAM

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Connector No. R1 Connector Name WIRE TO WIRE	i												
Connector Name	H1												
	≷	R	1	o	₹	뿚							
Connector Color WHITE	×	F	Щ										
				\	<u> </u>	<i> </i>	17						
16 15 14 13 12 11 10	13	12	 =	10	6	8	7	9	5	4	က	2	-
32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 17 15 15 14 23 25 21 20 10 10 18 17 17 17 17 17 17 17 17 17 17 17 17 17	53	83	27	92	22	24	23	22	21	20	9	8	17

Signal Name	I	ı
Color of Wire	9	Y
Terminal No.	8	6

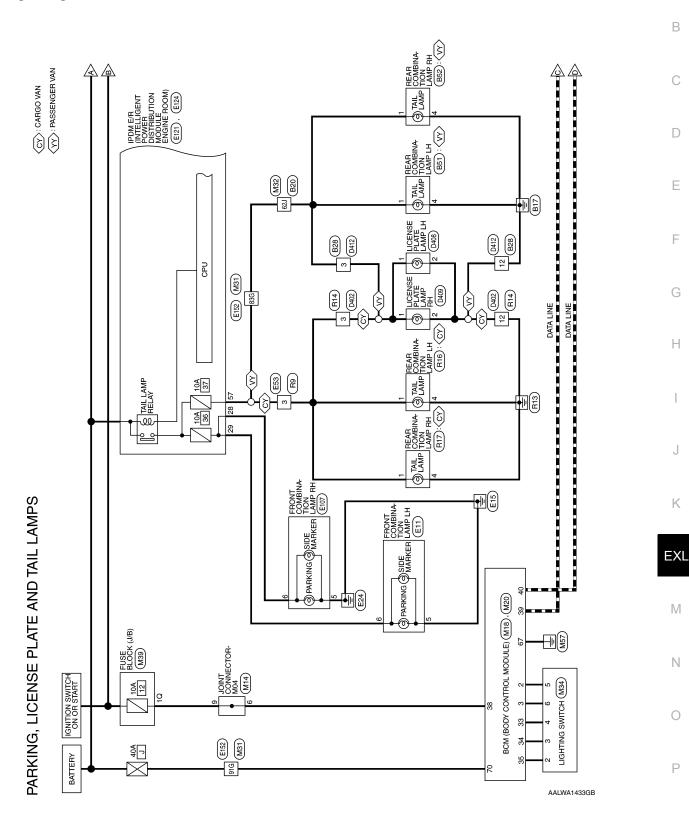
	REAR COMBINATION LAMP RH (PASSENGER VAN)	ΠE	4 E E E	Signal Name	=	1
209 .		lor WH	<u>- 0</u>	Color of Wire	В	В
Confidential No.	Connector Name	Connector Color WHITE	S.T.	Terminal No.	4	9

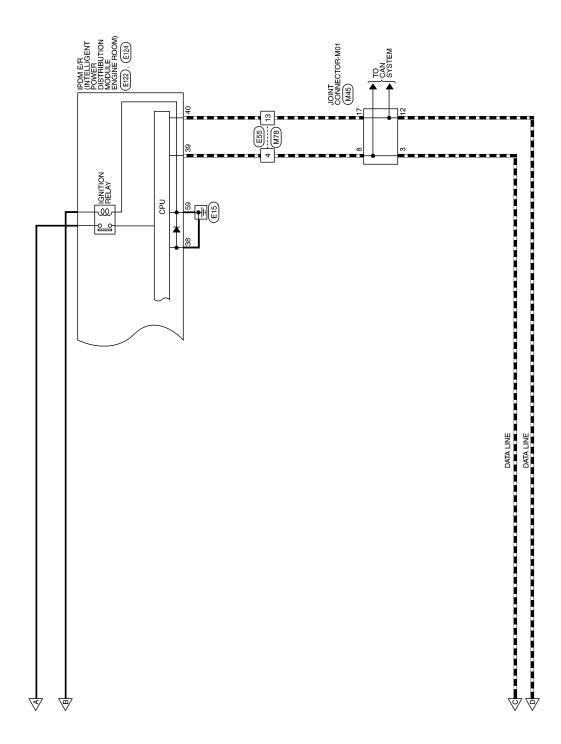


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Wiring Diagram

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	А
Signal Name INPUT 5 INPUT 4 OUTPUT 4 OUTPUT 2 IGN SW CAN-H CAN-L	В
Color of Wire Wire Wire BR	D
Terminal No. 2 3 34 34 34 40 40 83G 91G	Е
	F
CONTROL CONTROL 36 46 56 86 96 106 86 96 96 106	G
MAS CONNECTORS M18 Connector No. M18 MODULE) Connector Color WHITE	Н
MAS CONNECTORS	I
ND TAIL LAMPS CONNECTORS Note	J
A TAIL L	K
Signal Name DY CONTROL Signal Name Cand GIND GIND BATTERY (F/L)	EXL
M14 M14 M14 M14 M14 M14 M14 M16	M
Ctor None ctor No. Co red No. Co	N
PARKIN Termin Connel Co	0
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Connector No. M39 Connector Name FUSE BLOCK (J/B) Connector Color WHITE Solor of Signal Name 1Q R	Connector No. E11 Connector Name FRONT COMBINATION LAMP LH Connector Color GRAY	Terminal No. Wire Signal Name 5 B - 6 R -
Connector No. M34	M78 Connector No. M78 Connector Name WIRE TO WIRE Connector Color WHITE To Folia To Folia	Terminal No. Color of Signal Name 4 L
Connector No. M32	Connector No. M45 Connector Name JOINT CONNECTOR-M01 Connector Color BLUE	No. Wire Signal Name L
Connector No. Connector Color Connector Color L.S. Terminal No. Co	Connector No. Connector Color Connector Color	Terminal No. 9 8 8 8 172 172 172 172 172 172 173 174 175 175 175 175 175 175 175 175 175 175

< WIRING DIAGRAM >

or No. E53	Connector No. E55	E55 WIBE To) WIBE	Connector No.	TETO7	Connector Name EDONT COMBINATION
Or Color WHITE	HITHM ADIO Total	LIT/W			LAMP RH	RH
		1		Connector Color GRAY	or GRAY	
1 2 8	an H.S.	8 9 10 11 11 11 11 11 11 11 11 11 11 11 11	11 12 13 14 15 16	H.S.		2 2 1 5 4 1
		-			-	
Color of Signal Name	Terminal No. Wire	olor of Mire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
ı	4	_	ı	S	В	ı
	13	Ь	1	9	0	ı

R (INTELLIGENT DISTRIBUTION E ENGINE ROOM)			Signal Name	TAIL	GND (POWER)
BLACK	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	08 29 25 25 25			GND (POWER)
1	ame		Color of Wire	Œ	В
Œ	Connector Name POWEI MODUI Connector Color BLACK	H.S.	Terminal No.	57	59

Connector No.	. E122	2
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	lor WHITE	TE
H.S.	42 41	40 39 38 37 46 45 44 43
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	7	CAN-H
40	Ь	CAN-L

	. ਵ					
	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	29 28 34 33 32 31 30	Signal Name	FRONT RH	FRONT LH
. E121			29 28 36 35	Color of Wire	0	В
Connector No.	Connector Name	Connector Color	是 H.S.	Terminal No.	28	59

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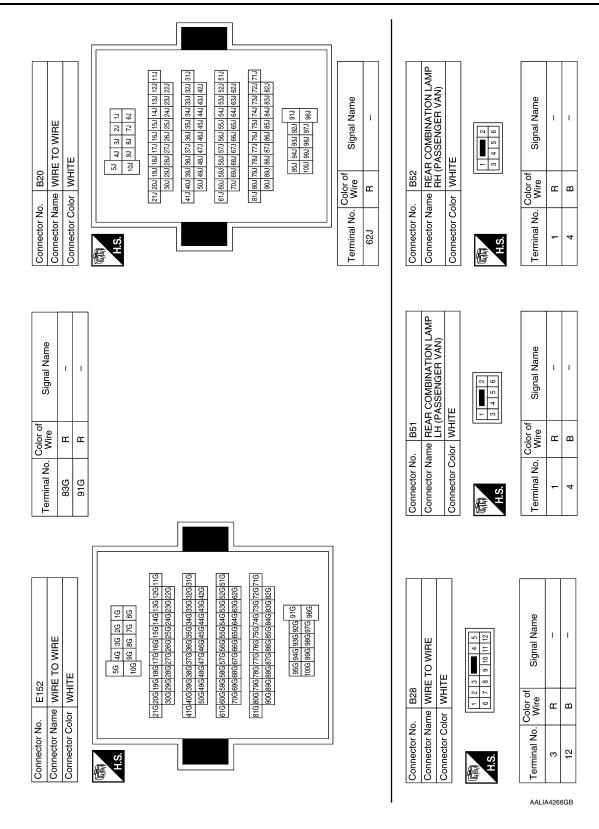
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Revision: August 2015 **EXL-67** 2016 NV NAM



< WIRING DIAGRAM >

COLLIGATION NO.	R14	Connector No.	R16
Connector Name	WIRE TO WIRE	Connector Name	Connector Name REAR COMBINATION
Connector Color	WHITE		LAMP LH (CARGO VAN)
		Connector Color	WHITE
赋 H.S.	1 2 3 4 5 8 9 10 11 12	H.S.	4 A A A A A A A A A A A A A A A A A A A
	or of Signal Name	Torminal No	or of Signal Name
		W W	
m	- T	-	1
12	В	4	ı
	Signal Name Signal Name Terminal No. W. Terminal No. W. W. W. Terminal No. W. W. Termin	Connector Name WIRE TO Connector Color WHITE H.S. E T 8 9 Terminal No. Wire 3 R 12 B	Connector Name WIRE TO WIRE

						L			
Connector No.	o. H17	7	Connecto	Sonnector No. D402	402	<u>8</u>	Connector No. D408	D408	
Connector Name REAR CO	ame RE	AR COMBINATION	Connecto	r Name M	Connector Name WIRE TO WIRE	ပိ	onnector Nan	ne LICEN	Connector Name LICENSE PLATE LAMP LH
	3	-AMP RH (CARGO VAN)	Connecto	Connector Color WHITE	HITE H	2	Copperfor Color BBOWN	r BROV	
Connector Color WHITE	olor Wh	I I I				3]		2	
				14				L	
唇	-	2		5 5		+	O I	1	2 1
H.S.	8	5 6	5				į.	J]
Terminal No. Wire	Color of Wire	Signal Name	Terminal	Color of Wire	of Signal Name		Color of Verminal No. Wire	Solor of Wire	Signal Name
			c	٥			-	٥	
-	<u>~</u>	ı	ס	=	1		_	=	
4	Ф	ı	12	<u>B</u>	1		Ø	Ω	ı
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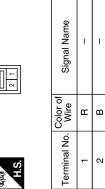
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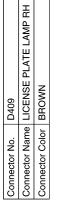
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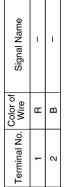
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Connector No.	D412
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color BROWN	BROWN











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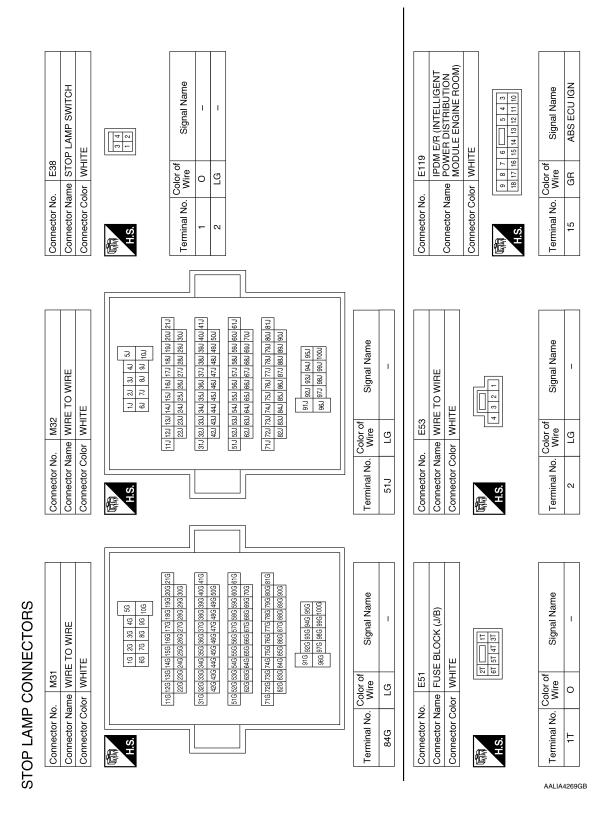
< WIRING DIAGRAM > STOP LAMP Α Wiring Diagram INFOID:0000000012519692 ⟨CY⟩: CARGO VAN ⟨T7⟩: TRAILER TOW 7 PIN ⟨VY⟩: PASSENGER VAN В С D Е 51J B20 F G Н TO TRAILER TOW FUSE BLOCK (J/B) (E51) J Κ BATTERY EXL \mathbb{N} ABS/TCS/VDC CONTROL UNIT IGNITION SWITCH ON OR START Ν

STOP LAMP

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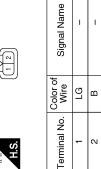


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E152 WIRE TO WIRE WHITE 106 46 36 76 66 16 16 106	C
nector No.	E
	F
Signal Name	G
	Н
nector No. nector Name nector Color 1	J
Conne Conne Termim Termin Term	K
C UNIT (CONTROL Signal Name STPO STPO	EX
### STPO ### ST	M
nector Name nector Name nector Color ninal No. Will 15 14 13 1 1 1 16 15 14 14 13 14 13 1 1 1 16 15 14 14 13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ν
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Revision: August 2015 **EXL-73** 2016 NV NAM

B51 REAR COMBINATION LAMP LH (PASSENGER VAN) WHITE	Signal Name		R16 REAR COMBINATION LAMP LH (CARGO VAN) WHITE	Signal Name
	Color of Wire LG LG B			Color of Wire LG
Connector No. Connector Name Connector Color	Terminal No.		Connector No. Connector Name Connector Color	Terminal No. 2
B50 HIGH-MOUNTED STOP LAMP (PASSENGER VAN) BLACK	Signal Name		NE TO WIRE	Signal Name
	Color of Wire LG B		Mme WIRE T	Color of Wire LG
Connector No. Connector Name Connector Color	Terminal No.		Connector No. R9 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No.
1E TO WIRE TTE 5 4 3 2 14 64 64 64 64 64 64 64 64 64 64 64 64 64	21.1 [201] [34] [35] [17.1 [16.] [15.] [14.] [13.] [12.] [11.] [30	Signal Name	B52 REAR COMBINATION LAMP RH (PASSENGER VAN) WHITE	Signal Name
me WIRE T	21.1 200 128.3 300 28.3 41.1 40.0 38.0 500 48.0 700 68.0 900 88.0 900 88.0 900 88.0 900 88.0 900 88.0 900 88.0 900 88.0 900 88.0	Color of Wire LG		Color of Wire LG
Connector No. B20 Connector Name WIRE TO WIR Connector Color WHITE Su 41 31 21 The Su 21 21 21 21 21 21 21 21 21 21 21 21 21		Terminal No. ¹	Connector No. Connector Name Connector Color	Terminal No. 2
				AALIA4271GB

	NTED STOP GO VAN)		
R18	HIGH-MOUNTED ST(LAMP (CARGO VAN)	BLACK	
Connector No.	Connector Name HIGH-MOUNTED STOP LAMP (CARGO VAN)	Connector Color BLACK	





	REAR COMBINATION LAMP RH (CARGO VAN)	ITE	4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Signal Name	I	-
- H		lor WHITE	- 8	Color of Wire	ГG	В
Connector No.	Connector Name	Connector Color	H.S.	Ferminal No.	2	4

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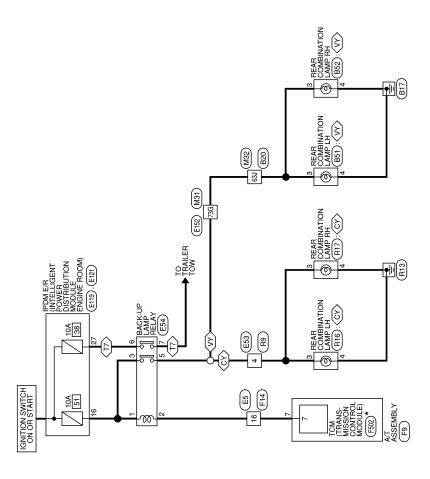
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BACK-UP LAMP

Wiring Diagram

⟨CT⟩: CARGO VAN
⟨T7⟩: TRAILER TOW 7 PIN
⟨VY⟩: PASSENGER VAN



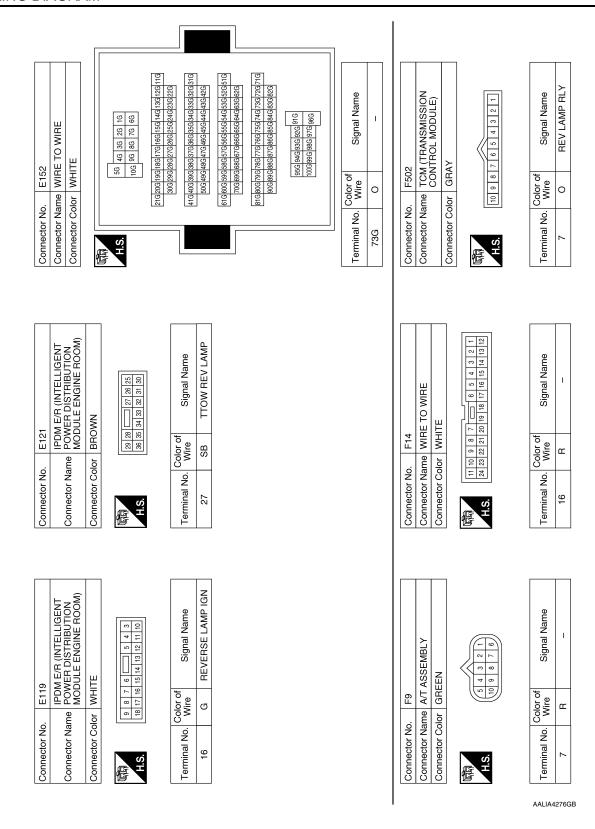
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

INFOID:0000000012519693

BACK-UP LAMP

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	ame 22 23 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	вв
TO WIRE	Color of R Signal Name Color of R Colo	Signal Name
Connector No. E5 Connector Name WIRE TO WIRE Connector Color WHITE	Color of R R R	Color of GR SB SB CO
Connector No. Connector Nan Connector Col	Terminal No.	Terminal No.
O WIRE	1.0 2.0 3.0 4.0 5.0 10.0 10.0 10.0 10.0 10.0 10.0 10.	E54 BACK-UP LAMP RELAY BROWN r of Signal Name
M32 M3E Jane WIRE Joor WHITE	11.1 [22] [33] [44] [41] [42] [43] [44] [44] [45] [45] [45] [45] [45] [45	
Connector No. M32 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No.	Connector No. Connector Color Terminal No. Color
TO WIRE	16 26 36 46 56 66 105	TO WIRE Signal Name
o. M31 ame WIRE olor WHIT		O
Connector No. M31 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Connector No. E53 Connector Name WIRE TO WIRE Connector Color WHITE H.S. E53 Connector Color of Signal 4 O Signal
		AALIA4275GB



REAR COMBINATION LAMP LH (PASSENGER VAN) WHITE	3 4 5 6 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	R16 REAR COMBINATION LAMP LH (CARGO VAN) WHITE	Signal Name	
			Color of Wire O	
Connector Name	Terminal No.	Connector No. Connector Name Connector Color H.S.	Terminal No.	
		TO WIRE	Signal Name	
2 0		Ne WIRE TO WHITE	Color of Wire O	
637		Connector No. R9 Connector Name WIRE TO WIRE Connector Color WHITE M.S.	Terminal No.	
E TO WIRE	Su	B52 REAR COMBINATION LAMP RH (PASSENGER VAN) WHITE	Signal Name	
ame WIRE	5.1 100 100 100 100 100 100 100 1	B52 ame REAR BH (PP) Nor WHITE	Color of Wire O	
Connector Na Connector Co	H.S.	Connector No Connector Na Connector Co		
Connector Name WIRE TO WIRE Connector Color WHITE		ctor No.	N O O	









Signal Name	ı	I
Color of Wire	0	В
Terminal No.	3	4

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TRAILER TOW

Α Wiring Diagram INFOID:0000000012519694 31 31 В 30A E44 С ELECTRIC BRAKE (PRE-WIRING) D IPDM E/R (INTELLIGENT POWEE DISTRIBUTION MODULE ENGINE ROOM) (E119). (E122). TRAILER C2 Е [E41] 10A TRAILER RECEPTACLE (C13) F 10A TRAILER TOW RELAY 1 (E42) 10**A** 8 G <u>|</u> 8 Н # gg 25G -w 246 E152 CPU <u>---</u> DATA LINE J , MZO LIGHTING SWITCH (M34) BCM (BODY CONTROL MODULE) (M18), (M19) 10A Κ FUSE BLOCK (J/B) (J/B) (E51 EXL STOP LAMP SWITCH E55 M78 10A M 9 7 10 13 12 14 5 COMBINATION SWITCH (HIGH BEAM AND TURN SIGNAL SWITCH) (M28) JOINT CONNECTOR-M04 M14 Ν IGNITION SWITCH ON OR START 10A TRAILER TOW 0 E152 BATTERY

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Signal Name

Color of Wire

Terminal No.

INPUT 4

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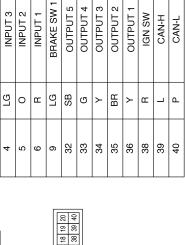
TRAILER TOW CONNECTORS

M18	Connector Name BCM (BODY CONTROL	MODULE)	JTIH/W	
Connector No. M18	Connector Name		Connector Color WHITE	
onnector No. M14	onnector Name JOINT CONNECTOR-M04	Sonnector Color BLUE		
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2	12	ᆲ		
က	13	Ž	,	١,
4	4	Signal Name	' .	Ι΄.
2	15	ig		
9 8 7 6 5 4 3 2 1	16	(0)		
7	17			
œ	18			
6	19	, o		
	20	Color of Wire	Ж	Œ
_		0		
Ĭ	Ŋ.	Terminal No.	9	6





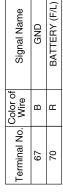


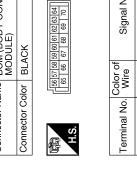
Connector Name | BCM (BODY CONTROL MODULE)

M19

Connector No.

Connector Color WHITE





TRAILER FLASHER OUTPUT (RIGHT) TRAILER FLASHER OUTPUT (LEFT) Color of Wire > Q Terminal No. 51 52

Signal Name

| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 |

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A VIIIe	5	r												. M45		lor BLUE	20 19 18 17	Color of Wire	_	_	۵	۵	-
2	256	216												Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	8	8	12	17	
Connector Name WIRE TO WIRE Connector Color WHITE		16 26 36 46 56 66 76 86 96 106	11G1229133914491559166177G18G19G20G21G 22G23G24G25G26G27G28G29G30G	24 G 200 G 2	42G43G44G45G46G47G48G49G50G		62G 63G 64G 85G 86G 67G 88G 89G 70G		716726736746756776776786796806816	82G 83G 84G 85G 86G 87G 88G 89G 90G	916 000 000 000	97G 98G 99G100G		o. M39	ame FUSE BLOCK (J/B)	olor WHITE	30 2010 3070305040	Color of Signal Name	ı				
Connector Name Connector Color		H.S.												Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	Ď.				
COMBINATION SWITCH WHITE		9 10 11 2 13 14 8	Signal Name	1	1	ı	ı	I	ı	ı	1	1	1		Connector Name LIGHTING SWITCH	ITE	4 8 P	Signal Name	1	ı	ı	ı	1
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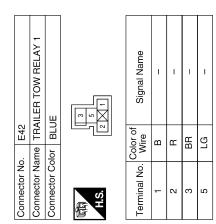
Revision: August 2015 EXL-83 2016 NV NAM

Connector Name STOP LAMP SWITCH

Connector No. E38

Connector Color WHITE

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ignal Name	ı	ı		

Color of Wire

Terminal No.

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Signal Name	1	_	_	ı	_	-	ı
Color of Wire	Г	В	ГВ	Μ	ß	٨	Œ
Terminal No. Wire	10	4C	D9	9C	110	16C	51C

Connector No.). M78	8.
Connector Name	ame WI	WIRE TO WIRE
Connector Color	olor	WHITE
ú		
匿	7	5 4 3 2
H.S.	16 15	14 13 12 11 10 9 8
Terminal No.	Color of Wire	Signal Name
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	TO WIRE	ш	11 12 13 14 15 16	Signal Name	ı	I	1	
E55	e WIRE	T WHILL	8 9 2 3	Solor of Wire	LG	_	۵	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	-	4	13	
	Connector Name FUSE BLOCK (J/B)	≝	57 47 31	Signal Name	I			
. E51	me FUS	MM Joi	<u>17</u>	Color of Wire	0			
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	+			
	CTRIC BRAKE E-WIRING)	TE	0 4 6	Signal Name	1	1	1	ı
. E44	me ELE (PRE	lor WHI	01-	Color of Wire	В	ГG	_	<u>ش</u>
Connector No.	Connector Name ELECTRIC BRAK (PRE-WIRING)	Connector Color WHITE	原 H.S.	Terminal No. Wire	-	2	8	2

Connector No.). E119	61	Connector No.	. E122	2	Connector No.	E124	4
Connector Na	IPC Ime PO	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Na	me POV	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Na	me Pov	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	olor WH	ПТЕ	Connector Color WHITE	lor WHI	ПЕ	Connector Color BLACK	lor BLA	CK
是 H.S.	9 8 7	7 6 5 4 3 16 15 14 13 12 11 10	南 H.S.	42 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	40 39 38 37 46 45 44 43	 H.S.	62 99	28 577 18 600
Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
15	GR	ABS ECU IGN	38	В	GND (SIGNAL)	57	ш	TAIL
16	g	REVERSE LAMP IGN	39	_	CAN-H	59	В	GND (POWER)
			40	Ь	CAN-L	61	BR	TRAIL RLY SUPPLY

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	3世	18 17 16 15 14 13 12 11 10	Signal Name	ABS ECU IGN	REVERSE LAMP IGN
	lor WH	9 8 7	Color of Wire	GR	១
Connector Name	Connector Color WHITE	原 H.S.	Terminal No.	15	16

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0.	TRAILER TOW RELAY 2	BROWN		⊐l⊩	0 3 6			Signal Name	ı	ı	ı	1	1	1		9	Connector Name TRAILER TURN RELAY LH	 	!		2 2 1	Signal Name	ı	ı	ı	ı		
. E140	me TR/	-	L		ı		10,000	Wire	9	В	>	æ	>	Œ		E156	me TR/	or BITE	_		<u>-</u> 7[1]	Color of Wire	G	В	Б	٦		
Connector No.	Connector Name	Connector Color		僵	H.S.			Terminal No.	-	2	က	2	9	7		Connector No.	Connector Na	Connector Color			H.S.	Terminal No.	-	2	ဧ	5		
			-																		_ -							
	STOP LAMP RELAY			8 1				Signal Name	I	1	I	ı				[N]	Signal Name	ı	I	I								
- 1		r BLUE		₩,			olor of	Wire	GR	M	0	LG				Color of	Wire	>	တ	æ								
Connector No.	Connector Name	Connector Color			H.S.			Terminal No.	-	2	ဇ	2					Š.	24G	25G	91G								
·																				F								
E125	SS ACTUATOR AND	UNIT)	BLACK				0 38 37 38 35 34 33	24 23 22	110087653			Signal Name	STP	STPO		E152	Connector Name WIRE TO WIRE	WHITE			56 46 36 26 16 10G 96 86 76 66	21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G 30G 29G 28G 27G 26G 25G 24G 23G 22G	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	50G 49G 48G 47G 46G 45G 44G 43G 42G	0.015909158091570915809154091540915909159	70G 69G 68G 67G 66G 65G 64G 63G 62G	81G 80G 79G 77G 76G 75G 74G 73G 72G 71G 90C 89C 88C 87C 86G 85G 84G 83C 82G	95G 94G 92G 92G 91G 100G 99G 98G 97G 96G
	AE	name Et	\vdash				43 42 41 40 39	29 28 27 26 25	18 17 16 15 14 13 19 11			No. Wire	re	×			or Name W	-	_			2162		7 10	8198		8168	
Connector No.	200	Connector Name	Connector Color		E	H.S.	(46 45 44 43 42 41	32 31 30 29 28 27	18 17 16 1			Terminal No.	37	46		Connector No.	Connecto	Connector Color		£	H.S.							
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Signal Name	ı	1	ı	1	1	1	1
Color of Wire	_	В	P	×	9	\	œ
Terminal No.	10	4C	29	9C	11C	16C	51C

Connector No.	No.	S	
Connector Name	Name	WIRE TO WIRE	
Connector Color	Color	GRAY	
]
	ľ		((
SH	53	4C 3C 2C 1C	
	11C	10C 9C 8C 7C 6C	
	210	210 200 190 180 170 160 150 140 130 120	
	310	31C 30C 29C 28C 27C 26C 25C 24C 23C 22C	
	41C	41C 40C 39C 38C 37C 36C 35C 34C 33C 32C	
	47C	46C 45C 42C 42C	
-	52C	51C 50C 49C 48C	
)

		_			_	_	_	_	
2	TRAILER TURN RELAY RH	E E	- CO CO CO	Signal Name	_	_	_	_	
. E157		lor BLUE		Color of Wire	>	В	Μ	ب	
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	-	2	3	2	

Signal Name	STOP/TURN LH	GROUND	ELECTRIC BRAKE	STOP/TURN RH	BATTERY	RUNNING LAMPS	BACK-UP LAMPS
Color of Wire	1	ı	ı	1	1	1	-
Terminal No. Wire	1	2	3	4	2	9	7

	TRAILER RECEPTACLE	CK	
513		BLACK	
	me	ō	

Connec	Connector No.
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C2	RAILER	LACK	
	Name T	Color B)
Connector No.	Connector Name TRAILER	Connector Color BLACK	品.S.

Signal Name	I	I	-	I	I	-	ı
Color of Wire	В	В	٦	Μ	æ	ГG	>
Terminal No.	1	2	3	4	5	9	7

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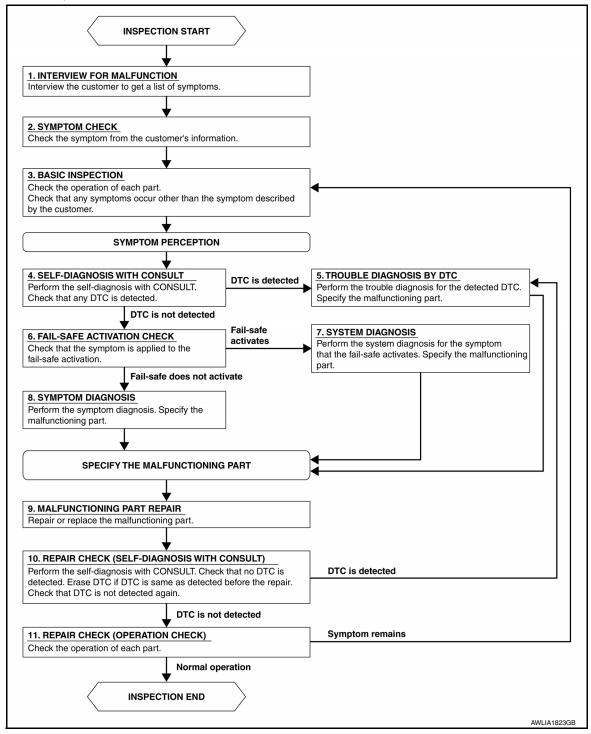
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORKFLOW

DETAILED FLOW
1
1.INTERVIEW FOR MALFUNCTION
Find out what the customer's concerns are.
>> GO TO 2.
2.SYMPTOM CHECK
Verify the symptom from the customer's information.
>> GO TO 3.
3.BASIC INSPECTION
Check the operation of each part. Check any concerns that occur other than those mentioned in the customer interview.
>> GO TO 4.
4.self-diagnosis with consult
Perform the self-diagnosis with CONSULT. Check that any DTC is detected.
Is any DTC detected?
YES >> GO TO 5. NO >> GO TO 6.
5. TROUBLE DIAGNOSIS BY DTC
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.
>> GO TO 9.
6. FAIL-SAFE ACTIVATION CHECK
Determine if the customer's concern is related to fail-safe activation. Does the fail-safe activate?
YES >> GO TO 7.
NO >> GO TO 8.
/.SYSTEM DIAGNOSIS
Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part.
>> GO TO 9.
8.SYMPTOM DIAGNOSIS
Perform the symptom diagnosis. Refer to EXL-111, "Symptom Table". Specify the malfunctioning part.
>> GO TO 9.
9.MALFUNCTION PART REPAIR
Repair or replace the malfunctioning part.
>> GO TO 10.
10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT)

Is any DTC detected?

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

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

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

Does it operate normally?

YES >> Inspection End.

NO >> GO TO 3.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

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Regarding Wiring Diagram information, refer to BCS-41, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.
57	Pottony newer supply	22 (10A)
70	Battery power supply	J (40A)
11	Ignition ACC or ON	9 (10A)
38	Ignition ON or START	12 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

	Terminals		Ignition switch position		
(+) BCM			ignition switch position		
		(-)	OFF	ACC	ON
Connector	Terminal		OH	700	ON
M20	70	Ground	Battery voltage	Battery voltage	Battery voltage
IVIZO	57				
M18	11	Glound	Approx. 0 V	Battery voltage	Battery voltage
IVITO	38		Approx. 0 V	Approx. 0 V	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

В	CM		Continuity	
Connector Terminal		Ground	Continuity	
M20	67		Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

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

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Regarding Wiring Diagram information, refer to PCS-19, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINKS

Check that the following IPDM E/R fuses or fusible link are not blown.

Terminal No.	Signal name	Fuse and fusible link Nos.
1	Battery	A, D
2	Battery	С
12	Ignition switch ON or START	12

Is the fuse blown?

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

NO >> GO TO 2

2. Check battery power supply circuit

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R.
- 3. Check voltage between IPDM E/R connectors and ground.

Terminals				Ignition switch position		
(+)		()	OFF	ON	START	
Connector	Terminal	(-)	OH	ON	SIAICI	
E118	1	Ground	Battery voltage	Battery voltage	Battery voltage	
EIIO	2		Battery voltage	Battery voltage	Battery voltage	
E119	12		0V	Battery voltage	Battery voltage	

Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between IPDM E/R connectors and ground.

IPDM E	E/R		Continuity	
Connector	Connector Terminal		Continuity	
E122	38	Ground	Yes	
E124	59		165	

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (HI) CIRCUIT

Description INFOID:0000000012519698

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

(For USA) power then flows to the front combination lamp LH high beam and the daytime running light relay 2 which becomes energized and then power is sent to the front combination lamp RH high beam.

(For Canada) power then flows to the front combination lamp LH and RH high beams.

Component Function Check

1. CHECK HEADLAMP (HI) OPERATION

WITHOUT CONSULT

- 1. Start IPDM E/R auto active test. Refer to PCS-8, "Diagnosis Description".
- 2. Check that the headlamp switches to the high beam.

CONSULT

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With the test item operating, check that the headlamp switches to high beam.

HI: Headlamp switches to the high beam.

OFF : Headlamp OFF

Does the headlamp switch to high beam?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-93, "Diagnosis Procedure - For USA".

>> Refer to EXL-95, "Diagnosis Procedure - For Canada".

Diagnosis Procedure - For USA

Regarding Wiring Diagram information, refer to EXL-24, "Wiring Diagram -For USA".

1. CHECK HEADLAMP (HI) FUSES

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

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

Is the fuse open?

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

NO >> GO TO 2.

2.CHECK HIGH BEAM BULB

Check the applicable high beam bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 3.

NO >> Replace the bulb.

3.check headlamp (HI) output voltage

- 1. Disconnect the front combination lamp connector E11 or E107.
- 2. Turn the ignition switch ON.
- Turn the high beam headlamps ON.

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< DTC/CIRCUIT DIAGNOSIS >

4. With the high beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+)			(-)	Voltage	
Connector Terminal		Terminal	(-)	Voltage	
LH	E11	1	Ground	Pattory voltage	
RH	E107	1	Ground	Battery voltage	

Is battery voltage present?

YES >> GO TO 9.

NO >> GO TO 4 (front combination lamp LH).

>> GO TO 5 (front combination lamp RH).

4. CHECK HEADLAMP (HI) CIRCUIT FOR OPEN

- Turn the ignition switch OFF.
- Disconnect IPDM E/R connector E123.
- Check continuity between the IPDM E/R harness connector E123 and the front combination lamp LH harness connector E11.

Connector	Terminal	Connector	Terminal	Continuity
E123	55	E11	1	Yes

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harnesses or connectors.

5. CHECK DAYTIME RUNNING LIGHT RELAY 2 TO FRONT COMBINATION LAMP RH CIRCUIT FOR OPEN

- 1. Disconnect daytime running light relay 2 connector E102.
- Check continuity between the daytime running light relay 2 harness connector E102 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E102	5	E107	1	Yes

Does continuity exist?

YES >> GO TO 6.

NO

>> Repair the harnesses or connectors.

O.CHECK DAYTIME RUNNING LIGHT RELAY 2 VOLTAGE CIRCUIT

 With the high beam headlamps ON, check the voltage between the daytime running light relay connector E102 and ground.

(+)		()	Voltage	
Connector	Terminal	(-)	Voltage	
E102	1 3	Ground	Battery voltage	

Is battery voltage present?

YES >> GO TO 7.

NO >> GO TO 8.

7.CHECK DAYTIME RUNNING LIGHT RELAY 2 GROUND CIRCUIT

Check continuity between the daytime running light relay 2 harness connector E102 and ground.

Connector	Terminal	_	Continuity
E102	2	Ground	Yes

Does continuity exist?

< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace daytime running light relay 2.

NO >> Repair the harness or connector.

f 8 .CHECK IPDM E/R TO DAYTIME RUNNING LIGHT RELAY 2 CIRCUIT FOR OPEN

Disconnect IPDM E/R connector E123.

Check continuity between the daytime running light relay 2 harness connector E102 and the IPDM E/R connector E123.

Connector	Terminal	Connector	Terminal	Continuity
E102	1	E123	56	Yes
LIOZ	3	L 123	30	163

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harnesses or connectors.

$9.\mathsf{check}$ front combination Lamp (HI) ground circuit

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

	Connector	Terminal	_	Continuity
LH	E11	2	Ground	Yes
RH	E107	2	Giodila	165

Does continuity exist?

YES >> Replace malfunctioning lamp.

NO >> Repair the harness or connector (front combination lamp LH).

>> GO TO 10 (front combination lamp RH).

10.CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIR-CUIT

Disconnect daytime running light relay 1 connector E103.

Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 11.

NO >> Repair the harnesses or connectors.

11.CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

	,	,	
Connector	Terminal	_	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.

>> Repair the harness or connector. NO

Diagnosis Procedure - For Canada

Regarding Wiring Diagram information, refer to EXL-31, "Wiring Diagram -For Canada".

1.CHECK HEADLAMP (HI) FUSES

EXL-95 Revision: August 2015 2016 NV NAM **EXL**

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< DTC/CIRCUIT DIAGNOSIS >

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

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

Is the fuse open?

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

NO >> GO TO 2.

2.CHECK HIGH BEAM BULB

Check the applicable high beam bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 3.

NO >> Replace the bulb.

3.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector E11 or E107.
- 3. Turn the ignition switch ON.
- 4. Turn the high beam headlamps ON.
- 5. With the high beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+)		(-)	Voltage	
	Connector	Terminal	(-)	vollage
LH	E11	1	Ground	Battery voltage
RH	E107	1	Giodila	Dattery Voltage

Is battery voltage present?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK HEADLAMP (HI) CIRCUIT FOR OPEN

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector E123.
- 3. Check continuity between the IPDM E/R harness connector E123 and the front combination lamp harness connector E11 or E107.

	Connector	Terminal	Connector	Terminal	Continuity
LH	E123	55	E11	1	Yes
RH	L123	56	E107	1	165

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harnesses or connectors.

CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

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

	Connector	Terminal	_	Continuity
LH	E11	2	Ground	Yes
RH	E107	2	Giodila	165

Does continuity exist?

YES >> Replace malfunctioning lamp.

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair the harness or connector (front combination lamp LH).

>> GO TO 6 (front combination lamp RH).

6.CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

1. Disconnect daytime running light relay 1 connector E103.

2. Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 7.

NO >> Repair the harnesses or connectors.

7.CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	_	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.

NO >> Repair the harness or connector.

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< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP (LO) CIRCUIT

Description INFOID:000000012519702

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM via the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 40 and 41, located in the IPDM E/R.

(For USA) power then flows to the front combination lamp LH and RH low beams.

(For Canada) power then flows to the front combination lamp LH low beam and the daytime running light relay 2 which becomes energized and then power is sent to the front combination lamp RH low beam.

Component Function Check

INFOID:0000000012519703

1. CHECK HEADLAMP (LO) OPERATION

NWITHOUT CONSULT

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

(P)CONSULT

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

LO : Headlamp ON OFF : Headlamp OFF

Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-98, "Diagnosis Procedure - For USA".

>> Refer to EXL-100, "Diagnosis Procedure - For Canada".

Diagnosis Procedure - For USA

INFOID:0000000012519704

Regarding Wiring Diagram information, refer to EXL-24, "Wiring Diagram -For USA".

1. CHECK HEADLAMP (LO) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (LH)	IPDM E/R	40	15A
Headlamp LO (RH)	IPDM E/R	41	15A

Is the fuse open?

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

NO >> GO TO 2.

2.CHECK LOW BEAM BULB

Check the applicable low beam bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 3.

NO >> Replace the bulb.

3.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- Disconnect the front combination lamp connector E11 or E107.
- 3. Turn the ignition switch ON.
- 4. Turn the low beam headlamps ON.

< DTC/CIRCUIT DIAGNOSIS >

With the low beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+) (-)Voltage Connector **Terminal** LH E11 4 Ground Battery voltage RH E107 4

Is battery voltage present?

YES >> GO TO 5.

NO >> GO TO 4.

f 4.CHECK HEADLAMP (LO) CIRCUIT FOR OPEN

Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector E123.

Check continuity between the IPDM E/R harness connector E123 and the front combination lamp harness connector E11 or E107.

Connector Continuity Terminal Connector Terminal 52 4 LH F11 E123 Yes RH 54 E107 4

Does continuity exist?

>> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harnesses or connectors.

${f 5.}$ CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

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

	Connector	Terminal	_	Continuity
LH	E11	2	Ground	Yes
RH	E107	2	Ground	165

Does continuity exist?

NO

YES >> Replace malfunctioning lamp.

>> Repair the harness or connector (front combination lamp LH).

>> GO TO 6 (front combination lamp RH).

6.CHECK FRONT COMBINATION LAMP RH TO DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Disconnect daytime running light relay 1 connector E103.

Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

YES >> GO TO 7.

NO >> Repair the harnesses or connectors.

.CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	_	Continuity
E103	4	Ground	Yes

Does continuity exist?

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< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace daytime running light relay 1.

NO >> Repair the harness or connector.

Diagnosis Procedure - For Canada

INFOID:0000000012519705

Regarding Wiring Diagram information, refer to EXL-31, "Wiring Diagram -For Canada".

1. CHECK HEADLAMP (LO) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (LH)	IPDM E/R	40	15A
Headlamp LO (RH)	IPDM E/R	41	15A

Is the fuse open?

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

NO >> GO TO 2.

2.CHECK LOW BEAM BULB

Check the applicable low beam bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 3.

NO >> Replace the bulb.

3.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector E11 or E107.
- 3. Turn the ignition switch ON.
- 4. Turn the low beam headlamps ON.
- 5. With the low beam headlamps ON, check the voltage between the combination lamp connector and ground.

(+)		()	Voltago		
	Connector	Terminal	(-)	Voltage	
LH	E11	4	Ground	Ratteny voltage	
RH	E107	4	Ground	Battery voltage	

Is battery voltage present?

YES >> GO TO 9.

NO >> GO TO 4 (front combination lamp LH).

>> GO TO 5 (front combination lamp RH).

4. CHECK HEADLAMP (LO) CIRCUIT FOR OPEN

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connectors E123.
- Check continuity between the IPDM E/R harness connectors E123 and the front combination lamp harness connector E11.

	Connector	Terminal	Connector	Terminal	Continuity
LH	E123	52	E11	4	Yes

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harnesses or connectors.

< DTC/CIRCUIT DIAGNOSIS >

$5.\mathtt{check}$ daytime running light relay 2 to front combination Lamp RH circuit for open

Disconnect daytime running light relay 2 connector E104.

Check continuity between the daytime running light relay 2 harness connector E104 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E104	5	E107	4	Yes

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

$oldsymbol{6}$.CHECK DAYTIME RUNNING LIGHT RELAY 2 VOLTAGE CIRCUIT

With the low beam headlamps ON, check the voltage between the daytime running light relay 2 connector E104 and ground.

(+)		(-)	Voltage	
Connector	Terminal	(-)	voltage	
E104	1	Ground	Battery voltage	
L10 4	3	Ground	Battery voltage	

Is battery voltage present?

YES >> GO TO 7.

NO >> GO TO 8.

7.CHECK DAYTIME RUNNING LIGHT RELAY 2 GROUND CIRCUIT

Check continuity between the daytime running light relay 2 harness connector E104 and ground.

Connector	Terminal	_	Continuity
E104	2	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 2.

NO >> Repair the harness or connector.

8.CHECK IPDM E/R TO DAYTIME RUNNING LIGHT RELAY 2 CIRCUIT FOR OPEN

Disconnect IPDM E/R connectors E121.

2. Check continuity between the daytime running light relay 2 harness connector E104 and the IPDM E/R connector E121.

Connector	Terminal	Connector	Terminal	Continuity
E104	1	E121	26	Yes
	3	LIZI	20	163

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harnesses or connectors.

9.CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

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

Connector		Terminal	_	Continuity
LH	E11	2	Ground	Yes
RH	E107	2	Ground	163

Does continuity exist?

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< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace malfunctioning lamp.

>> Repair the harness or connector (front combination lamp LH).

>> GO TO 10 (front combination lamp RH).

10. Check front combination lamp RH to daytime running light relay 1 ground circuit

- 1. Disconnect daytime running light relay 1 connector E103.
- 2. Check continuity between the daytime running light relay 1 harness connector E103 and the front combination lamp RH harness connector E107.

Connector	Terminal	Connector	Terminal	Continuity
E103	3	E107	2	Yes

Does continuity exist?

NO

YES >> GO TO 11.

NO >> Repair the harnesses or connectors.

11. CHECK DAYTIME RUNNING LIGHT RELAY 1 GROUND CIRCUIT

Check continuity between the daytime running light relay 1 harness connector E103 and ground.

Connector	Terminal	_	Continuity
E103	4	Ground	Yes

Does continuity exist?

YES >> Replace daytime running light relay 1.

NO >> Repair the harness or connector.

FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT FOG LAMP CIRCUIT

Component Function Check

INFOID:0000000012519706

1. CHECK FRONT FOG LAMP OPERATION

®WITHOUT CONSULT

- Perform IPDM E/R auto active test. Refer to <u>PCS-8</u>, "<u>Diagnosis Description</u>".
- Check that the front fog lamp is turned ON.

(P)WITH CONSULT

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

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FOG : Front fog lamp ON OFF : Front fog lamp OFF

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Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-103, "Diagnosis Procedure".

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Diagnosis Procedure

INFOID:0000000012519707

Regarding Wiring Diagram information, refer to EXL-52, "Wiring Diagram".

1. CHECK FRONT FOG LAMP BULB

Check the fog lamp bulb is not open.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the bulb.

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2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

©CONSULT

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

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-	(+) Front fog lamp		(–)	Test item		Voltage (Approx.)	
C	Connector	Terminal				(1717 - 7	
LH	E162				Fog	Battery voltage	
LN	E 102	4	Ground	EXTERNAL LAMPS	Off	0 V	
RH	E163	'	Ground	EXTERNAL LAWIPS	Fog	Battery voltage	
IXI1	E103				Off	0 V	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3.CHECK FRONT FOG LAMP GROUND CIRCUIT

- Turn ignition switch OFF.
- 2. Check continuity between front fog lamp harness connector and ground.

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

	Front fog lamp			Continuity	
	Connector	Terminal	Ground	Continuity	
LH	E162	2	Giodila	Yes	
RH	E163	2		103	

Is the inspection result normal?

YES >> Replace the malfunctioning lamp. Refer to EXL-124, "Removal and Installation"

NO >> Repair the harness or connector.

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

PARKING LAMP CIRCUIT

Description INFOID:0000000012519708

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 fuses 36 and 37, located in the IPDM E/R. Power then flows to the front and rear combination lamps, license plate lamps.

Component Function Check

INFOID:0000000012519709

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CHECK PARKING LAMP OPERATION

NWITHOUT CONSULT

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

(P)CONSULT

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

TAIL : Parking lamp ON **OFF** : Parking lamp OFF

Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

>> Refer to EXL-105, "Diagnosis Procedure". NO

Diagnosis Procedure

INFOID:0000000012519710

Regarding Wiring Diagram information, refer to EXL-63, "Wiring Diagram".

1. CHECK PARKING LAMP FUSES

- Turn the ignition switch OFF.
- Check that the following fuse is not open.

Unit	Location	Fuse No.	Capacity
Parking lamps	IPDM E/R	36	10A
r arking ramps	IF DIVI L/IX	37	10A

Is the fuse open?

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

NO >> GO TO 2.

2.CHECK PARKING LAMP BULB

Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 3.

NO >> Replace the bulb.

3.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

- Turn the ignition switch OFF.
- Disconnect the front combination lamp connector, rear combination lamp connector and license plate lamp connector.
- Turn the ignition switch ON.
- Turn the parking lamps ON.
- With the parking lamps ON, check voltage between the front combination lamp connectors and ground.

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PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

(+)			()	Voltage
(Connector Terminal		(-)	Voltage
LH	E11	6	Ground	Battery voltage
RH	E107	6	Ground	Dattery voltage

6. With the parking lamps ON, check voltage between the rear combination lamp connectors and ground.

		(+)	(_)	Voltage	
Cor	Connector Terminal		(-)	voltage	
LH	R16	1	1 Ground	Pattery voltage	
RH	R17	'	Giodila	Battery voltage	

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

		(+)	(_)	Voltage	
Co	Connector Terminal		(-)	voltage	
LH	D408	1	Ground	Pattonyvoltago	
RH	D409	I	Giodila	Battery voltage	

Are voltage readings as specified?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK PARKING, LICENSE PLATE AND TAIL 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 harness connector.

Cor	nector	Terminal	Connector	Terminal	Continuity
LH	F121	29	E11	6	Yes
RH	□ □ 12 I	28	E107	6	163

4. Check continuity between the IPDM E/R harness connector E124 and the rear combination lamp harness connector.

Cargo Van

Conr	ector	Terminal	Connector	Terminal	Continuity		
LH	E124	57	R16	4	Yes		
RH	E12 4	37	R17	ı			
Passen	Passenger Van						
Conn	ector	Terminal	Connector	Terminal	Continuity		
LH	E124	57	B51	1	Yes		
RH	L12 4	31	B52	·	165		

5. Check continuity between the IPDM E/R harness connector E124 and license plate lamp connector.

Connector	Terminal	Connector	Terminal	Continuity
E124	57	D408	1	Yes
		D409		

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Are continuity test results as specified?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair the harness or connector.

$5.\mathsf{check}$ parking, license and tall Lamp ground circuits

1. Check continuity between the front combination lamp harness connectors E11 and E107 and ground.

<u>'</u>	Connector	Terminal	_	Continuity
LH	E11	- 5	Ground	Yes
RH	E107		Ground	165

2. Check continuity between the rear combination lamp harness connectors R16 and R17 (cargo van), or B51 and B 52 (passenger van), and ground.

Cargo Van

	Connector	Terminal	_	Continuity
LH	R16	4	Ground	Yes
RH	R17	4	Ground	
Pass	enger Van			
	Connector	Terminal	_	Continuity
LH	B51	4	Ground	Yes
RH	B52	4	Giouna	res

3. Check continuity between the license plate lamp harness connectors and ground.

Connector	Terminal	_	Continuity
D408	2	Ground	Yes
D409		Ground	165

Does continuity exist?

YES >> Replace the malfunctioning lamp.

NO >> Repair the harness.

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description INFOID:000000012519711

The BCM monitors inputs from the combination switch (high beam and turn signal switch) to determine when to activate the turn signals. The BCM outputs voltage direction 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.

Component Function Check

INFOID:0000000012519712

1. CHECK TURN SIGNAL LAMP

CONSULT

- 1. Select "FLASHER" of BCM (FLASHER) active test item.
- 2. While operating the test items, check that the turn signal lamp blinks.

LH: Turn signal lamp LH blinkingRH: Turn signal lamp RH blinkingOFF: The turn signal lamp OFF

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

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

Diagnosis Procedure

INFOID:0000000012519713

Regarding Wiring Diagram information, refer to <a>EXL-57, "Wiring Diagram".

1. CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb to be sure the proper bulb standard is in use and the bulb is not open.

Is the bulb OK?

YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

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

(+)		(-)	Voltage	
Connector Terminal			Voltage	
LH	E11	3		
RH	E107	3	Ground	(V) 15 10 5 0 PKIC6370E

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Cargo Van

	(+)		(-)	Voltage
Cor	nnector	Terminal	()	
LH	R16	6		
RH	R17	6	Ground	(V) 15 10 5 0 1s

Passenger Van

	(+)		(-)	Voltage	
Coi	nnector	Terminal		voltage	
LH	B51	6			
RH	B52	6	Ground	(V) 15 10 5 0 PKIC6370E	

Is voltage reading as specified?

YES >> GO TO 5

NO >> GO TO 3

3.check turn signal lamp circuit for open

- Turn the ignition switch OFF.
- 2. Disconnect BCM connector M20.
- Check continuity between the BCM harness connector M20 and the front combination lamp connector.

Conne	ector	Terminal	Connector	Terminal	Continuity
Front LH	M20	60	E11	2	Yes
Front RH	IVIZU	61	E107	3	165

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

Conne	ctor	Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	R16	6	Voo
Rear RH	IVIZU	61	R17		Yes

Passenger	Van
-----------	-----

Conne	ctor	Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	B51	6	Yes
Rear RH	IVIZU	61	B52	6	165

Are continuity test results as specified?

YES >> GO TO 4.

NO >> Repair the harness or connector.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Check continuity between the BCM harness connector M20 and ground.

Cor	nector	Terminal	_	Continuity
LH	M20	60	Ground	No
RH	IVIZO	61		NO

Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

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

Conr	nector	Terminal	_	Continuity
Front LH	E11	5	Ground	Yes
Front RH	E107	3	Ground	103

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

Cargo Van

Connector		Terminal	_	Continuity	
Rear LH	R16	4	Cround	Yes	
Rear RH	R17	4	4 Ground		
Passenger \	√an				
Cor	nector	Terminal	_	Continuity	
Rear LH	B51	4	Ground	Voc	
Rear RH	B52	4	Ground	Yes	

Are continuity test results as specified?

YES >> Replace the malfunctioning lamp.

NO >> Repair the harness or connector.

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table INFOID:0000000012519714

CAUTION:

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

Sym _l	ptom	Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	Fuse Harness between IPDM E/R and the front combination lamp Front combination lamp (High beam relay) IPDM E/R	Headlamp (HI) circuit Refer to <u>EXL-93</u> (for USA). Refer to <u>EXL-95</u> (for Canada).
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO N Refer to EXL-113.	OT SWITCH TO HIGH BEAM"
(Headlamp switches to the high beam.) • BCM • BCM (HEAD LAMP)		Data monitor "HI-BEAM IND"	
	One side	Front combination lamp (low beam relay)	_
Headlamp does not switch to the low beam.	Both sides	Combination switch (high beam and turn signal switch) Harness between the combination switch (high beam and turn signal switch) and BCM BCM	Combination switch (high beam and turn signal switch) Refer to BCS-60.
		High beam request signal BCM IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	_
Headlamp does not turn ON.	One side	Fuse Bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Headlamp (LO) circuit Refer to <u>EXL-98</u> (for USA). Refer to <u>EXL-100</u> (for Canada).
Both sides		Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-114, "Description".	
Headlamp does not turn OFF.	When the ignition switch is turned ON	BCM Lighting switch	Lighting switch Refer to BCS-60.
Daytime running light system does not activate.		Either high beam bulb (USA) Either low beam bulb (Canada) Parking brake switch Lighting switch BCM IPDM E/R Daytime running light relays Harness between IPDM E/R and daytime running light relays.	Daytime running light system description. Refer to EXL-9 (for USA). Refer to EXL-10 (for Canada).

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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

Symp	otom	Possible cause	Inspection item	
Front fog lamp is not turned ON.	One side	Front fog lamp bulb Harness between IPDM E/R and the front fog lamp IPDM E/R	Front fog lamp circuit Refer to EXL-103.	
turned ON.	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-116.		
Parking lamp is not turned ON.	One side	Fuse Parking lamp bulb Harness between IPDM E/R and the front/rear combination lamp Front/rear combination lamp IPDM E/R	Parking lamp circuit Refer to EXL-105.	
	Both sides	Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to EXL-115.		
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	Harness between BCM and each turn signal lamp Turn signal lamp bulb	Turn signal lamp circuit Refer to <u>EXL-108</u> .	
	One side	Combination meter	_	
Turn signal indicator lamp	Both sides (Always)	Turn signal indicator lamp signal Combination meter BCM	Combination meter. Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"	
does not blink.	Both sides (Does blink when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuit Combination meter	Combination meter Power supply and the ground circuit Refer to MWI-51.	

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description INFOID:0000000012519715

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

Diagnosis Procedure

INFOID:0000000012519716

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1.combination switch (high beam and turn signal switch) inspection

Check the combination switch (high beam and turn signal switch). Refer to <u>BCS-56</u>, "<u>Diagnosis Procedure</u>". <u>Is the combination switch (high beam and turn signal switch) normal?</u>

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

(P)CONSULT DATA MONITOR

- 1. Select "HL HI REQ" of IPDM E/R DATA MONITOR item.
- 2. While operating the combination switch (high beam and turn signal switch), check the monitor status.

Monitor item	Condition	Monitor status	
	Combination switch (high beam and turn sig-	HI or PASS	ON
HL HI REQ	I REQ nal switch) Lighting switch (2ND)	Except for HI or PASS	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-93, "Description".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:000000012519717

The headlamps (both sides) do not turn ON in any lighting switch setting.

Diagnosis Procedure

INFOID:0000000012519718

1.LIGHTING SWITCH INSPECTION

Check the lighting switch. Refer to BCS-56, "Diagnosis Procedure".

Is the lighting switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

(E) CONSULT DATA MONITOR

- 1. Select "HL LO REQ" of IPDM E/R DATA MONITOR item.
- 2. While operating the lighting switch, check the monitor status.

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-98, "Description".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description

The parking, license plate and tail lamps do not turn ON in any lighting switch position.

Diagnosis Procedure

INFOID:0000000012519720

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1.LIGHTING SWITCH INSPECTION

Check the lighting switch. Refer to BCS-56, "Diagnosis Procedure".

Is the lighting switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

(P)CONSULT DATA MONITOR

- 1. 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 quitch	1ST ON OFF OFF	ON
	Lighting switch		OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-62, "Removal and Installation".

3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-105, "Description".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:000000012519721

The front fog lamps do not turn ON in any setting.

Diagnosis Procedure

INFOID:0000000012519722

1. CHECK FRONT FOG LAMP OPERATION

- Perform IPDM E/R auto active test. Refer to <u>PCS-8</u>, "<u>Diagnosis Description</u>".
- 2. Check that the front fog lamps turn on.

Is the inspection results normal?

YES >> GO TO 5 NO >> GO TO 2

2. CHECK FRONT FOG LAMP FUSE

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

Unit	Fuse No.	Capacity
Front fog lamp	56	15 A

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the fuse.

3.CHECK FRONT FOG LAMP BULBS

Check the fog lamp bulbs are not open.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace the bulbs.

4. FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-103, "Diagnosis Procedure".

Is the inspection results normal?

YES >> Replace IPDM E/R. Refer to PCS-25, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

${f 5.}$ CHECK BCM INPUT SIGNAL

(E)CONSULT

- Select "FR FOG SW" of BCM (HEADLAMP) DATA MONITOR item.
- 2. While operating the front fog lamp switch, check data monitor status.

Monitor item	Condition		Monitor status
FR FOG SW	Front fog lamp switch	ON	ON ON OFF
	Tront log lamp switch	OFF	

Is the inspection results normal?

YES >> Replace BCM. Refer to BCS-62, "Removal and Installation".

NO >> GO TO 6.

6.CHECK FRONT FOG LAMP SWITCH

Check the front fog lamp switch. Refer to EXL-117, "Component Inspection".

Is the inspection results normal?

YES >> Repair circuit between switch and BCM.

NO >> Replace fog lamp switch. Refer to EXL-126. "Removal and Installation".

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

Component Inspection

INFOID:0000000012519723

$1.\mathsf{CHECK}$ FRONT FOG LAMP SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect front fog lamp switch connector.
- 3. Check continuity between fog lamp switch terminals.

Front fog lamp switch terminals	Condition	Continuity
1 – 2	Front fog lamp switch ON.	Yes
1 – 2	Front fog lamp switch OFF.	No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front fog lamp switch. Refer to EXL-126, "Removal and Installation".

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HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

PERIODIC MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Inspection INFOID:000000012519724

PREPARATION BEFORE ADJUSTING

Before performing aiming adjustment, check the following:

- Adjust the tire pressure to the specification.
- · Place the vehicle on a level surface.
- Fill vehicle with fuel, engine coolant, and engine oil.
- · Remove cargo and/or luggage to maintain an unloaded vehicle condition.
- Confirm the spare tire, jack, and tools are present and properly stowed.
- Carefully wipe off any dirt from the headlamp lens.

CAUTION:

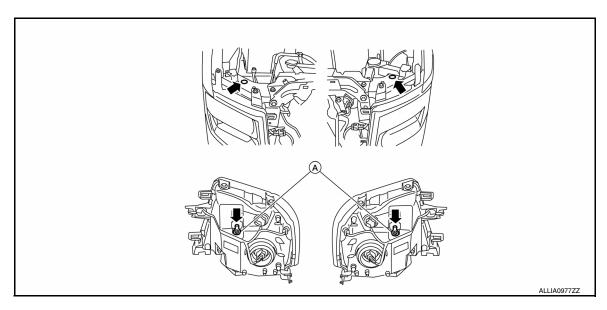
Do not use organic solvent (thinner, gasoline etc.)

- Place a driver or equivalent weight of 68.5 kg (150 lb) on the driver seat.
- By hand, bounce the front and rear of the vehicle to settle the suspension and eliminate any static load.
- Place the front tires in the straight ahead position.

NOTE:

- · For headlamp aiming details, refer to the regulations in your own area.
- By regulation, no means for horizontal adjustment is provided. Horizontal aim will only be serviced by combination lamp replacement.
- · Perform headlamp aiming if:
- The vehicle front body has been repaired.
- The front combination lamp has been removed or replaced.
- Any outfitting has been installed.
- The vehicle's standard load condition has been substantially increased.

AIMING ADJUSTMENT SCREW



A. Headlamp (UP/DOWN) adjusting screw

HEADLAMP AIMING ADJUSTMENT

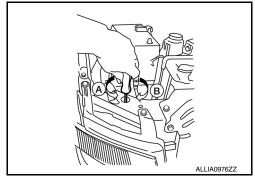
< PERIODIC MAINTENANCE >

· Rotate the headlamp (UP/DOWN) adjustment screw to raise or lower the headlamp vertical beam pattern, using a suitable tool. A: Rotate counterclockwise to lower beam pattern (DOWN).

B: Rotate clockwise to raise beam pattern (UP).

CAUTION:

Do not rotate headlamp (UP/DOWN) adjustment screw beyond a torque of 1.67 N·m (17 kg-cm, 14.8 in-lb), or damage to the components may occur.



Aiming Adjustment Procedure

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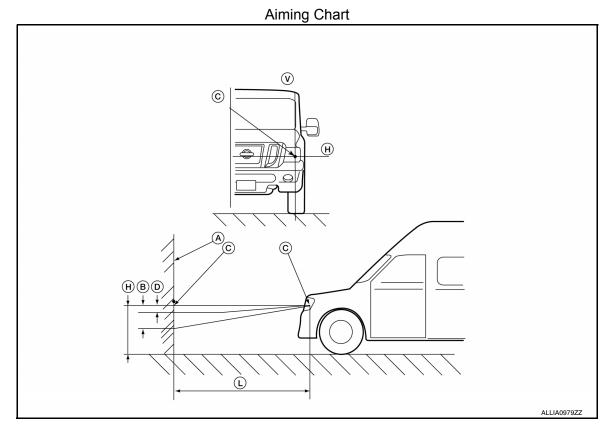
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Screen surface

- B. Lowest cutoff line height 53.2 mm (2.09 in)
- Center of headlamp bulb (H-V point)

- Highest cuttoff line height -13.3 mm (-0.52 in)
- Horizontal center line of headlamp
- 7.62 m (25 ft)

- Vertical center line of headlamp
- 1. 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 in vehicle side-to-side height.
- Face the front of the vehicle to the screen and measure distance between the headlamp center and the screen surface.

Distance between the headlamp center and the screen (L) : 7.62 m (25 ft)

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

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

Start the engine. Turn the headlamps on.

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HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

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

FRONT FOG LAMP

Aiming Adjustment

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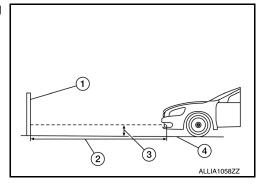
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NOTE:

Check the following conditions before preforming 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.
 - lamp lens as shown.
 (1) Aiming screen or a matte white surface
 - (2) 7.62 m (25 ft)
 - (3) Ground to center of fog lamp lens
 - (4) Ground

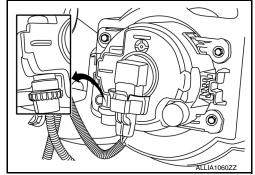


- Turn front fog lamps ON.
- 3. Using a suitable tool to adjust. Rotate screw clockwise to raise pattern and counterclockwise to lower pattern.

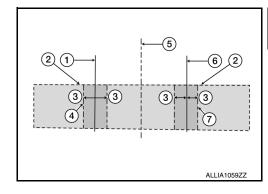
Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown.

NOTE:

Access adjusting screw from underneath front bumper.



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



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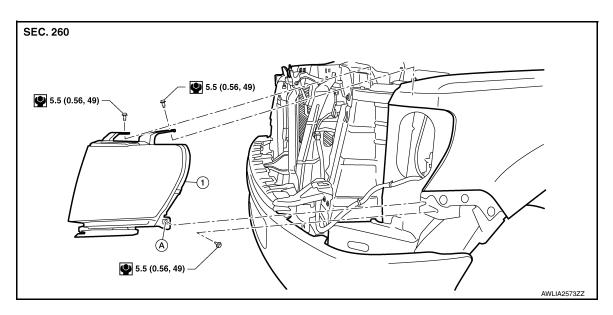
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REMOVAL AND INSTALLATION

FRONT COMBINATION LAMP

Exploded View



1. Front combination lamp (LH)

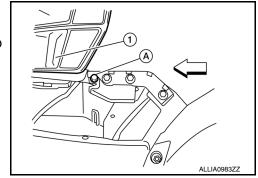
A. J-nut

Removal and Installation

INFOID:0000000012519728

REMOVAL

- 1. Remove upper front fascia. Refer to EXT-19, "Removal and Installation Upper Front Fascia".
- 2. Remove the two front combination lamp upper screws.
- 3. Remove the front combination lamp lower screw (A). <⊐: Front
- 4. Disconnect the harness connector from front combination lamp (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000012519729

WARNING:

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

- After installing the bulb, install the plastic cover and the bulb socket securely for watertightness.
- Do not touch bulb glass with your hand or keep other grease and oily substances away from bulb glass.
- Do not leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

HEADLAMP BULB

FRONT COMBINATION LAMP

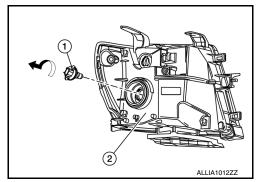
< REMOVAL AND INSTALLATION >

Removal

- 1. Release the locking tab, then disconnect the harness connector from the headlamp bulb.
- 2. Rotate the headlamp bulb (1) counterclockwise and remove from front combination lamp (2).

NOTE:

Illustration shows the front combination lamp removed for clarity. It is not necessary to remove the front combination lamp when replacing the bulb.



Installation

Installation is in the reverse order of removal.

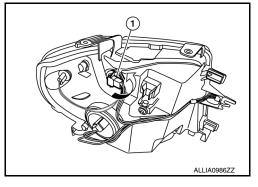
FRONT TURN SIGNAL/PARKING BULB

Removal

1. Rotate the front turn signal/parking bulb socket (1) counterclockwise and remove.

Illustration shows the front combination lamp removed for clarity. It is not necessary to remove the front combination lamp when replacing the bulb.

2. Remove front turn signal bulb from bulb socket.



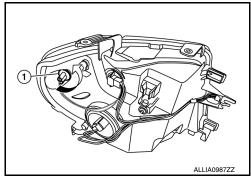
Installation

Installation is in the reverse order of removal.

FRONT SIDE MARKER BULB

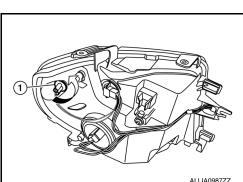
Removal

- 1. Rotate the front side marker bulb socket (1) counterclockwise and remove.
- 2. Remove front side marker bulb from bulb socket.



Installation

Installation is in the reverse order of removal.



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FRONT FOG LAMP

< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Removal and Installation

INFOID:0000000012519730

NOTE:

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb.

REMOVAL

- 1. Remove front grille. Refer to EXT-28, "Removal and Installation".
- 2. Remove upper side nut.
- Raise the vehicle.
- 4. Remove lower side nut and upper nut.
- 5. Disconnect the harness connector from front fog lamp.
- 6. Remove the front fog lamp.

INSTALLATION

Installation is in the reverse order of removal.

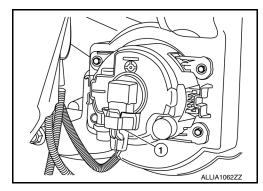
Bulb Replacement

INFOID:0000000012519731

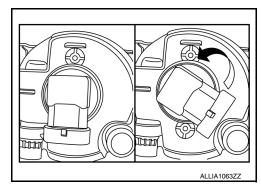
REMOVAL

WARNING:

- Do not touch bulb by hand while it is lit or right after being turned off. Burning may result.
- 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. Disconnect harness connector (1) from the front fog lamp.



2. Rotate the fog lamp bulb counterclockwise and remove.



INSTALLATION

Installation is in the reverse order of removal.

LIGHTING SWITCH

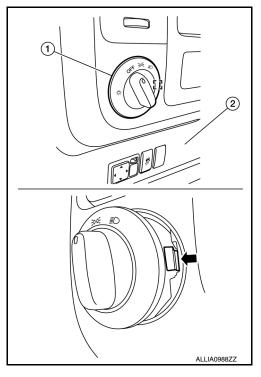
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LIGHTING SWITCH

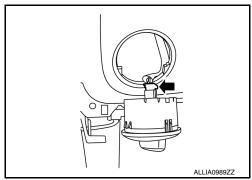
Removal and Installation

REMOVAL

- 1. Remove the instrument lower panel LH (2). Refer to <u>IP-18</u>, <u>"Removal and Installation"</u>.
- 2. Release the metal clip ←. and remove the lighting switch (1) from the instrument panel.



3. Disconnect the harness connector **from the lighting switch** and remove.



INSTALLATION

Installation is in the reverse order of removal.

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FRONT FOG LIGHT SWITCH

< REMOVAL AND INSTALLATION >

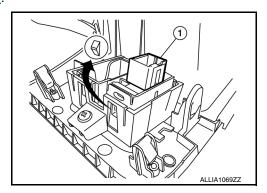
FRONT FOG LIGHT SWITCH

Removal and Installation

INFOID:0000000012519733

REMOVAL

- 1. Remove cluster lid A. Refer to IP-21, "Removal and Installation".
- 2. Release the pawls and remove the front fog light switch (1).

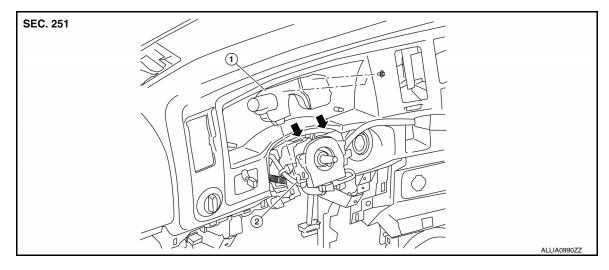


INSTALLATION

Installation is in the reverse order of removal.

COMBINATION SWITCH

Removal and Installation



1. Combination switch

Harness connector

NOTE

Shown with steering wheel removed for clarity only.

REMOVAL

Warning:

Before servicing, turn ignition switch OFF, disconnect both battery terminals and wait at least three minutes.

- 1. Disconnect both the negative and positive battery terminals, then wait at least three minutes.
- Remove the steering column upper and lower covers. Refer to IP-20, "Removal and Installation".
- 3. Rotate steering wheel clockwise to access first combination switch bolt and remove.
- 4. Rotate steering wheel counterclockwise to access second combination switch bolt and remove.
- 5. Disconnect harness connector from combination switch and remove.

INSTALLATION

CAUTION:

- After the work is completed, make sure no system malfunction is detected by air bag warning lamp.
- In case a malfunction is detected by the air bag warning lamp, reset with the self-diagnosis function and delete the memory with CONSULT.

Installation is in the reverse order of removal.

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HAZARD SWITCH

< REMOVAL AND INSTALLATION >

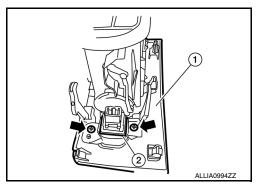
HAZARD SWITCH

Removal and Installation

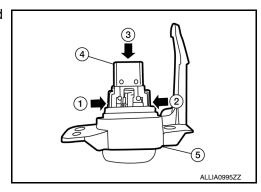
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REMOVAL

- 1. Remove the center ventilator grille (RH). Refer to IP-22, "Removal and Installation".
- 2. Remove the hazard switch bracket screws -.
 - (1) Center ventilator grille (RH)
 - (2) Hazard switch



3. Release the pawls in the order shown, then remove the hazard switch (4) from the hazard switch bracket (5).



INSTALLATION

Installation is in the reverse order of removal.

LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

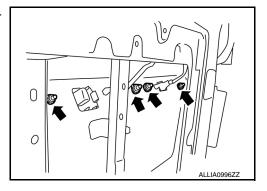
LICENSE PLATE LAMP

Removal and Installation

INFOID:0000000012519736

REMOVAL

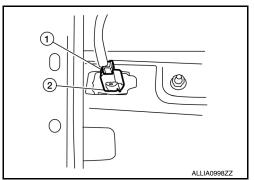
- 1. Remove the back door finisher. Refer to INT-21, "Removal and Installation".
- Remove the four license plate lamp finisher nuts using a suitable tool and remove.



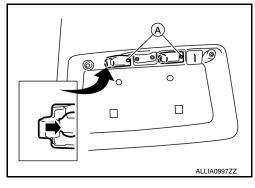
3. Disconnect the harness connector (1) from the license plate lamp socket (2).

NOTE:

RH license lamp shown; LH similar.



4. Remove screws (A) and release the pawl ← to remove license plate lamp housing.



INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:0000000012519737

REMOVAL

WARNING:

Do not touch bulb 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 the back door finisher. Refer to INT-21, "Removal and Installation".

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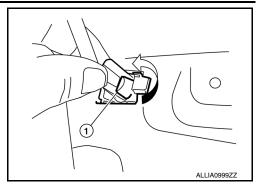
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LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

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



INSTALLATION

Installation is in the reverse order of removal.

HIGH-MOUNTED STOP LAMP

Exploded View

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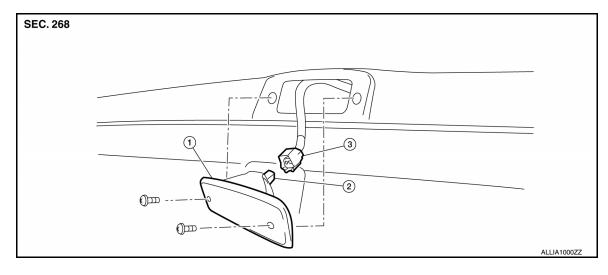
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High-mounted stop lamp

Bulb socket

Harness connector

Removal and Installation

REMOVAL

- Remove the screws and the high-mounted stop lamp.
- Remove the high-mounted stop lamp from the rear roof panel.
- Disconnect the harness connector from the high-mounted stop lamp.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

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INFOID:0000000012519739

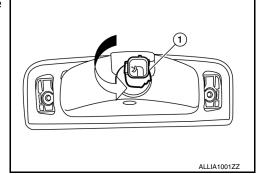
REMOVAL

WARNING:

Do not touch bulb 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.
- Remove the high-mounted stop lamp. Refer to EXL-131, "Removal and Installation".
- Rotate the high-mounted stop lamp socket (1) counterclockwise and remove.
- Remove the high-mounted stop lamp bulb from bulb socket.



INSTALLATION

Installation is in the reverse order of removal.

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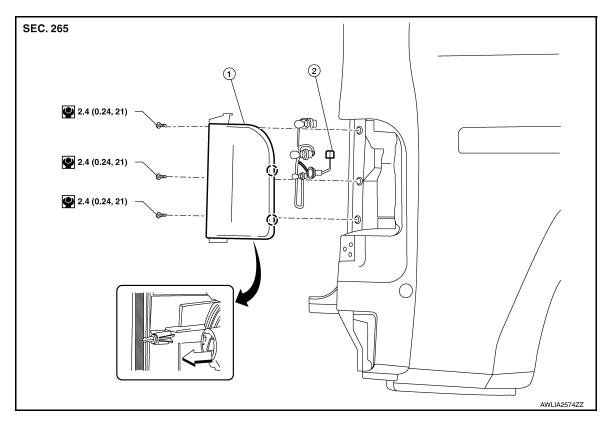
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REAR COMBINATION LAMP

Exploded View



- 1. Rear combination lamp
- 2. Harness connector

← Front

() Locating pin

Removal and Installation

INFOID:0000000012519742

REMOVAL

- 1. Remove the three rear combination lamp bolts.
- 2. Release the two locating pins (outboard edge) while pulling rear combination lamp rearward.
- Remove the harness grommet from the body panel using a suitable tool, then disconnect harness connector from rear combination lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

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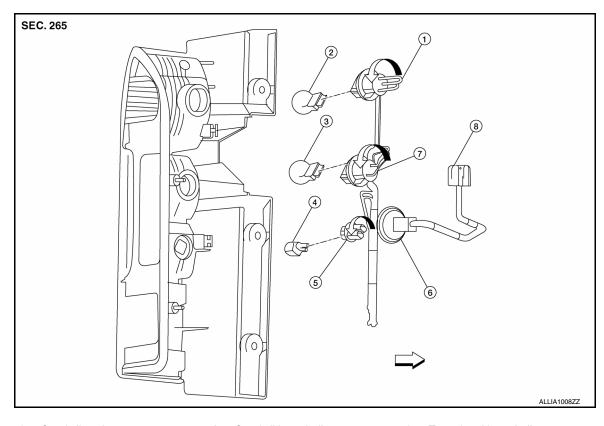
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- 1. Stop/tail socket
- Back-up lamp bulb
- 7. Turn signal socket
- 2. Stop/tail lamp bulb
- 5. Back-up socket
- Harness connector
- 3. Turn signal lamp bulb
- 6. Harness grommet
- <□ Front

REMOVAL

WARNING:

Do not touch bulb 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.
- Remove rear combination lamp. Refer to EXL-132, "Removal and Installation".
- Rotate bulb sockets counterclockwise and remove.
- Remove the bulbs from the bulb sockets.

INSTALLATION

CAUTION:

After installing, be sure to install the bulb socket securely to ensure watertightness. Installation is in the reverse order of removal.

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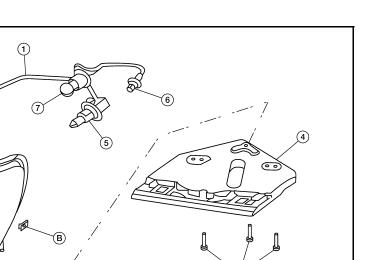
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UNIT DISASSEMBLY AND ASSEMBLY

HEADLAMP

SEC. 260

Disassembly and Assembly



- 1. Front combination lamp wiring harness 2.
- Retainer plate
- 7. Turn signal/parking bulb
- Main harness connector
- 5. High/low beam bulb
- A. Screws

3. Front combination lamp

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- 6. Side marker bulb
- B. J-nut

DISASSEMBLY

WARNING:

Do not touch bulb 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 the front combination lamp. Refer to EXL-122, "Removal and Installation".
- 2. Rotate the headlamp bulb locking ring counterclockwise and remove.
- 3. Remove the headlamp bulb from the bulb socket.
- Rotate the turn signal bulb socket counterclockwise and remove.
- 5. Rotate the side marker bulb socket counterclockwise and remove.
- 6. Remove the three screws and the retainer plate.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

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

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Bulb Specifications

Item		Wattage (W)*	
Front combination lamp	Turn signal/parking bulb	27/8	
	Side marker bulb	3.8	
	High/low beam bulb	65/55	
Rear combination lamp	Stop/tail bulb	27/8	
	Turn signal bulb	27	
	Back-up bulb	18	
High-mounted stop lamp		16	
License plate lamp		5	
Front fog lamp (Passenger van) (if equipped)		55	

^{*:} Always check with the Parts Department for the latest parts information

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