EXTERIOR LIGHTING SYSTEM

CONTENTS

HALOGEN HEADLAMP

PRECAUTION7
PRECAUTIONS 7 Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER" SIONER" 7 Precaution for Work 7
PREPARATION8
PREPARATION
SYSTEM DESCRIPTION9
COMPONENT PARTS9Component Parts Location9Optical Sensor10Hazard Switch11
SYSTEM12
HEADLAMP SYSTEM12HEADLAMP SYSTEM : System Description12HEADLAMP SYSTEM : Fail-Safe12
AUTO LIGHT SYSTEM
DAYTIME RUNNING LIGHT SYSTEM
TURN SIGNAL AND HAZARD WARNING LAMP
SYSIEM 14 TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description 15
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM15

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description15 PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : Fail-Safe	F
FRONT FOG LAMP SYSTEM	G
EXTERIOR LAMP BATTERY SAVER SYSTEM : Main-Safe	I
DIAGNOSIS SYSTEM (BCM)19	J
WITH INTELLIGENT KEY	K
WITHOUT INTELLIGENT KEY	M
DIAGNOSIS SYSTEM (IPDM E/R)24 CONSULT Function (IPDM E/R)24	0
ECU DIAGNOSIS INFORMATION27	Ρ
BCM, IPDM E/R	
WIRING DIAGRAM28	
HEADLAMP	

D

Е

Wiring Diagram	ł
DAYTIME LIGHT SYSTEM	
AUTO LIGHT SYSTEM 42 Wiring Diagram	٦
FRONT FOG LAMP SYSTEM 49 Wiring Diagram	E
TURN SIGNAL AND HAZARD WARNINGLAMP SYSTEMWiring Diagram55	F
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM	E
STOP LAMP	E
BACK-UP LAMP	
BASIC INSPECTION 82	E
DIAGNOSIS AND REPAIR WORKFLOW 82 Work Flow 82	E
INSPECTION AND ADJUSTMENT85	E
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT	F E F
SENSOR INITIALIZE85SENSOR INITIALIZE : Description85SENSOR INITIALIZE : Special Repair Requirement85	E
DTC/CIRCUIT DIAGNOSIS86	
POWER SUPPLY AND GROUND CIRCUIT 86	E
BCM (BODY CONTROL SYSTEM) (WITH INTEL- LIGENT KEY SYSTEM)	F
BCM (BODY CONTROL SYSTEM) (WITHOUT IN- TELLIGENT KEY SYSTEM)	E
OPTICAL SENSOR	

HAZARD SWITCH91
Component Function Check91
Diagnosis Procedure
TURN SIGNAL LAMP CIRCUIT
Description93
Component Function Check
Diagnosis Procedure93
PLT CIRCUIT
DIC LOGIC
Diagnosis Procedure96
B1231 DAYTIME RUNNING LIGHT RH POW-
FR SUPPLY CIRCUIT 97
DTC Logic 97
Diagnosis Procedure
B1256 FRONT FOG LAMP RH POWER SUP-
PLY CIRCUIT
DTC Logic
Diagnosis Procedure
B20CB DAYTIME RUNNING LIGHT LH POW-
ER SUPPLY CIRCUIT
DTC Logic99
Diagnosis Procedure99
B20CE HEADLAMP (HI) LH POWER SUP-
PLY CIRCUIT100
DTC Logic 100
Diagnosis Procedure 100
B20CE HEADI AMP (HI) RH POWER SUP-
DTC Logic 101
Dio Logic 101 Diagnosis Procedure 101
B20D0 HEADLAMP (LO) LH POWER SUP-
PLY CIRCUIT102
DTC Logic 102
Diagnosis Procedure 102
B20D1 HEADLAMP (LO) RH POWER SUP-
PLY CIRCUIT103
DTC Logic 103
Diagnosis Procedure 103
CIRCUIT
DIC Logic
Diagnosis Procedure 104
B20D4 TAIL LAMP LH POWER SLIPPLY CIR-
B20D4 TAIL LAMP LH POWER SUPPLY CIR-
B20D4 TAIL LAMP LH POWER SUPPLY CIR- CUIT
B20D4 TAIL LAMP LH POWER SUPPLY CIR- CUIT
B20D4 TAIL LAMP LH POWER SUPPLY CIR- CUIT
B20D4 TAIL LAMP LH POWER SUPPLY CIR- CUIT

DTC Logic
SYMPTOM DIAGNOSIS 107
EXTERIOR LIGHTING SYSTEM SYMPTOMS.107 Symptom Table
NORMAL OPERATING CONDITION
BOTH SIDE HEADLAMPS (HI) ARE NOTTURNED ON110Description110Diagnosis Procedure110
BOTH SIDE HEADLAMPS (LO) ARE NOTTURNED ON111Description111Diagnosis Procedure111
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON 112 Description
BOTH SIDE FRONT FOG LAMPS ARE NOTTURNED ON113Description113Diagnosis Procedure113
PERIODIC MAINTENANCE 114
HEADLAMP AIMING ADJUSTMENT
HEADLAMP AIMING ADJUSTMENT 114 Inspection 114 Aiming Adjustment Procedure 115 FRONT FOG LAMP AIMING ADJUSTMENT 117 Aiming Adjustment Procedure 117
HEADLAMP AIMING ADJUSTMENT 114 Inspection 114 Aiming Adjustment Procedure 115 FRONT FOG LAMP AIMING ADJUSTMENT 117 Aiming Adjustment Procedure 117 REMOVAL AND INSTALLATION 119
HEADLAMP AIMING ADJUSTMENT 114 Inspection 114 Aiming Adjustment Procedure 115 FRONT FOG LAMP AIMING ADJUSTMENT 117 Aiming Adjustment Procedure 117 REMOVAL AND INSTALLATION 119 FRONT COMBINATION LAMP 119 Exploded View 119 Bulb Replacement 119
HEADLAMP AIMING ADJUSTMENT 114 Inspection 114 Aiming Adjustment Procedure 115 FRONT FOG LAMP AIMING ADJUSTMENT 117 Aiming Adjustment Procedure 117 Aiming Adjustment Procedure 117 REMOVAL AND INSTALLATION 119 FRONT COMBINATION LAMP 119 Exploded View 119 Removal and Installation 119 Bulb Replacement 121 Exploded View 121 Bulb Replacement 121 Bulb Replacement 121 Bulb Replacement 121
HEADLAMP AIMING ADJUSTMENT 114 Inspection 114 Aiming Adjustment Procedure 115 FRONT FOG LAMP AIMING ADJUSTMENT 117 Aiming Adjustment Procedure 117 Aiming Adjustment Procedure 117 REMOVAL AND INSTALLATION 119 FRONT COMBINATION LAMP 119 Exploded View 119 Removal and Installation 119 Bulb Replacement 119 FOG LAMP 121 Exploded View 121 Removal and Installation 121 OPTICAL SENSOR 123 Removal and Installation 123
HEADLAMP AIMING ADJUSTMENT 114 Inspection 114 Aiming Adjustment Procedure 115 FRONT FOG LAMP AIMING ADJUSTMENT 117 Aiming Adjustment Procedure 117 Aiming Adjustment Procedure 117 REMOVAL AND INSTALLATION 119 FRONT COMBINATION LAMP 119 Exploded View 119 Removal and Installation 119 Bulb Replacement 119 FOG LAMP 121 Exploded View 121 Removal and Installation 121 OPTICAL SENSOR 123 Removal and Installation 123 COMBINATION SWITCH 124 Removal and Installation 123 Removal and Installation 123 Removal and Installation 124

SIDE TURN SIGNAL LAMP126Removal and Installation126Bulb Replacement126	А
REAR COMBINATION LAMP127Exploded View127Removal and Installation127Bulb Replacement127	В
HIGH-MOUNTED STOP LAMP129Exploded View129Removal and Installation129Bulb Replacement129	D
BACK-UP LAMP ASSEMBLY130Exploded View130Removal and Installation130Bulb Replacement130	E
LICENSE PLATE LAMP	F G
UNIT DISASSEMBLY AND ASSEMBLY . 134	
FRONT COMBINATION LAMP 134 Exploded View 134 Disassembly and Assembly 134	H
REAR COMBINATION LAMP135Exploded View135Disassembly and Assembly135	J
SERVICE DATA AND SPECIFICATIONS (SDS)	
SERVICE DATA AND SPECIFICATIONS	Κ
(SDS)	EXI
PRECAUTION 137	М
PRECAUTIONS	Ν
PREPARATION138	0
PREPARATION	Ρ
SYSTEM DESCRIPTION 139	
COMPONENT PARTS139Component Parts Location139Optical Sensor140Hazard Switch141	

SYSTEM 142
HEADLAMP SYSTEM
AUTO LIGHT SYSTEM143 AUTO LIGHT SYSTEM : System Description143
DAYTIME RUNNING LIGHT SYSTEM144 DAYTIME RUNNING LIGHT SYSTEM : System Description144
HEADLAMP AIMING CONTROL SYSTEM (AUTO)
144 HEADLAMP AIMING CONTROL SYSTEM (AU- TO) : System Diagram145 HEADLAMP AIMING CONTROL SYSTEM (AU- TO) : System Description145
TURN SIGNAL AND HAZARD WARNING LAMP
SYSTEM
PARKING LICENSE PLATE SIDE MARKER AND
TAIL LAMP SYSTEM 146 PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : System Description 146 PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM : Fail-Safe
FRONT FOG LAMP SYSTEM
EXTERIOR LAMP BATTERY SAVER SYSTEM148 EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description
DIAGNOSIS SYSTEM (BCM) 150
WITH INTELLIGENT KEY
WITHOUT INTELLIGENT KEY
DIAGNOSIS SYSTEM (IPDM E/R) 155 CONSULT Function (IPDM E/R)
ECU DIAGNOSIS INFORMATION158

BCM, IPDM E/R
WIRING DIAGRAM159
HEADLAMP
DAYTIME LIGHT SYSTEM
AUTO LIGHT SYSTEM
FRONT FOG LAMP SYSTEM179 Wiring Diagram
TURN SIGNAL AND HAZARD WARNINGLAMP SYSTEMWiring Diagram185
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM192
Wiring Diagram 192
Wiring Diagram
BACK-UP LAMP
HEADLAMP AIMING SYSTEM (AUTOMAT- IC)
BASIC INSPECTION
DIAGNOSIS AND REPAIR WORKFLOW219 Work Flow
INSPECTION AND ADJUSTMENT222
ADDITIONAL SERVICE WHEN REPLACING
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description
SENSOR INITIALIZE 222 SENSOR INITIALIZE : Description 222 SENSOR INITIALIZE : Special Repair Requirement 222
LED HEADLAMP OPERATION INSPECTION.223 Diagnosis Procedure
DTC/CIRCUIT DIAGNOSIS224
POWER SUPPLY AND GROUND CIRCUIT 224
BCM (BODY CONTROL SYSTEM) (WITH INTEL- LIGENT KEY SYSTEM)

BCM (BODY CONTROL SYSTEM) (WITH INTEL-LIGENT KEY SYSTEM) : Diagnosis Procedure ... 224

BCM (BODY CONTROL SYSTEM) (WITHOUT IN- TELLIGENT KEY SYSTEM)	4 4
OPTICAL SENSOR	6 6 6
HAZARD SWITCH	9 9 9
TURN SIGNAL LAMP CIRCUIT	1 1 1
B121A FRONT FOG LAMP LH POWER SUP-	
DTC Logic	4 4 4
B1231 DAYTIME RUNNING LIGHT RH POW-	-
DTC Logic	5 5
B1256 FRONT FOG LAMP RH POWER SUP-	6
DTC Logic	6 6
B1C00 HEIGHT SENSOR POWER SUPPLY	
CIRCUIT	7 7 7
Diagnosis Procedure23	'
Diagnosis Procedure	, 9 9
Diagnosis Procedure	9 9 9 1 1
Diagnosis Procedure 23 B1C01 FRONT HEIGHT SENSOR SIGNAL 23 DTC Logic 23 Diagnosis Procedure 23 B1C02 REAR HEIGHT SENSOR SIGNAL 24 DTC Logic 24	9 9 9 1 1 3 3 3
Diagnosis Procedure 23 B1C01 FRONT HEIGHT SENSOR SIGNAL 23 DTC Logic 23 Diagnosis Procedure 23 B1C02 REAR HEIGHT SENSOR SIGNAL 24 DTC Logic 24 B1C07 AIMING MOTOR DRIVE SIGNAL 24 DTC Logic 24 DTC Logic 24 B1C07 AIMING MOTOR DRIVE SIGNAL 24 DTC Logic 24	9 9 9 1 1 3 3 3
Diagnosis Procedure 23 B1C01 FRONT HEIGHT SENSOR SIGNAL 23 DTC Logic 23 Diagnosis Procedure 23 B1C02 REAR HEIGHT SENSOR SIGNAL 24 DTC Logic 24 B1C07 AIMING MOTOR DRIVE SIGNAL	, 999 111 333 555

PLY CIRCUIT	. 246
DTC Logic	. 246

Diagnosis Procedure246	
B20CF HEADLAMP (HI) RH POWER SUP-	А
DTC Logic	В
B20D0 HEADLAMP (LO) LH POWER SUP- PLY CIRCUIT	С
Diagnosis Procedure	
B20D1 HEADLAMP (LO) RH POWER SUP- PLY CIRCUIT	D
B20D2 PARKING LAMP POWER SUPPLY	
CIRCUIT	F
B20D4 TAIL LAMP LH POWER SUPPLY CIR- CUIT	G
DTC Logic251 Diagnosis Procedure251	Н
B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT	I
B20DB HEIGHT SENSOR INITIALIZE NOT	J
DTC Logic	K
B20E2 LED HEADLAMP RH	EX
B20E3 LED HEADLAMP LH	M
SYMPTOM DIAGNOSIS 256	NI
EXTERIOR LIGHTING SYSTEM SYMPTOMS. 256 Symptom Table	IN
NORMAL OPERATING CONDITION	0
BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON	Ρ
BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON	

Revision: November 2013

Diagnosis Procedure260
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS ARE NOT TURNED ON 261 Description
BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON 262 Description 262 Diagnosis Procedure 262
PERIODIC MAINTENANCE
HEADLAMP AIMING ADJUSTMENT 263 Inspection 263 Aiming Adjustment Procedure 264
Aiming Adjustment Procedure
REMOVAL AND INSTALLATION268
FRONT COMBINATION LAMP268Exploded View268Removal and Installation268Bulb Replacement268
HEIGHT SENSOR270Exploded View270Removal and Installation - Front Height Sensor270Exploded View271Removal and Installation - Rear Height Sensor271
FOG LAMP272Exploded View272Removal and Installation272Bulb Replacement272
OPTICAL SENSOR
COMBINATION SWITCH

HAZARD SWITCH276Exploded View276Removal and Installation276
SIDE TURN SIGNAL LAMP277 Removal and Installation
REAR COMBINATION LAMP278Exploded View278Removal and Installation278Bulb Replacement278
HIGH-MOUNTED STOP LAMP280Exploded View280Removal and Installation280Bulb Replacement280
BACK-UP LAMP ASSEMBLY281Exploded View281Removal and Installation281Bulb Replacement281
LICENSE PLATE LAMP283Exploded View283Removal and Installation283Bulb Replacement283
UNIT DISASSEMBLY AND ASSEMBLY285
FRONT COMBINATION LAMP285Exploded View285Disassembly and Assembly285
REAR COMBINATION LAMP286Exploded View286Disassembly and Assembly286
SERVICE DATA AND SPECIFICATIONS (SDS)
SERVICE DATA AND SPECIFICATIONS
Bulb Specifications

А

В

Ε

EXL

Μ

Ν

Ο

Ρ

< PRECAUTION > PRECAUTION

PRECAUTIONS

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

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

WARNING:

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

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

WARNING:

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

INFOID 000000010336852

< PREPARATION > PREPARATION

PREPARATION

Special Service Tool

INFOID:000000010351310

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

< SYSTEM DESCRIPTION > SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000010286948 В



А

С

D

Е

F

G

Н

J

Κ

Μ

Ν

Ο

Ρ

< SYSTEM DESCRIPTION >

with trim panel removed)

Left side of instrument panel (view

A. Right rear wheel area

D.

- B. Instrument panel
- C. Engine compartment

No.	Part	Function
1.	Optical sensor	Refer to EXL-10, "Optical Sensor".
2.	LED headlamp control module	Turns the headlamps ON according to the power supply from IPDM E/R.
3.	Headlamp aiming motor	Moves the headlamps up/down based on inputs from the front and rear height sensors.
4.	Front height sensor	Sends the vehicles pitch angle signal to the IPDM E/R necessary for adjusting the headlamp aiming motors.
5.	Rear height sensor	Sends the vehicles pitch angle signal to the IPDM E/R necessary for adjusting the headlamp aiming motors.
6.	Combination switch (Lighting and turn signal switch)	Refer to <u>BCS-9</u> , "COMBINATION SWITCH READING SYSTEM : System Descrip- tion" (with Intelligent Key) or <u>BCS-81</u> , "COMBINATION SWITCH READING SYS- <u>TEM</u> : System Description" (without Intelligent Key).
7.	Hazard switch	Refer to EXL-11, "Hazard Switch".
8.	IPDM E/R	 Supplies voltage to the load according to the request from BCM (via CAN communication). Refer to <u>PCS-4</u>, "<u>Component Parts Location</u>" for detailed installation location.
9.	BCM	 Detects each switch condition by the combination switch reading function. Judges that the exterior lamps are turned ON according to the vehicle condition. Requests the headlamp (HI/LO), tail lamp and front fog lamp ON to IPDM E/R (via CAN communication). Requests high beam indicator lamp ON to the combination meter (via CAN communication). Judges the outside brightness from the optical sensor signal. Judges the ON/OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp according to the outside brightness and the vehicle condition. Refer to <u>BCS-7</u>. "BODY CONTROL SYSTEM : Component Parts Location" (with Intelligent Key) or <u>BCS-79</u>. "BODY CONTROL SYSTEM : Component Parts Location" (without Intelligent Key).

Optical Sensor

INFOID:000000010286949

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



COMPONENT PARTS

< SYSTEM DESCRIPTION >

Hazard Switch

INFOID:000000010286950

А

В

С

D

Е

F

G

Н

J

Κ

[HALOGEN HEADLAMP]

Inputs the hazard switch ON/OFF signal to BCM.





EXL

Ν

Ο

Ρ

SYSTEM HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Description

INFOID:000000010336173

SYSTEM DIAGRAM



OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)
- Lighting switch AUTO, with the front fog lamp switch ON and the power switch ON
- Lighting switch PASS

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition:

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

HEADLAMP SYSTEM : Fail-Safe

INFOID:000000010336174

CAN COMMUNICATION CONTROL

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

If no CAN communication is available with BCM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]



< SYSTEM DESCRIPTION >

The auto light adjustment system automatically, dims/brightens the display, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to <u>EXL-13. "AUTO LIGHT SYSTEM : System Description"</u>.

DELAY TIMER FUNCTION

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

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

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-19</u>, "<u>HEAD-LAMP</u> : <u>CONSULT Function (BCM - HEADLAMP)</u>" (with Intelligent Key) or <u>BCS-90</u>, "<u>HEADLAMP</u> : <u>CONSULT Function (BCM - HEADLAMP</u>)"</u> (without Intelligent Key).

NOTE:

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

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000010336176

SYSTEM DIAGRAM



OUTLINE

• Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and smart FET of IPDM E/R.

DAYTIME RUNNING LIGHT OPERATION

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

Daytime running light ON condition:

- Vehicle condition READY
- Lighting switch OFF or 1ST
- Lighting switch AUTO, and the auto light function OFF judgment
- Parking brake switch OFF
- IPDM E/R controls the daytime running light request signal.
- Power is supplied from the IPDM E/R to the daytime lights.

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000010336177 А

SYSTEM DIAGRAM



OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

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

HIGH FLASHER OPERATION

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

NOTE:

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

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

Ρ

Ν

Н

J

Κ

< SYSTEM DESCRIPTION >

scription

INFOID:000000010336178

[HALOGEN HEADLAMP]

SYSTEM DIAGRAM



OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

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

INFOID:000000010336179

CAN COMMUNICATION CONTROL

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

If no CAN communication is available with BCM

 Parking lamp License plate lamp Illumination Tail lamp Side marker lamp 	Control part	Fail-safe operation
	 Parking lamp License plate lamp Illumination Tail lamp Side marker lamp 	 Turns ON the tail lamp when the power switch is turned ON Turns OFF the tail lamp when the power switch is turned OFF

FRONT FOG LAMP SYSTEM

Revision: November 2013

[HALOGEN HEADLAMP]



< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000010336182

SYSTEM DIAGRAM



OUTLINE

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

Controlled by BCM:

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

Controlled by IPDM E/R:

- BCM turns the exterior lamps* OFF after a period of time to prevent the battery from over-discharge when the power switch is turned OFF with the exterior lamps ON.
- *: Headlamp (LO/HI), parking lamp, tail lamp, side marker lamp, license plate lamp and front fog lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM) INFOLD:000000010287175

A

В

С

[HALOGEN HEADLAMP]

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.	D
Data Monitor	The BCM input/output data is displayed in real time.	
Active Test	The BCM activates outputs to test components.	E
Work support	The settings for BCM functions can be changed.	
Configuration	The vehicle specification can be read and saved.The vehicle specification can be written when replacing BCM.	F
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.	

SYSTEM APPLICATION

BCM can perform the following functions.

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

WITH INTELLIGENT KEY : CONSULT Function (BCM - HEADLAMP)

INFOID:000000010287176

DATA MONITOR

Revision: November 2013

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Description
Indicates condition of push-button ignition switch.
Indicates engine status received from ECM on CAN communication line.
Indicates vehicle speed signal received from ABS on CAN communication line.
Indicates condition of combination switch.
Indicates condition of front door switch LH.
Indicates condition of front door switch RH.
Indicates condition of rear door switch RH.
Indicates condition of rear door switch LH.
Indicates condition of back door switch.
Indicates outside brightness voltage signal from optical sensor.
Indicates outside brightness voltage signal from optical sensor filtered by BCM.

ACTIVE TEST

Test Item	Description
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].
STOP LAMP 1	This test is able to check rear combination lamp stop lamp operation [On/Off].
STOP LAMP 3	This test is able to check high-mounted stop lamp operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
	MODE2*	Autolamp function ON.
	MODE1	Autolamp function OFF.
	MODE4	Less sensitive than normal setting (turns ON later).
	MODE3	More sensitive than MODE2.
	MODE2	More sensitive than normal setting (turns ON earlier).
	MODE1*	Normal setting.
	MODE 8	
	MODE 7	
	MODE 6	
	MODE 4	Autolome dolou timor
ILL DELAY SET	MODE 5	
	MODE 3	
	MODE 2	
	MODE 1*	

*: Initial setting

< SYSTEM DESCRIPTION >

WITH INTELLIGENT KEY : CONSULT Function (BCM - FLASHER)

INFOID:000000010287177

А

[HALOGEN HEADLAMP]

DATA MONITOR

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

ACTIVE TEST

Test Item	Description	G
FLASHER	This test is able to check turn signal lamp operation [Off/LH/RH].	
WITHOUT INTELLIGENT K	ίεΥ	

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM)

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.	K
Data Monitor	The BCM input/output data is displayed in real time.	
Active Test	The BCM activates outputs to test components.	EYI
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.	M
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.	

SYSTEM APPLICATION

BCM can perform the following functions.

				Direct D	Diagnosti	c 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			×	×	×			

Ν

Н

INFOID:000000010287178

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

	Direct Diagnostic Mode							
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT					×		
Exterior lamp	HEADLAMP			×	×			
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	х			
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×		х			
Interior room lamp battery saver	BATTERY SAVER			×	х			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			х				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - HEADLAMP) INFOLD.000000010287179

DATA MONITOR

Monitor Item [Unit]	Description
TURN SIGNAL R [On/Off]	
TURN SIGNAL L [On/Off]	
TAIL LAMP SW [On/Off]	
HI BEAM SW [On/Off]	Indicates condition of combination switch.
HEAD LAMP SW [On/Off]	
LIGHT OFF SW [On/Off]	
PASSING SW [On/Off]	
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.
DOOR SW-BK [On/Off]	Indicates condition of back door switch.

ACTIVE TEST

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

< SYSTEM DESCRIPTION >

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - FLASHER)

INFOID:000000010287180

А

[HALOGEN HEADLAMP]

DATA MONITOR

Monitor Item [Unit]	Description	В
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination quitch	
TURN SIGNAL L [On/Off]		С
HAZARD SW [On/Off]	Indicates condition of hazard switch.	
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.	D
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.	
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.	
		F

ACTIVE TEST

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

G

Н

Κ

J

EXL

M

Ν

0

Р

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000010287181

[HALOGEN HEADLAMP]

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) po- sition.
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.
HOOD SW [Open/Close]	Indicates condition of hood switch.
COMPRESSOR [OFF/ON]	Indicates condition of A/C compressor.
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.
COOLING FAN [OFF/ON]	Indicates condition of cooling fan relay-1.
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.
COOLING FAN RELAY 1 [OFF/ON]	Indicates condition of cooling fan relay-1.
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.
COMP ECV DUTY [%]	Indicates condition of A/C compressor.
COOLING FAN RELAY 2 [%]	Indicates condition of cooling fan relay-2.
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.
PARKING LAMP [%]	Indicates condition of parking lamp.
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.

Revision: November 2013

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Monitor Item [Unit]	Description	
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.	А
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.	
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.	В
A/C RELAY STUCK [NG/OK]	Indicates condition of A/C relay.	
A/C RELAY [Off/On]	Indicates condition of A/C relay.	
COMP ECV STATUS [NG/OK]	Indicates condition of A/C compressor.	С
VEHICLE SECURITY HORN [Off/On]	Indicates condition of horn relay.	
BATTERY CURRENT SENSOR [NG/OK]	Indicates condition of battery current sensor.	D
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.	D
COMP ECV CURRENT [A]	Indicates condition of A/C compressor current.	
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.	Е
COOLING FAN DUTY [%]	Indicates condition of cooling fans.	
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.	E
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.	Г
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.	
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.	G
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.	
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.	
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.	H
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.	
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.	I
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.	
TAIL LAMP [Off/On]	Indicates condition of tail lamps.	J
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) po- sition.	
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.	Κ
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.	
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.	EXI
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.	
AFTER COOLING TIME [No request/Request]	Indicates condition of cooling fan request.	
AFTER COOLING SPEED [%]	Indicates condition of cooling fans.	M
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates cooling fan type.	
COMPRESSOR REQ1 [Off/On]	Indicates condition of A/C compressor request.	NI
VHCL SECURITY HORN REQ [Off/On]	Indicates condition of horn relay request.	IN
DTRL REQ [Off/On]	Indicates condition of daytime running light request.	
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates condition of IPDM E/R sleep/wake.	0
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.	
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.	_
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.	Ρ
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.	
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.	
HORN CHIRP [Off/On]	Indicates condition of horn relay request.	
COOLING FAN REQ [%]	Indicates condition of cooling fan request.	
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.	

Revision: November 2013

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[HALOGEN HEADLAMP]

Monitor Item [Unit]	Description
TURN SIGNAL REQ [Off/LH/RH]	Indicates condition of turn signal request.
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates condition of front wiper motor request.
SHIFT POSITION [P/R/N/D/L]	Indicates condition of transmission range switch positions.
LOW BEAM REQ [Off/On]	Indicates condition of headlamp low beam request.
POSITION LIGHT REQ [Off/On]	Indicates condition of parking lamp request.
COMPRESSOR REQ2 [Off/On]	Indicates condition of A/C compressor request.
IGNITION SW [Off/On]	Indicates condition of ignition switch.
VEHICLE SPEED (METER) [mph/km/h]	Indicates vehicle speed.
BAT DISCHARGE COUNT [0-100]	Indicates condition of battery discharge.
BATTERY STATUS [NG/OK]	Indicates battery status.

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [Off/On].
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/3/5].
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].

CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

List of ECU Reference

INFOID:000000010286972 В

[HALOGEN HEADLAMP]

ECU	Reference
	BCS-28, "Reference Value" (with Intelligent Key) BCS-96, "Reference Value" (without Intelligent Key)
ВСМ	BCS-47, "Fail Safe" (with Intelligent Key) BCS-107, "Fail Safe" (without Intelligent Key)
	BCS-47, "DTC Inspection Priority Chart" (with Intelligent Key) BCS-107, "DTC Inspection Priority Chart" (without Intelligent Key)
	BCS-48, "DTC_Index" (with Intelligent Key) BCS-108, "DTC_Index" (without Intelligent Key)
	PCS-12, "Reference Value".
IPDM E/R	PCS-19. "Fail-safe"
	PCS-20, "DTC Index"

Н

Κ

Μ

Ν

Ο

Ρ

А

< WIRING DIAGRAM > WIRING DIAGRAM

HEADLAMP

Wiring Diagram

INFOID:000000010288622





HEADLAMP

Ρ



Revision: November 2013

Connector Nume MT Connector Name Connector Name MT Terminal No. Connector Name Vire Can+L Can+L 43 LWG BaT 44 LWG BaT 45 LWG BaT 46 Norre Can+L 52 G Signal Name 7 Terminal No. Color of Signal Name 7 Gomector Name PPOME Encloredor 12 B Signal Name Connector Name 13 E Connector Name Connector Name 12 B Signal Name Co
Connector No. M77 Connector Name COM Connector Name COM Connector Name COM Hill Laves 41 L 42 P 43 Laves 44 L 52 B 43 Laves 61 B 7 B 7 B 12 B

AALIA2134GB

Ρ

٢L

HEADLAMP

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



B Connector Nam EPRONT COMBINATION NT COMBINATION Connector Nam EPRONT COMBINATION DLAMPS) Connector Nam EPRONT COMBINATION CX Connector Nam EPRONT COMBINATION CX Connector Nam ERONT COMBINATION CX Connector Nam ERONT COMBINATION CX Connector Nam ERONT COMBINATION CX Connector Name ERONT COMBINATION CX Connector Name ERONT COMBINATION C - 14 B T - 15 LG T 15 LG - T N Connector Name ECON BODY CONTROL Connector Name ECON BODY CONTROL ECON BODY CONTROL T 15 LG - T 15 LG - T 15 LG - T 16 ECON BODY CONTROL T 17 ECON BODY CONTROL	Connector No. E235 Connector Name LAMP LH (WITH HALOGEN HEADLAMPS) Connector Color BLACK	H.S.	Terminal No. Color of Wire Signal Name 4 L - 5 B -	Connector No. B41 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Color of Wire Signal Name 24 P - 25 L -
Come P RH (WITH HALOGEN P RH (WITH HALOGEN Come Co	ctor No. E234 ctor Name LAMP RH (WITH HALOGEN ector Color GRAY	(10) (10) (11) (10) (11) (10) (10) (10)	nal No. Color of Signal Name Wire B – 5 LG –	ector No. B16 ector Name BCM (BODY CONTROL moDULE) ector Color GREEN ector Color GREEN 85 55 55 453 55 150 48 48 47 46 45 44 43 78 77 76 75 74 73 22 77 70 68 66 66 66 66 66 66	nal No. Color of Signal Name Wire CAN-H SO L CAN-H CAN-L
	8 NT COMBINATION P RH (WITH HALOGEN DLAMPS) Conne	8 8 8 8	Signal Name 1 1 1	b NT COMBINATION P LH (WITH HALOGEN P LH (WITH HALOGEN Conne 1112	Signal Name

HEADLAMP

2014 Rogue NAM

Ρ

Revision: November 2013

[HALOGEN HEADLAMP]





Signal Name	I	I	I	I
Color of Wire	Ь	Γ	Ч	Γ
Terminal No.	3	4	7	8

EXL-34

AALIA2137GB

DAYTIME LIGHT SYSTEM

Wiring Diagram

HK : WITH HALOGEN HEADLAMPS

UV):WITH LED HEADLAMPS

INFOID:000000010288623

А

В

С

D

Ε

F

Н

J

Κ

EXL

Μ

Ν

Ο

Ρ

[HALOGEN HEADLAMP]



AALWA0771GB









M20

Connector No.

AALIA2121GB

DAYTIME LIGHT SYSTEM


< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

Revision: November 2013

Ρ

AALIA2122GB

DAYTIME LIGHT SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



AALIA2123GB

DAYTIME LIGHT SYSTEM

< WIRING DIAGRAM >

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

> Connector Name Connector Color

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

> Connector Name Connector Color

E120

Connector No.

GRAY

RED

E121

Connector No.

[HALOGEN HEADLAMP]





< WIRING DIAGRAM >

				IHALOGE
me				
la la				

DAYTIME LIGHT SYSTEM

Connector Name JOINT CONNECTOR-B01 ഹ თ ₽ 14 2 9 ₽ റ് Connector Color GRAY B63 2 20 <u>.</u> Connector No. N.S Ē

< WIRING DIAGRAM >

Signal Name	I	I	1	Ι
Color of Wire	٩	_	Ч	L
Terminal No.	3	4	7	8

Signal Name	I	—
Color of Wire	Р	_
Terminal No.	24	25

Ľ	lā.	Ē	st	5	2		<u> </u>	5	6											
-	R	Ē	sci	5	Za	Ĕ	0	MM	Σġ	۳Ę	ЫÜ	≿	8	Z	Ĕ	5				
<u> </u>	l	Ĩ	ect	2	ပိ	l D	<u> </u>	5	μ											
	「招く」									I IN		7								
	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	4
_	80	79	78	77	76	75	74	73	72	71	20	69	88	67	99	65	64	3	62	61

Signal Name	CAN-H	CAN-L
Color of Wire		٩
Terminal No.	09	80



Е

F

G

А

В

Η

|

J

K

EXL

M

Ν

0

AALIA2126GB

AUTO LIGHT SYSTEM

Wiring Diagram

INFOID:000000010288624

[HALOGEN HEADLAMP]



AALWA0767GB

	5 4 3 2 1 5 25 24 23 22 21																			
3 M (BODY CONTROL DULE) AY	15 12 11 10 8 7 6 35 34 33 32 31 30 29 22 7 6 Signal Name Signal Name 11 10 9 8 7 6	O PWR AUTOLIGHT SENSOR	I AUTOLIGHT SENSOR O GND AUTOLIGHT SENSOR	I CSW 5	O CSW 5	I CSW 3	I CSW 4	I CSW 1	I CSW 2											
o. M13 ame BC blor GR	19 18 17 16 39 38 37 36 Color of	WIre N	<pre>C</pre>	LG	~	J	GR	>	≥											
nnector No nnector No nnector Co	minal No.	12	30	33	34	36	37	38	39											
<u>ଓ</u> ଓି																				
		Γ]			
CAL SENSOR			Signal Name -	I	I						(BODY CONTROL ULE)	NN	164	Signal Name	I PWR ECU I GND1	I GND2				
me OPTI or WHIT		1	Wire W	۲ ۲	>					M20	ne BCM MOD	or BRO	167166165 176175174	Color of Wire	≥ œ	ы <u>с</u>	-			
Connector No. Connector Nar Connector Col	在可 S.H		Terminal No.	5	ε					Connector No.	Connector Nar	Connector Col	雨 H.S.	Terminal No.	161 170	171				
		_				-					1			82 81 102 101]	-1	1	1		
T CONNECTOR-M01	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Signal Name	1	1						(BODY CONTROL JLE)	X	R	91 90 89 88 87 86 85 84 83 111110109108107106105104103	Signal Name	0 CSW 2	O CSW 1	O CSW 3	O CSW 4	I SHORTING PIN
M6 DOIN or GRA	4 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Mire P	(ــــــــ	-				M19	ne BCM MOD(or BLAC		95 94 93 92 15114113112	Color of Wire	BB	ß	٩	BG	>
ector No. ector Nar ector Col	<i>i</i>		ninal No.	4 1	_ α	b				nector No.	inector Nar	nector Col	Ś	9 98 97 96 5 191181171161	minal No.	84	85	86	87	95

AUTO LIGHT SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

Revision: November 2013



	-	17			
	2	18			
	e	19			
	4	20			
	ŝ	21		ue l	
	9	22		lai	
117	2	23		2	1
11/	œ	24		gu	
	6	25		ŝ	
	10	26			
	÷	27			
	12	28			
	13	29		20	
	4	8		S≥	<u>ш</u>
	₽	31		0	
	16	32		9	
E	НS		1	Terminal I	24

1 1

_

25



7R 6R 5R 4R ______3R 2R 1R 16R15R14R13R12R11R10R 9R 8R

E

AALIA2113GB

AUTO LIGHT SYSTEM

< WIRING DIAGRAM >



AALIA2114GB

< WIRING DIAGRAM >

Connector No. B16	Connector Name BCM (BODY CONTROL MODULE)	Connector Color GREEN	Ą	URAN H.S.	60 58 57 56 55 54 55 51 50 48 47 46 43 42 41 80 73 78 77 75 72 71 70 68 68 67 66 65 64 53 62 61	Terminal No. Color of Signal Name	50 W I RR DOOR SW	51 LG I TGATE SW	52 R I RL DOOR SW	53 SB I AS DOOR2 SW	57 SB I DR DOOR2 SW	60 L CAN-H	80 P CAN-L	Connector No. B49	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. (6 7 8 9 10 11 12	Terminal No. Color of Signal Name	6 SB	10 W –
Connector No. E218	Connector Name POWER DISTRIBUTION	Connector Color WHITE		(項項) H.S.		Terminal No. Color of Signal Name	C DIGHT FR FOG	D/C MPS RH	58 R OLIGHT DTRL RH	59 G OLIGHT HBEAM LH	61 GR O LIGHT CLEARANCE			Connector No. B46	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. (1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 16 17 18 9 10 11 12 13 14 15 16 16 17 18 19 20 21 22 22 24 25 26 27 28 29 30 31 32	Terminal No. Color of Signal Name	19 LG –	
Connector No. E217	Connector Name POWER DISTRIBUTION			国本 1000		Terminal No. Color of Signal Name	49 R OLIGHT DTRL LH	50 L O LIGHT LBEAM LH			54 LG OLIGHI HBEAM RH	56 BG OLIGHI CLEANANCE		Connector No. B41	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. 17 12 2 3 4 5 6 7 8 9 10 11 12 13 14 15 1 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 33	Terminal No. Color of Signal Name	24 P –	25 L –

< WIRING DIAGRAM >

AALIA2115GB

				A
				В
SWITCH LH	gnal Name -	OR SWITCH RH	gnal Name	С
B70 WHITE		B141 FRONT DOC WHITE		D
ector No. ector Name ector Color	3 Colo	ector No. ector Name ector Color	a Colo 3 GI	E
Conr	Term	Conr	Terr	F
363 JOINT CONNECTOR-B01 GINT CONNECTOR-B01 3RAY	of Signal Name	3140 WIRE TO WIRE WHITE	of Signal Name	G
Connector No. E Connector Name Connector Color H.S	Terminal No. Color 3 Pr 4 L 7 P 8 L	Connector No. E Connector Name Connector Color	Terminal No. Color 6 GR 10 Wir	J
tor No. B54 Ior Name WIRE TO WIRE tor Color WHITE	al No. Color of Signal Name B –	tor No. B71 tor Name FRONT DOOR SWITCH LH tor Color WHITE	al No. Color of Signal Name Signal Name – – – – – – – – – – – – – – – – – – –	EXL M
Connec Connec Connec		Connec Connec Connec	AALIA2116GB	0

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

Revision: November 2013

Ρ

AALIA2116GB

[HALOGEN HEADLAMP]













Signal Name	I	I
Color of Wire	×	В
Terminal No.	7	ω





AALIA2117GB

FRONT FOG LAMP SYSTEM А Wiring Diagram INFOID:000000010288625 IPDM E/R INTELLIGENT DISTRIBUTION DISTRIBUTION EVENDULE ENGINE ENOM) (E119), (E120), (E121), (E217), (E218) В TO CAN SYSTEM С JOINT CONNECTOR-E01 E44 D СРU Ť 12 E15 Ε 62J M31 FRONT FOG LAMP RH (E221) JOINT CONNECTOR-M02 (M43) F 0 G JOINT CONNECTOR-M01 M6 SMART FET Н FRONT FOG LAMP LH (E22) E40 E201 -**I**I(11) 0 ~ (B) 24 25 B41 J METER METER M76), M77 FUSE BLOCK (J/B) (M44), (M68) JOINT CONNECTOR-B01 (B63) Κ UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY) 8 IGNITION SWITCH ON OR START B16 31 31 EXL 46 , M20 N **.** M19 10A Μ 45 BCM (BODY CONTROL MODULE) (M18) FOG COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) (M28) Ν 5A 14 95 Ο 7 7 BATTERY FOG LAMP 14R 161 Ρ ž AALWA0773GB

Revision: November 2013



FOG LAMP CONNECTORS

Revision: November 2013

E

FRONT FOG LAMP SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

Т

BG GR

T

ശ

ß

I. Т

N ო 4

I GND2

ш

171

佢

AALIA2127GB



[HALOGEN HEADLAMP]



< WIRING DIAGRAM >

Connector Name JOINT CONNECTOR-M02

M43

Connector No.

Signal Name

Color of Wire

Terminal No.

_ ۵

61J

WIRE TO WIRE

Connector Name Connector Color

M31

Connector No.

WHITE

62J

Т I.

Connector Color BLUE

20

H.S. E

Signal Name

Terminal No.

H.S.

佢



AALIA2129GB

FRONT FOG LAMP SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

FRONT FOG LAMP SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



AALIA2130GB

< WIRING DIAGRAM >

FRONT FOG LAMP SYSTEM

[HALOGEN HEADLAMP]



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< WIRING DIAGRAM >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram



[HALOGEN HEADLAMP]

А

В

С

D

Е

F

Н

J

Κ

Μ

Ν

0



Signal Name	I	I
Color of Wire	≻	ЧĢ
Terminal No.	2	e.

2 3 4

H.S.

佢

Connector Color WHITE

BROWN

Connector Color



AALIA2162GB

< WIRING DIAGRAM >

LAMP SYSIEM [HALOGEN HEADLAMP]

402 10			
CONNECTOR-M	Signal Name	BLOCK (J/B)	
No. M43 Vame JOINT Color BLUE	P P Color of	No. M68 Name FUSE Color BROW Wire v V	
Connector I Connector I Connector I	Terminal No 2 5 12 15	Connector I Connector I Connector I H.S. H.S. 14R 14R	
CK (J/B)	ignal Name	NECTOR-M26	
PUSE BLOC	Mire S BG	M65 M65 JOINT CON JOINT CON Mire 3 4 2 Mire S 6 5 4 2	
nnector No. nnector Name nnector Color	6N 60	nnnector No. nnnector Name nnnector Color nnnector Color 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2	
ŬŎŎ	μ μ		
E E 141312110NSV	Signal N Signal N Sig	E BLOCK (J/B) E Signal N 	
r No. M28 r Name COM r Color WHII r Color WHII	Ko Color of Color of Color of BG BG BG BG BG BG BG BG BG BG	Ver No. M44 r No. M44 r Color WHIT r Color WHIT r Dolor of LA/BR LA/BR	
Connecto Connecto Connecto	Terminal I 1 2 3 3 6 6 6 7 7 7 10 15	Connecto Connecto Connecto H.S. H.S. 13P 13P	
		AALIA2163GB	

Revision: November 2013

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



AALIA2164GB

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

48 47 46 45 44 43 42 41 68 67 66 65 64 63 62 61 134 133 O DI FR RIGHT E DI FR LEFT E Connector Name BCM (BODY CONTROL MODULE) BCM (BODY CONTROL MODULE) Signal Name Signal Name 132131130129128127126125124123 144143142141140139138137136135 CAN-H CAN-L 52 51 50 49 4 72 71 70 69 6 GREEN BLACK B16 E29 Color of Wire Color of Wire 73 53 GВ ВВ ٩ _ 60 59 58 57 56 55 54 80 79 78 77 76 75 74 Connector Name Connector Color Connector Color Connector No. Connector No. Terminal No. Terminal No. 135 136 80 80 H.S. H.S. E 佢 Connector Name JOINT CONNECTOR-M29

5 4 3 2 1	Signal Name
8 7 6	Color of
S.H.	Terminal No.

Connector Color WHITE

Connector No. M170

Connector Name WIRE TO WIRE

M168

Connector No.

Connector Color WHITE

4 5 6 7 8 9 10 11 12	6 17 18 19 20 21 22 23 24		Signal Name	I	I
1 2 3	13 14 15 1		Color of Wire	ш	LA/G
	0. L]	Terminal No.	N	22

Signal Na	I	I	
Color of Wire	в	В	
Terminal No.	-	4	

		-	
Signal Name	I	I	
Color of Wire	ш	LA/G	
inal No.	2	22	

ector No.	E105
ector Name	FRONT COMBINATION LAMP LH
ector Color	GRAY
10	







E103

Connector No.

Signal Name	I	I	
Color of Wire	GR	BR	
Terminal No.	-	2	

AALIA2165GB

А

В

С

D

Ε

F

Н

J

Κ

EXL

Μ

Ν

Ο

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



AALIA2166GB

E

佢

TURN SIGNAL AND H	ZARD WARNING LAMP SYSTEM
< WIRING DIAGRAM >	[HALOGEN HEADLAMP]



Ρ

AALIA2239GB

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram

INFOID:000000010288627



< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



Revision: November 2013

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

I

ВВ

ω 10 15

- o

10 2

H.S.

E

٩

I

L I T

≥ ≻ >

9 ~



Signal Name	1	I	I	I
Color of Wire	ГG	SB	GR	BG
Terminal No.	-	2	З	4



AALIA2149GB

I GND2

ш

171

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



AALIA2150GB

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

Signal Name Signal Name Connector Name FUSE BLOCK (J/B) I. Т I
 4M
 3M
 2M
 1M

 10M
 9M
 8M
 7M
 6M
 5M
 Connector Name WIRE TO WIRE 1 2 3 4 Connector Color WHITE Connector Color WHITE E28 Color of Wire E40 Color of Wire GВ ۵ ≻ Connector No. Connector No. Terminal No. Terminal No. 6M N ო H.S. H.S. F F Connector Name COMBINATION METER Signal Name Signal Name CAN-H CAN-L GND2 BAT ßN ī
 41
 42
 43
 44
 45
 46

 47
 48
 49
 50
 51
 52
 Connector Color WHITE M77 Color of Wire Color of Wire LA/BR LA/G ≥ _ ٩ ш Connector No. Terminal No. Terminal No. 99A 41 42 45 46 52 H.S. F
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20

 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 111A 12A 13A 14A 15A 15A 17A 18A 19A 20A 21A 22A 23A 24A 25A 26A 27A 28A 29A 30A 31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A 42A 43A 44A 45A 45A 47A 48A 49A 50A 51A 52A 53A 54A 55A 56A 57A 58A 59A 60A 61A 62A 63A 64A 65A 66A 67A 68A 69A 70A 71A 72A 73A 74A 75A 76A 77A 78A 79A 80A 81A 82A 83A 84A 85A 86A 87A 88A 89A 90A Connector Name COMBINATION METER Signal Name 91A 92A 93A 94A 95A 96A 97A 98A 99A 100A
 1A
 2A
 3A
 4A
 5A

 6A
 7A
 8A
 9A
 10A
 GND1 Connector Name WIRE TO WIRE WHITE Connector Color GRAY M76 Color of Wire E34 ш Connector Color Connector No. Connector No. Terminal No. -H.S.H H.S. E F 1 21

AALIA2151GB

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]





< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



< WIRING DIAGRAM >

[HALOGEN HEADLAMP]



AALIA2154GB

< WIRING DIAGRAM >



AALIA2155GB

< WIRING DIAGRAM >



AALIA2156GB

< WIRING DIAGRAM >



AALIA2157GB
JP LAMP ASSEMBLY	Signal Name		
D519 me BACK-UP LAMP ASSEMBLY or WHITE	Color of Signal Name GR – – – – – – – – – – – – – – – – – –		

Ρ

< WIRING DIAGRAM > STOP LAMP

Wiring Diagram

INFOID:000000010288628



STOP LAMP

AALWA0765GB

nnector No. E28 nnector Name FUSE BLOCK (J/B) nnector Color WHITE	4M 3M 2M 1M Tom 9M 3M 7M 6M 5M	rminal No. Color of Signal Name 5M V –		onnector No. E44 Dinector Name JOINT CONNECTOR-E01 Dinector Color WHITE	K K K K K K K K K K K K K K K K K K K	irminal No. Color of Signal Name 23 LG – –	27 LG -
		₽]			Te	
LOCK (J/B)	128 118 108 39 38 18	Signal Name		AMP SWITCH		Signal Name	1
No. M68 Name FUSE B Color BROWN	7R 6R 5R 4R 16R 15R 14R 13F	lo. Color of Wire GR	-	No. E38 Name STOP L Color WHITE		lo. Color of Wire V	LG LG
Connector Connector Connector	A.S.	Terminal N 10R		Connector Connector Connector	品 H.S.	Terminal N	
ECTORS BODY CONTROL ULE)	104	Signal Name I PWR STOP LAMP	I GND1 I GND2	BODY CONTROL ULE)	2001201201201201201201201201201201201201	Signal Name I BRAKE SW2	
O CONN O. M20 ame BCM olor BROW	167166165 176175174	Color of Wire GR	<u> </u>	o. E29 ame BCM (010r BLAC	Color of Wire LG	
LAMF nector Nk nector Nk	<u>vi</u>	minal No.	171	nnector Nc		minal No. 125	

AALIA2158GB

Ρ

< WIRING DIAGRAM >

[HALOGEN HEADLAMP]

RING DIAGRAM >		[HA	LOGEN
TO WIRE	Signal Name	CONNECTOR-B01	Signal Name -
Dnnector No. B46 Dnnector Name WIRE T Dnnector Color WHITE	arminal No. Color of Wire UX	Dimector No. B63 Dimector Name JOINT Dimector Color GRAY	strainal No. Color of Wire 1 LA/Y 5 LA/Y
	MP 1 EMP 1		u u u u u u u u u u u u u u u u u u u
B23 me BCM (BODY CONTF MODULE) or GRAY Introl 101301301431	Color of Signal Na Wire O STOP LA LAV O STOP LA C O STOP L	B54 me WIRE TO WIRE WHITE	Color of Signal Nai Wire B – –
Connector No. Connector Nar Connector Col	Terminal No. 0 153 158	Connector No. Connector Nar Connector Col	Terminal No.
B16 BCM (BODY CONTROL MODULE) GREEN 33 25 1 50 49 49 47 46 45 44 43 42 41 33 72 71 70 69 69 150 66 46 183 62 61	ire of Signal Name W O STOP LAMP 3	B49 WIRE TO WIRE WHITE	or of Signal Name Ire – – – – – – – – – – – – – – – – – – –
Connector No. Connector Name Connector Color	Terminal No. Col 79 LA	Connector No. Connector Name Connector Color	Terminal No. Col 8 LA

Revision: November 2013

WIRING DIAGRAM >	[HALOGEN HEADLAMP]
	gnal Name
05 3	
No. Color No. BI1 0. Color 0 Color 0 0. Mire 12 12 12	Aame Wi Dolor WH B B
Connector I Connector Connector Connector Connector Connector Connector Connector Connector Connector Connector I	Connector Connector Connector I
Signal Name	Signal Name
Decision 2002 Terrer Contract	
Price	No. Color No. With B Y
Connect Connect Connect Terminal	Connect Connect Terminal
	13 13
IBINATION	VIRE i 25 24 23 22 21 20 i 25 24 23 22 21 20
001 001 001 001 001 001 001 001	of 3 0f 3
No. D	Ab Color V V V V
Connector Connector Connector Lerminal A 4 2 2 2 3 0nnector	Connector Connector H.S. 17
	AALIA2160GB

STOP LAMP

Revision: November 2013

Ρ

BACK-UP LAMP

Wiring Diagram

INFOID:000000010288629

[HALOGEN HEADLAMP]



BACK - UP LAMP

AALWA0763GB



Revision: November 2013

AALIA2118GB

Ρ



BACK-UP LAMP

Revision: November 2013

AALIA2119GB



Revision: November 2013

< BASIC INSPECTION >

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000010286974

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

1. GET INFORMATION FOR SYMPTOM	Λ
1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).	A
2. Check operation condition of the function that is malfunctioning.	В
>> GO TO 2.	
2.CHECK DTC	С
 Check DTC. Perform the following procedure if DTC is detected. Record DTC and freeze frame data (Print them out using CONSULT.) 	D
 Erase DTC. Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information. 	E
Are any symptoms described and any DTC detected?	
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.	F
3.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.	G
	Η
4. CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.	I
	J
5. PERFORM DTC CONFIRMATION PROCEDURE	
Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-47</u> , " <u>DTC Inspection Priority Chart</u> " (BCM) (with Intelligent Key System) or <u>BCS-107</u> , " <u>DTC Inspection Priority Chart</u> " (BCM) (without Intelligent Key System) or <u>PCS-12</u> , " <u>Reference Value</u> " (IPDM E/R), and determine trouble diagnosis order.	K
 • Freeze frame data is useful if the DTC is not detected. • Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this share. 	M
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR- MATION PROCEDURE.	Ν
Is DTC detected?	_
YES >> GO TO 7. NO >> Check according to GI-41 "Intermittent Incident"	0
6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS	
Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.	Ρ
Is the symptom described?	
 NO >> GO TO 7. NO >> Monitor input data from related sensors or check voltage of related module terminals using CON- SULT. 	

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-41, "Intermittent Incident"</u>.

 $\mathbf{8}$. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9.FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

INSPECTION AND ADJUSTMENT
< BASIC INSPECTION > [HALOGEN HEADLAMP]
INSPECTION AND ADJUSTMENT
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description
CAUTION: • When the IPDM E/R is replaced or disconnected and reconnected, perform "SENSOR INITIALIZE" of with CONSULT.
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Re- quirement
1.SENSOR INITIALIZE
CONSULT WORK SUPPORT Perform "SENSOR INITIALIZE". Refer to EXL-85. "SENSOR INITIALIZE : Special Repair Requirement".
>> WORK END SENSOR INITIALIZE
SENSOR INITIALIZE : Description
HEADLAMP AIMING CONTROL SYSTEM Perform the sensor initialize when installing, removing and replacing the auto levelizer control unit or suspen- sion components.
SENSOR INITIALIZE : Special Repair Requirement
CAUTION: If performing aiming adjustment after the levelizer initialization, be sure to start the engine after turn- ing ignition switch OFF. 1.VEHICLE CONDITION CHECK
1. Park the vehicle in the straight-forward position.
2. Unload the vehicle (no passenger aboard).
>> GO TO 2.
2.SENSOR INITIALIZE
 CONSULT WORK SUPPORT Select "SENSOR INITIALIZE" of IPDM E/R work support item. Select "START".
3. When "INITIALIZE COMPLETE", select "END". CAUTION:
If "INITIALIZE NOT DONE" is indicated, auto levelizer control unit detects that the sensor lever sig- nal was changing. The sensor initialization is cancelled. In this case, turn the ignition switch OFF, do not allow the vehicle height to change. Perform the sensor initialization again.
Is the sensor initialize completed?
YES >> GO TO 3. NO >> Perform the sensor initialize again.
3.SELF-DIAGNOSIS RESULT CHECK
Perform the self-diagnosis with CONSULT. Check that any DTC is not detected.
Is any DTC detected?
NO >> Sensor initialize completed.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM)

BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM) : Diagnosis

Regarding Wiring Diagram information, refer to <u>BCS-50, "Wiring Diagram"</u>.

1. CHECK FUSE

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
161	BCM power supply	7 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M20.

2. Check voltage between BCM connector M20 and ground.

BCM		Ground	Voltage	
Connector	Terminal	Ground	(Approx.)	
M20	161	_	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

BCM		Cround	Continuity
Connector	Terminal	Giouria	Continuity
MOO	170		Vec
WZU	171	—	165

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM)

BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

Regarding Wiring Diagram information, refer to BCS-110, "Wiring Diagram".

1. CHECK FUSE

Revision: November 2013

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[HALOGEN HEADLAMP]

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
161	BCM power supply	7 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Disconnect BCM connector M20.
- 2. Check voltage between BCM connector M20 and ground.

BCM		Ground	Voltage	
Connector	Terminal	Giodina	(Approx.)	Ľ
M20	161	_	Battery voltage	-

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

				Н
BCM		Cround	Continuity	
Connector	Terminal	Ground	Continuity	
M20 –	170		Vec	
	171		163	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

Κ

EXL

Μ

Ν

Ο

Ρ

J

А

D

F

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Component Function Check

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT DATA MONITOR

Turn power switch ON.

2. Select "OPTICAL SENSOR" of BCM (HEADLAMP) data monitor item.

3. Turn lighting switch AUTO.

4. With the optical sensor illuminating, check the monitor status.

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

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

Is the inspection result normal?

YES >> Optical sensor is normal.

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

Diagnosis Procedure

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

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

(+)		
Optical sensor Connector Terminal		(-)	(Approx.)
M13	1	Ground	5 V

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

(+) Optical sensor		(-)	Voltage
Connector	Terminal		
M13	3	Ground	0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

3.CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

INFOID:000000010286996

INFOID:000000010286997

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

	ensor	()		Condition	Voltage
Connector	Terminal	(-)		Condition	(Approx.)
				When illuminating	3.1 V or more *
M13	2	Ground	Optical sensor	When shutting off light	0.6 V or less
: Illuminate the op <u>s the inspection re</u> YES >> GO TO NO >> Replace CHECK OPTIC. . Turn power sw 2. Disconnect op 3. Check continu	tical sensor. Th <u>sult normal?</u>) 7. ce the optical se AL SENSOR O vitch OFF. tical sensor cor ity between opt	e value may t ensor. PEN CIRCUI inector and B ical sensor ha	CM connector.	or and BCM harnes	ess is weak.
	ical concer		r		
Connector	Termin	al	Connector	Terminal	Continuity
	1	<u>~</u>	M18	12	Yes
	Optical sensor				Continuity
Connector		[erminal		Ground	Continuity
	sult normal?			stallation" (with Inte	llicent Key eveters) er
s the inspection re YES >> Replace 135. "I NO >> Repair CHECK OPTIC. I. Turn power sw Disconnect op Check continu	ce BCM. Refer Removal and In r or replace harr AL SENSOR G <i>i</i> tch OFF. tical sensor con ity between opt	to <u>BCS-75, "F</u> stallation" (win ness. ROUND OPE nector and Br ical sensor ha	CM connector.	or and BCM harnes	s connector.
s the inspection re YES >> Replac <u>135. "I</u> NO >> Repair CHECK OPTIC. DECHECK OPTIC. Disconnect op Check continu	ce BCM. Refer Removal and In r or replace harr AL SENSOR G <i>i</i> tch OFF. tical sensor con ity between opt	to <u>BCS-75, "F</u> stallation" (wi ness. ROUND OPE nector and B ical sensor ha	CM connector.	or and BCM harnes	enigent Key system) or
s the inspection re YES >> Replace 135. "I NO >> Repair CHECK OPTIC Turn power sw Disconnect op Check continu	ce BCM. Refer <u>Removal and In</u> r or replace harr AL SENSOR G <i>v</i> itch OFF. tical sensor con ity between opti <u>ical sensor</u> <u>Termin</u>	to <u>BCS-75, "F</u> stallation" (wi ness. ROUND OPE inector and Bi ical sensor ha	Connector	or and BCM harnes	s connector.
s the inspection re YES >> Replar <u>135. "I</u> NO >> Repair) .CHECK OPTIC . Turn power sw . Disconnect op . Check continu Opt <u>Connector</u> M13	ce BCM. Refer Removal and In r or replace harr AL SENSOR G vitch OFF. tical sensor cor- ity between opti ical sensor Termin 3	to <u>BCS-75, "F</u> stallation" (wi ness. ROUND OPE inector and B ical sensor ha	Connector M18	or and BCM harnes	Continuity Yes

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Optical sensor		B	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M13	2	M18	19	Yes	

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8. CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optical sensor			Continuity
Connector Terminal		Ground	Continuity
M13	2		No

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-75</u>, "<u>Removal and Installation</u>" (with Intelligent Key system) or <u>BCS-135</u>, "<u>Removal and Installation</u>" (without Intelligent Key system).

NO >> Repair or replace harness.

HAZARD SWITCH

	INUSIS >	[HALOGEN HEADLAMP		
HAZARD SWITC	ĴH			
Component Functi	ion Check			INFOID:0000000102869
1.CHECK HAZARD S	WITCH SIGNAL BY C	ONSULT		
CONSULT DATA MC Turn power switch Select "HAZARD S With operating the	NITOR ON. W" of BCM (FLASHEI hazard switch, check	२) data monitor item the monitor status.	1.	
Monitor item		Condition		Monitor status
HAZARD SW	Hazard switch		ON	On
			OFF	Off
NO >> Refer to E> Diagnosis Procedu .CHECK HAZARD SV . Turn power switch . Disconnect hazard . Check voltage betw	<u>(L-91, "Diagnosis Proc</u> J re WITCH SIGNAL INPU OFF. switch connector. veen hazard switch co (+) Hazard switch	<u>edure"</u> . IT Innector and ground		INFOID:0000000102869
Connector			(-)	vollage (Approx.)
M26	2		Ground	Battery voltage
YES >> GO TO 4.				
NO >> GO TO 2. CHECK HAZARD S ¹ Disconnect BCM co Check continuity be	WITCH SIGNAL OPE onnector. etween hazard switch	N CIRCUIT	and BCM harness	connector.
NO >> GO TO 2. CHECK HAZARD S ¹ Disconnect BCM co Check continuity be Hazard	WITCH SIGNAL OPE onnector. etween hazard switch	N CIRCUIT harness connector a	and BCM harness	connector. Continuity
NO >> GO TO 2. CHECK HAZARD S ¹ Disconnect BCM co Check continuity be Hazard Connector M26	WITCH SIGNAL OPE onnector. etween hazard switch d switch Terminal	N CIRCUIT harness connector a Bo Connector	and BCM harness	Continuity
NO >> GO TO 2. CHECK HAZARD S' Disconnect BCM co Check continuity be Hazard Connector M26 the inspection result	WITCH SIGNAL OPE onnector. etween hazard switch d switch Terminal 2 normal?	N CIRCUIT harness connector a Bo Connector M18	and BCM harness CM Terminal 11	Continuity Yes
NO >> GO TO 2. 2.CHECK HAZARD S' 1. Disconnect BCM co 2. Check continuity be Hazarc Connector M26 s the inspection result in YES >> GO TO 3. NO >> Repair or re 3.CHECK HAZARD SY Check continuity betwe	WITCH SIGNAL OPE onnector. etween hazard switch d switch Terminal 2 normal? eplace harness. WITCH SIGNAL SHO en hazard switch harn	N CIRCUIT harness connector a Connector M18 RT CIRCUIT less connector and g	and BCM harness	connector. Continuity Yes
NO >> GO TO 2. 2.CHECK HAZARD S' 1. Disconnect BCM co 2. Check continuity be Hazaro Connector M26 S the inspection result YES >> GO TO 3. NO >> Repair or re 3.CHECK HAZARD SY Check continuity between H	WITCH SIGNAL OPE onnector. etween hazard switch d switch Terminal 2 normal? eplace harness. WITCH SIGNAL SHO en hazard switch harn	N CIRCUIT harness connector a Connector M18 RT CIRCUIT less connector and g	and BCM harness	Continuity
NO >> GO TO 2. 2.CHECK HAZARD S' 1. Disconnect BCM co 2. Check continuity be Hazarc Connector M26 Is the inspection result YES >> GO TO 3. NO >> Repair or re 3.CHECK HAZARD S' Check continuity betwe H Connector	WITCH SIGNAL OPE onnector. etween hazard switch d switch 2 switch 2 normal? eplace harness. WITCH SIGNAL SHO en hazard switch harn azard switch	N CIRCUIT harness connector a Connector M18 RT CIRCUIT less connector and g	and BCM harness	Continuity Yes Continuity

>> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key) or BCS-135, YES "Removal and Installation" (without Intelligent Key).

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity	
Connector Terminal		Ground	Continuity	
M26	3	•	Yes	

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-125, "Removal and Installation".

NO >> Repair or replace harness.

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description				INFOID:000000010330247
The BCM monitors inputs from activate the turn signals. The E operation or both during hazard bination meter via the CAN con	n the combinati 3CM outputs vo d warning opera	on switch (light ltage direction ation. The BCM	ing and turn signal switch) to de to the left and right turn signals o sends a turn signal indicator red	etermine when to Buring turn signal Quest to the com-
The BCM performs the fast fla open.	sher operation	(fail-safe) if any	v bulb or harness of the turn sigr	nal lamp circuit is C
NOTE: Turn signal lamp blinks at norn	nal speed wher	n using the haza	ard warning lamp.	D
Component Function Ch	neck			INFOID:000000010330248
1.CHECK TURN SIGNAL LA	MP			E
		tive test item		
 Select FLASHER of BCM While operating the test ite 	ems, check that	the turn signal	lamp blinks.	F
LH : Turn signal	lamps (LH) O	N		
RH : Turn signal	lamps (RH) O	N		G
Off : Turn signal	lamps OFF			
Is the inspection result normal' YES >> Turn signal lamp c NO >> Pofor to EXL 02 "	<u>?</u> ircuit is normal Diagnosis Proc	oduro"		Н
Diagnosis Procedure		<u>edure</u> .		INFCID:000000010330249
Ū				
Regarding Wiring Diagram info	ormation, refer t	o <u>EXL-185, "W</u>	iring Diagram".	J
1.CHECK TURN SIGNAL LA	MP BULB			K
Check the applicable lamp bull	b to be sure the	e proper bulb sta	andard is in use and the bulb is i	not open.
Is the bulb OK?				EX
NO >> Replace the bulb.				
2. CHECK TURN SIGNAL LA	MP OUTPUT V	OLTAGE		N
1. Turn the ignition switch OF	F.			
2. Disconnect the front comb rear combination lamp har	ination lamp ha ness connector	rness connecto r in question.	or or the side turn signal harness	connector or the
 I urn the ignition switch ON Operate the turn signal sw 	N. itch.			
5. While the turn signal is ope tor and ground.	erating, check t	he voltage betw	veen the front combination lamp	harness connec-
(+)			Voltage	
Connector	Terminal	(-)	(Approx.)	P

А

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

LH	E105			
RH	E103	1	Ground	

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

	(+)		()	Voltage
	Connector	Terminal	(-)	(Approx.)
LH	B90			
RH	B102	3	Ground	

Are the inspection results normal?

YES >> GO TO 5.

NO >> GO TO 3.

3.CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.

2. Disconnect BCM harness connector E29 or B23.

3. Check continuity between the BCM harness connector E29 and the front combination lamp harness connector.

BCM			Front comb	ination lamp	Continuity
Cor	nnector	Terminal	Connector	Terminal	Continuity
LH	E20	135	E105	1	Vec
RH	L29	136	E103	I	165

4. Check continuity between the BCM harness connector B23 and the rear combination lamp harness connector.

BCM			Rear comb	ination lamp	Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
LH	P33	157	B90	3	Vec
RH	B23	160	B102	0	165

Are the inspection results normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connectors.

4.CHECK TURN SIGNAL LAMP SHORT CIRCUIT

1. Check continuity between the BCM harness connector E29 and ground.

TURN SIGNAL LAMP CIRCUIT

		1	1	
	BCM	Tannainal		Continuity
Conne	CTOP		Ground	
	E29	136		No
Check continui	ty between the BCM h	arness connector M2	0 and ground.	
	PCM			
Connecto	or Term	inal		Continuity
LH	15	7	Ground	
RH	B23 16	0		No
NO >> Repair CHECK TURN S Turn the ignitio Check continui	or replace the harness SIGNAL LAMP GROUI n switch OFF. ty between the front c	s or connectors. ND CIRCUIT	ness connector or th	e side turn signal harnes
connector or th	Front combination lan	np narness connector	in question and gro	una.
			(–) Continuity	
С	onnector	Terminal		contaily
C LH	E105	Terminal	Ground	Ves
C LH RH	E105 E103	Terminal2	Ground	Yes
C LH RH	onnector E105 E103 ty between the rear co Rear combination lam	Terminal 2 mbination lamp harne	Ground ess connector and gr	round.
C LH RH Check continui	ty between the rear co Rear combination lam	Terminal 2 mbination lamp harne	Ground ess connector and gr	round.
C LH RH . Check continui	ty between the rear co	Terminal 2 mbination lamp harne	Ground ess connector and gr	Yes

Ρ

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010321286

INFOID:000000010321287

[HALOGEN HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B121A	FR FOG LAMP LH PWR SPLY CIRC [CIRC SHORT TO GROUND	Short to ground	IPDM E/RShort to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(P)With CONSULT.

Turn ignition switch ON. 1.

2. Perform self-diagnostic result.

Is DTC B121A detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-96, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK FOG LAMP SHORT CIRCUIT TO GROUND

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

	IPDM E/R		Continuity	
Connector		Terminal	Ground	Continuity
LH	E217	51		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check fog lamp short circuit to ground

1. Reconnect IPDM E/R connector.

Check continuity between fog lamp harness connector and ground. 2.

	Fog lamp (LH)		Continuity	
Coni	nector	Terminal	Ground	Continuity
LH	E222	1		No

Is the inspection result normal?

YES

>> Refer to <u>GI-41, "Intermittent Incident"</u>.
>> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>. NO

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT [HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010287232

А

DIC	Display Item	I	Malfunction detected c	ondition	Pos	sible causes
B1231	DTRL RH PWR SPLY CIRC [CIRC SHORT TO GRND]	When a sho lamp circuit	ort circuit to ground in th t is detected.	ne daytime running	IPDM E/RShort to gr	round
TC CO	ONFIRMATION PROCE	DURE				
1.сне	CK SELF-DIAGNOSTIC R	ESULT				
With	CONSULT. n ignition switch ON.					
2. Per <u>s DTC I</u> YES NO	form self-diagnostic result. B1231 detected? >> Proceed to diagnosis >> Inspection End.	procedure. R	Refer to <u>EXL-97, "E</u>	Diagnosis Proce	dure".	
Diagno	osis Procedure					INFOID:000000010375484
1.сне	CK FRONT COMBINATIO	N LAMP SH	ORT CIRCUIT TO	GROUND		
1. Disc 2. Che	connect front combination eck continuity between IPD	lamp connec M E/R harne	tor and IPDM E/R ess connector and	connector. ground.		
	IPDM	E/R				Continuity
	Connector		Terminal	Ground		
	RH E21	8	58			No
YES NO 2. CHE 1. Rec 2. Che	 Specific Pesult Horman > GO TO 2. > Repair or replace harr CK FRONT COMBINATIO connect IPDM E/R connect connect inuity between from 	ness. N LAMP SH or. It combinatio	ORT CIRCUIT TO	GROUND	bund.	
	Front combinati	on Jamp (RH)		-		
	Connector		Terminal	Ground		Continuity
	RH E23	4	10	_		No
s the in	spection result normal?					
YES	>> Refer to GI-41, "Intern	nittent Incide	<u>nt"</u> .			
	>> Replace IPDM E/R. R	efer to <u>PCS-</u>	<u>35, "Removal and</u>	Installation".		
NO						
NO						
NO						

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010321292

INFOID:000000010375499

[HALOGEN HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B1256	FR FOG LAMP RH PWR SPLY CIRC [CIRC SHORT TO GRND]	When a short circuit to ground is detected.	 IPDM E/R Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(P)With CONSULT.

Turn ignition switch ON. 1.

2. Perform self-diagnostic result.

Is DTC B1256 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-98, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK FOG LAMP SHORT CIRCUIT TO GROUND

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

	IPDM E/R		Continuity	
Connector		Terminal	Ground	Continuity
LH	E217	51		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check fog lamp short circuit to ground

1. Reconnect IPDM E/R connector.

Check continuity between fog lamp harness connector and ground. 2.

	Fog lamp (LH)		Continuity	
Coni	nector	Terminal	Ground	Continuity
LH	E222	1		No

Is the inspection result normal?

>> Refer to <u>GI-41, "Intermittent Incident"</u>.
>> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>. NO

YES

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010296914

А

[HALOGEN HEADLAMP]

DTC	Display Item	Malfunction detected	d condition	Possible causes
B02CB	DTRL LH PWR SPLY CIRC [CIRC SHORT TO GRND]	When a short circuit to ground	s detected.	IPDM E/RShort to ground
DTC C	ONFIRMATION PROCED	URE		
1. CHE	CK SELF-DIAGNOSTIC RE	SULT		
With	CONSULT. n ignition switch ON.			
2. Per <u>s DTC</u> YES NO	form self-diagnostic result. <u>B02CB detected?</u> >> Proceed to diagnosis p >> Inspection End.	rocedure. Refer to <u>EXL-99.</u>	"Diagnosis Proced	ure".
Diagno	osis Procedure			INFOID:00000001037550
1 .CHE	CK FRONT COMBINATION	LI AMP SHORT CIRCUIT T		
1. Dise 2. Che	connect front combination la eck continuity between IPDN	amp connector and IPDM E/ I E/R harness connector ar	R connector. d ground.	
	IPDM E	/R		
	Connector	Terminal	Ground	Continuity
	LLL E047	49		No
s the in	spection result normal?			No
Is the in YES NO 2.CHE 1. Rec 2. Che	spection result normal? >> GO TO 2. >> Repair or replace harned CK FRONT COMBINATION connect IPDM E/R connector eck continuity between fog la	ess. I LAMP SHORT CIRCUIT T ir. amp harness connector and	O GROUND ground.	
I <u>s the in</u> YES NO 2. CHE 1. Rec 2. Che	spection result normal? >> GO TO 2. >> Repair or replace harned CK FRONT COMBINATION connect IPDM E/R connector eck continuity between fog lat Front combination	ess. I LAMP SHORT CIRCUIT T ir. amp harness connector and n lamp (LH)	O GROUND ground.	Continuity
<u>s the in</u> YES NO 2.CHE 1. Rec 2. Che	LH E217 spection result normal? >> GO TO 2. >> Repair or replace harned CK FRONT COMBINATION connect IPDM E/R connector Front combination Connector	ess. I LAMP SHORT CIRCUIT T ir. amp harness connector and n lamp (LH) Terminal	O GROUND ground. Ground	Continuity
s the in YES NO 2.CHE 1. Rec 2. Che	LH E217 spection result normal? >> GO TO 2. >> Repair or replace harned CK FRONT COMBINATION connect IPDM E/R connector connector LH E236 connection LH E236	ess. I LAMP SHORT CIRCUIT T or. amp harness connector and n lamp (LH) Terminal 10	O GROUND ground. Ground	Continuity

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010296917

INFOID:000000010375501

[HALOGEN HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20CE	DTRL LH PWR SPLY CIRC [CIRC SHORT TO GRND]	Short to ground	 IPDM E/R Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

With CONSULT.

1. Turn ignition switch ON.

2. Perform self-diagnostic result.

Is DTC B20CE detected?

YES >> Proceed to diagnosis procedure. Refer to <u>EXL-100, "Diagnosis Procedure"</u>. NO >> Inspection End.

Diagnosis Procedure

1. CHECK HEAD LAMP SHORT CIRCUIT TO GROUND

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

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

	IPDM E/R		Continuity	
Conr	Connector		Ground	Continuity
LH	E218	59		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK HEAD LAMP SHORT CIRCUIT TO GROUND

1. Reconnect IPDM E/R connector.

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

	Front combination lamp (LF	1)		Continuity
Conr	nector	Terminal	Ground	Continuity
LH	E234	15		No

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT DIAGNOSIS > [HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010296918

А

	Display Item	Malfunction detected	d condition	Possible causes
B20CF	HL (HI) RH PWR SPLY CIRC [CIRC SHORT TO GRND]	Short to ground	• • 5	PDM E/R Short to ground
DTC CO	ONFIRMATION PROCED	URE		
1. CHE	CK SELF-DIAGNOSTIC RE	SULT		
■With	CONSULT. n ignition switch ON.			
2. Per	form self-diagnostic result. B20CE detected?			
YES NO	 Proceed to diagnosis proceed to diagnosis proceed to diagnosis processory Inspection End. 	rocedure. Refer to <u>EXL-101</u>	I, "Diagnosis Procedur	<u>"e"</u> .
Diagno	osis Procedure			INFOID:00000001037
1 .che	CK HEAD LAMP SHORT C	IRCUIT TO GROUND		
1. Disc 2. Che	connect front combination la	mp connector and IPDM E	/R connector.	
2. 0110				
	IPDM E	/R	Ground	Continuity
	RH E217	54	Ground	No
s the in	spection result normal?			
YES NO 2.CHE	>> GO TO 2. >> Repair or replace harne CK HEAD LAMP SHORT C	ess. IRCUIT TO GROUND		
1. Rec 2. Che	connect IPDM E/R connecto eck continuity between front	r. combination lamp harness	connector and ground	I.
	Front combination	n lamp (RH)		Continuity
	Connector	Terminal	Ground	
	B	15		No
	RH E234			
s the in	RH E234 spection result normal?			
<u>s the in</u> YES NO	RH E234 spection result normal? >> Refer to GI-41. "Intermi >> Replace IPDM E/R Res	ttent Incident". fer to PCS-35 "Removal ar	nd Installation"	

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010297886

INFOID:000000010375503

[HALOGEN HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20D0	HI (LO) RH PWR SPLY CIRC [CIRC SHORT TO GRND]	Short to ground	IPDM E/RShort to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

With CONSULT.

1. Turn ignition switch ON.

2. Perform self-diagnostic result.

Is DTC B20D0 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-102, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND

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

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

	IPDM E/R		Continuity	
Conr	nector	Terminal	Ground	Continuity
LH	E217	50		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND

1. Reconnect IPDM E/R connector.

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

	Front combination lamp (LF	1)		Continuity
Conr	nector	Terminal	Ground	Continuity
LH	E233	4		No

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT DIAGNOSIS > [HALOGEN HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010297888

А

DTC	Display	' Item		Malfunction detected	condition		Possible causes
B20D1	HL (LO) RH PWF [CIRC SHORT TO	R SPLY CIRC D GRND]	Short to	o ground		IPDN Shore	I E/R : to ground
TC CO	ONFIRMATION	N PROCED	JRE				
1. CHE	CK SELF-DIAG	NOSTIC RES	SULT				
With	CONSULT. n ignition switch	ON.					
2. Per I <u>s DTC I</u> YES	form self-diagno B20D1 detected >> Proceed to	ostic result. <u>I?</u> diagnosis pro	ocedure.	Refer to <u>EXL-103.</u>	"Diagnosis Proc	<u>edure"</u> .	
Diagno	nsis Procedu	ire					INFOID-0000000
1							INFOLD:0000000
I.CHE	CK FRONT CO	MBINATION	LAMP SI	HORT CIRCUIT TO) GROUND		
1. Disc 2. Che	connect front co eck continuity be	etween IPDM	np conne E/R harr	ector and IPDM E/F ness connector and	d ground.		
		IPDM E/	२				Continuity
	Conne	IPDM E/I	2	Terminal	Ground	_	Continuity
s the in	Conne	IPDM E/f ctor E218 normal?	2	Terminal 62	Ground	-	Continuity No
Is the in YES NO 2.CHE 1. Rec 2. Che	Conne LH >> GO TO 2. >> Repair or re CK FOG LAMP connect IPDM E eck continuity be	IPDM E/I ctor E218 normal? eplace harnes SHORT CIR /R connector etween fog la	R SS. CUIT TO mp harne	Terminal 62 9 GROUND ess connector and g	ground.		Continuity No
Is the in YES NO 2.CHE 1. Rec 2. Che	Conne LH >> GO TO 2. >> Repair or re CK FOG LAMP connect IPDM E eck continuity be	IPDM E/I ctor E218 normal? eplace harnes SHORT CIR /R connector etween fog la Fog lamp (I	R SS. CUIT TO mp harne	Terminal 62 9 GROUND ess connector and g	ground.		Continuity No Continuity
<u>s the in</u> YES NO 2.CHE 1. Rec 2. Che	Conne LH spection result i Section result i Section result i CK FOG LAMP Connect IPDM E eck continuity be Conne	IPDM E/i ctor E218 normal? eplace harnes SHORT CIR /R connector etween fog la Fog lamp (i ctor	R SS. CUIT TO mp harne	Terminal 62 9 GROUND ess connector and g Terminal	ground. Ground		Continuity No Continuity
Is the in YES NO 2.CHE 1. Rec 2. Che	Conne LH spection result i >> GO TO 2. >> Repair or re CK FOG LAMP connect IPDM E eck continuity be Conne LH	IPDM E/I ctor E218 normal? eplace harnes SHORT CIR /R connector etween fog la Fog lamp (I ctor E233	R SS. CUIT TO mp harne LH)	Terminal 62 9 GROUND ess connector and g Terminal 4	ground. Ground		Continuity No Continuity No

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010297890

[HALOGEN HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20D2	PARKING LAMP PWR SPLY CIRC [CIRC SHORT TO GROUND]	When a short to ground is detected in the parking lamp power supply circuit.	Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(I) With CONSULT.

- 1. Turn ignition switch ON.
- 2. Perform self-diagnostic result.

Is DTC B20D2 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-104, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010375505

1. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND

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

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

	IPDM E/R		Continuity	
Conr	nector	Terminal	Cround	
LH	E217	56	Ground	No
RH	E218	61		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check front combination lamp short circuit to ground

1. Reconnect IPDM E/R connector.

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

	IPDM E/R			Continuity
Conr	nector	Terminal	Ground	
LH	E217	56	Ground	No
RH	E218	61		

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

DTC Logic

[HALOGEN HEADLAMP]

INFOID:000000010297892

А

DTC	Display Item	Malfunction detected	ed condition	Possible	e causes
B20D4 [(AIL LAMP LH PWR SPLY CIRC CIRC SHORT TO GRND]	Short to ground		IPDM E/RShort to ground	t
TC CON	FIRMATION PROCEDURE				
1. CHECK	SELF-DIAGNOSTIC RESUL	Г			
With CO . Turn ig	NSULT. Inition switch ON.				
2. Perform	n self-diagnostic result.				
s DTC B20	DD4 detected?				
YES >> NO >>	Proceed to diagnosis proced Inspection End.	lure. Refer to <u>EXL-105, "Dia</u>	agnosis Proce	<u>edure"</u> .	
Jiaanosi	s Procedure				INFOID:00000
าสนาบอเ					2.2.0000000
1 au-au					
1. СНЕСК	TAIL LAMP SHORT CIRCUI	T TO GROUND			
CHECK	TAIL LAMP SHORT CIRCUI	T TO GROUND (LH), license plate lamps,	back up lam	p connectors	and IPDI
CHECK . Discon connec 2. Check	TAIL LAMP SHORT CIRCUI nect rear combination lamp ctor. continuity between IPDM E/R	T TO GROUND (LH), license plate lamps,	back up lam	p connectors a	and IPDI
LCHECK Discon connec Check	TAIL LAMP SHORT CIRCUI nect rear combination lamp ctor. continuity between IPDM E/R	T TO GROUND (LH), license plate lamps, harness connector and gro	back up lamı ound.	p connectors a	and IPDI
L.CHECK Discon connec C. Check	TAIL LAMP SHORT CIRCUI inect rear combination lamp ctor. continuity between IPDM E/R	T TO GROUND (LH), license plate lamps, harness connector and gro	back up lamp bund.	p connectors	and IPDI
L.CHECK Discon connec C. Check	TAIL LAMP SHORT CIRCUI inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector	T TO GROUND (LH), license plate lamps, tharness connector and group Terminal	back up lamp ound. Ground		and IPDI
L	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119	T TO GROUND (LH), license plate lamps, tharness connector and group Terminal 4	back up lam; ound. Ground		and IPDI Continuity No
L CHECK C Discon connec C Check L s the inspective YES >>	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector H E119 ection result normal?	T TO GROUND (LH), license plate lamps, tharness connector and gro Terminal 4	back up lamp ound. Ground	p connectors	and IPDI Continuity No
L Sthe insperved L Sthe insperved YES NO Stagnostics L L Sthe insperved Stagnostics L Sthe insperved Stagnostics L Stagnotics L Stagnostics L Stagnostics L	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. > Repair or replace harness.	T TO GROUND (LH), license plate lamps, tharness connector and ground Terminal 4	back up lam; ound. Ground		and IPDI Continuity No
L CHECK C Discon connec C Check L s the inspe YES >> NO >> C CHECK	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. > Repair or replace harness. TAIL LAMP SHORT CIRCUIT	T TO GROUND (LH), license plate lamps, tharness connector and gro Terminal 4	back up lamp ound. Ground		and IPD
L Sthe insper YES NO CHECK	TAIL LAMP SHORT CIRCUI inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. > Repair or replace harness. TAIL LAMP SHORT CIRCUI nect IPDM E/R connector.	T TO GROUND (LH), license plate lamps, tharness connector and ground Terminal 4	back up lam pund. Ground		and IPD
L Sthe inspervent A Sthe inspervent YES NO S CHECK Recont Check	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. > Repair or replace harness. TAIL LAMP SHORT CIRCUIT nect IPDM E/R connector. continuity between rear comb	T TO GROUND (LH), license plate lamps, tharness connector and gro Terminal 4 T TO GROUND	back up lamp ound. Ground	und.	and IPD
L CHECK Discon connec Check L Sthe inspe YES NO S CHECK Reconn Check	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. > GO TO 2. > Repair or replace harness. TAIL LAMP SHORT CIRCUIT nect IPDM E/R connector. continuity between rear combination lamo	T TO GROUND (LH), license plate lamps, harness connector and gro Terminal 4 T TO GROUND	back up lamp ound. Ground	und.	and IPDI Continuity No
L Sthe inspervention CHECK Check L Sthe inspervention YES NO CHECK Recont Check	TAIL LAMP SHORT CIRCUIT inect rear combination lamp ctor. continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. > Repair or replace harness. TAIL LAMP SHORT CIRCUIT nect IPDM E/R connector. continuity between rear combination lamp Connector	T TO GROUND (LH), license plate lamps, tharness connector and ground Terminal 4 T TO GROUND pination lamp harness connector (LH) Terminal	back up lamp ound. Ground ector and gro	und.	and IPDI Continuity No
L Sthe inspervention CHECK Check L Sthe inspervention CHECK Recont CHECK	TAIL LAMP SHORT CIRCUIT inect rear combination lamp continuity between IPDM E/R IPDM E/R Connector .H E119 ection result normal? > GO TO 2. Repair or replace harness. TAIL LAMP SHORT CIRCUIT nect IPDM E/R connector. nect IPDM E/R connector. Rear combination lamp Connector H	T TO GROUND (LH), license plate lamps, a harness connector and gro Terminal 4 T TO GROUND bination lamp harness connector (LH) (LH) Terminal 1	back up lamp ound. Ground ector and gro Ground	und.	and IPD Continuity No

Ρ

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010297894

[HALOGEN HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20D5	TAIL LAMP RH PWR SPLY CIRC [CIRC SHORT TO GRND]	When a short circuit to ground is detected in the tail lamp supply voltage circuit.	IPDM E/R Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(P)With CONSULT.

Turn ignition switch ON. 1.

2. Perform self-diagnostic result.

Is DTC B20D5 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-106, "Diagnosis Procedure". NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010375507

1. CHECK TAIL LAMP SHORT CIRCUIT TO GROUND

1. Disconnect rear combination lamp (RH), back up lamp connectors and IPDM E/R connector.

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

	IPDM E/R		Continuity	
Conr	nector	Terminal	Ground	Continuity
RH	E119	17		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check tail lamp short circuit to ground

1. Reconnect IPDM E/R connector.

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

Rear combination lamp (RH)				Continuity
Connector		Terminal	Ground	Continuity
RH	B102	1		No

Is the inspection result normal?

YES

>> Refer to <u>GI-41, "Intermittent Incident"</u>.
>> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>. NO

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS > SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

А

С

INFOID:000000010325965 B

[HALOGEN HEADLAMP]

CAUTION:

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

Symptom		Possible cause	Inspection item	
Headlamp (HI) is not	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and headlamp (HI) Harness between headlamp (HI) and ground IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-100, "DTC Logic"</u> (LH)	
turned ON.	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to <u>EXL-100, "DTC Logic"</u> (LH) or <u>EXL-101, "DTC Logic"</u> (RH).	or <u>EXL-101, "DTC Logic"</u> (RH).	
High beam indicator lamp is not turned ON. [Headlamp (HI) is turned ON.]		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP" 	
Headlamp (LO) is not turned ON.	One side	 Fuse Halogen bulb (LO) Harness between IPDM E/R and headlamp lamp (LO) Harness between headlamp (LO) and ground IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-102, "DTC Logic"</u> (LH) or <u>EXL-103, "DTC Logic"</u> (RH).	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-102</u> , " <u>DTC Logic</u> " (LH) or <u>EXL-103</u> , " <u>DTC Logic</u> " (RH).		
Each lamp is not turned ON/OFF with lighting switch AUTO.		 Combination switch Harness between combination switch and BCM BCM 	Combination switch Refer to <u>BCS-73, "Symptom Table"</u> (with Intelligent Key) or <u>BCS-133,</u> <u>"Symptom Table"</u> (without Intelli- gent Key).	
		 Optical sensor Harness between optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-88, "Component</u> <u>Function Check"</u> .	
Daytime running light is not turned ON. [Headlamp (HI) is turned ON.]		 Fuse Harness between IPDM E/R and front combination lamp IPDM E/R BCM ECM Combination meter 	 Daytime running light circuit Refer to <u>EXL-97, "DTC Logic"</u>. BCM (HEADLAMP) Data monitor "ENGINE STATE" Combination meter Data monitor "PKB SW" BCM (HEADLAMP) Active test "DAYTIME RUNNING LIGHT" 	
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-104, "DTC Logic"</u> .	

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

Symptom		Possible cause	Inspection item	
Front side marker lamp is not turned ON.		 Front side marker lamp bulb Harness between IPDM E/R and front side marker lamp Harness between front side marker lamp and ground IPDM E/R 	Front side marker lamp circuit Refer to <u>EXL-104, "DTC Logic"</u> .	
License plate lamp is not turned ON.		 License plate lamp bulb Harness between IPDM E/R and license plate lamp Harness between license plate lamp and ground 	License plate lamp circuit Refer to <u>EXL-105, "DTC Logic"</u> .	
Parking lamp, side marker lamp, tail lamp and li- cense plate lamp are not turned ON.		Symptom diagnosis "PARKING, SIDE MARKER, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON" Refer to <u>EXL-104, "DTC Logic"</u> .		
Tail lamp indicator is not turned ON. (Exterior lamps are turned ON.)		Combination meter	 Combination meter Data monitor "LIGHT IND" BCM (HEADLAMP) Active test "TAIL LAMP" 	
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms high flasher acti- vation.)	 Turn signal lamp bulb Door mirror Harness between BCM and each turn signal lamp Harness between each turn sig- nal lamp and ground 	Turn signal lamp circuit Refer to <u>EXL-93, "Component</u> <u>Function Check"</u> .	
Turn signal indicator lamp does not blink. (Turn signal lamp is nor- mal.)	One side	Combination meter	_	
	Both sides (Always)	 Turn signal indicator lamp signal BCM Combination meter 	 Combination meter Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER" 	
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	 Combination meter power supply and ground circuit Combination meter 	Combination meter Power supply and ground circuit Refer to <u>MWI-59, "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .	
 Hazard warning lamp does not activate. Hazard warning lamp continues activating. (Turn signal is normal.) 		 Hazard switch Harness between hazard switch and BCM Harness between hazard switch and ground BCM 	Hazard switch circuit Refer to <u>EXL-91, "Component</u> <u>Function Check"</u> .	
Front fog lamp is not turned ON.	One side	 Front fog lamp bulb Harness between IPDM E/R and front fog lamp Harness between front fog lamp and ground IPDM E/R 	Front fog lamp circuit Refer to <u>EXL-96, "DTC Logic"</u> (LH) or <u>EXL-98, "DTC Logic"</u> (RH).	
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-96, "DTC Logic" (LH) or EXL-98, "DTC Logic" (RH).		
NORMAL OPERATING CONDITION

Description

AUTO LIGHT SYSTEM

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

Μ

Ν

Ο

Ρ

INFOID:000000010325966

A

С

D

Е

F

Н

J

Κ

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

INFOID:000000010325970

INFOID:000000010325969

[HALOGEN HEADLAMP]

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-73, "Symptom Table"</u> (with Intelligent Key system) or <u>BCS-133,</u> "Symptom Table" (without Intelligent Key system).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

1. Select "HEADLAMP (HI)" of IPDM E/R data monitor item.

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

Monitor item	Condition		Monitor status
	Lighting switch	HI or PASS	On
	(2ND)	LO	Off

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-75</u>, "<u>Removal and Installation</u>" (with Intelligent Key system) or <u>BCS-135</u>, "<u>Removal and Installation</u>" (without Intelligent Key system).

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check headlamp (HI) circuit. Refer to EXL-100, "DTC Logic" (LH) or EXL-101, "DTC Logic" (RH).

Is the inspection result normal?

YES >> Refer to GI-41, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON [HALOGEN HEADLAMP] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON А Description INFOID:000000010325971 Both side headlamps (LO) are not turned ON in any condition. В **Diagnosis** Procedure INFOID:0000000010325972 1. CHECK COMBINATION SWITCH Check combination switch. Refer to BCS-73, "Symptom Table" (with Intelligent Key) or BCS-133, "Symptom Table" (without Intelligent Key). D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. Ε **2.**CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT (P)CONSULT DATA MONITOR 1. Select "HEADLAMP (LO)" of IPDM E/R data monitor item. F 2. With operating the lighting switch, check the monitor status. Condition Monitor item Monitor status 2ND On HEADLAMP (LO) Lighting switch OFF Off Н Is the inspection result normal? YES >> GO TO 3.

NO

>> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key) or BCS-135, "Removal and Installation" (without Intelligent Key).

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check headlamp (LO) circuit. Refer to EXL-102, "DTC Logic" (LH) or EXL-103, "DTC Logic" (RH). Is the inspection result normal?

YES >> Refer to GI-41, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

EXL

Μ

Ν

Ο

Ρ

Κ

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

< SYMPTOM DIAGNOSIS >

[HALOGEN HEADLAMP]

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

Description

INFOID:000000010325973

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

Diagnosis Procedure

INFOID:000000010325974

1.COMBINATION SWITCH INSPECTION

Check combination switch. Refer to <u>BCS-73, "Symptom Table"</u> (with Intelligent Key) or <u>BCS-133, "Symptom</u> <u>Table"</u> (without Intelligent Key).

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

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

Monitor item	Con	dition	Monitor status
	Lighting owitch	1ST	On
		OFF	Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

NO >> Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u> (with Intelligent Key) or <u>BCS-135,</u> <u>"Removal and Installation"</u> (without Intelligent Key).

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

2.check front fog lamp request signal input

CONSULT DATA MONITOR

1. Select "FRONT FOG LAMP REQ" of IPDM E/R data monitor item.

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

Monitor item	Сог	ndition	Monitor status	G
	Front fog lamp switch	ON	On	
FRONT FOG LAMP REQ	(With lighting switch 2ND)	OFF	Off	
the item status normal?			H	

Is the item status normal?

YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

NO >> Replace BCM. Refer to <u>BCS-75</u>, "<u>Removal and Installation</u>" (with Intelligent Key) or <u>BCS-135</u>, <u>"Removal and Installation"</u> (without Intelligent Key).

J

А

В

D

Ε

F

Κ

EXL

Μ

Ν

Ο

Ρ

< PERIODIC MAINTENANCE >

INFOID:000000009795989

PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Inspection

PREPARATION BEFORE ADJUSTING

Before performing aiming adjustment, check the following:

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

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

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

NOTE:

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

AIMING ADJUSTMENT SCREW



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

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Aiming Adjustment Procedure

INFOID:000000009795990

[HALOGEN HEADLAMP]



Revision: November 2013

< PERIODIC MAINTENANCE >

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

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

< PERIODIC MAINTENANCE >

FRONT FOG LAMP AIMING ADJUSTMENT

Aiming Adjustment Procedure



- Place vehicle on level ground. - See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and
- tools). Have the driver or equivalent weight placed in driver seat.
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.
- 1. Set the distance between the screen and the center of the fog
 - lamp lens as shown.
 - (1) Aiming screen or a matte white surface
 - (2) 7.62 m (25 ft)
 - (3) Floor to center of fog lamp lens
 - (4) Floor



2. Turn front fog lamps ON.

А

Κ

Ρ

INFOID:000000009795992

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

3. Access adjusting screw (A) from underneath front bumper fascia. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is at the fog lamp centers above ground.



< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

Exploded View

[HALOGEN HEADLAMP]

INFOID:000000009795993

А

В

SEC. 260 $(\mathbf{1})$ D Ε 5.5 (0.56, 49) 9 5.5 (0.56, 49) Н (2) 5.5 (0.56, 49) Κ ALLIA1401ZZ 1. Front fender 2. Front combination lamp 🔨 Clip EXL Removal and Installation INFOID:000000009795994 REMOVAL Μ 1. Remove front bumper fascia. Refer to EXT-17, "Removal and Installation". 2. Remove front combination lamp bolts and clip. Ν Pull front combination lamp forward. 4. Disconnect the harness connectors from the front combination lamp and remove.

INSTALLATION

Installation is in the reverse order of removal. NOTE:

After installation, perform headlamp aiming adjustment. Refer to EXL-114, "Inspection".

Bulb Replacement

INFOID:000000009795995

Ρ

WARNING:

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

• Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

 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 (LOW BEAM) BULB

Removal

- 1. Rotate the bulb counterclockwise and remove from the front combination lamp.
- 2. Disconnect the harness connector from bulb and remove.

Installation

Installation is in the reverse order of removal.

CAUTION:

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

HEADLAMP (HIGH BEAM) BULB

Removal

- 1. Remove plastic cover.
- 2. Rotate the bulb counterclockwise and remove from the front combination lamp.
- 3. Disconnect the harness connector from bulb and remove.

Installation

Installation is in the reverse order of removal.

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

PARKING (SIDE MARKER) LAMP BULB

Removal

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

Installation

Installation is in the reverse order of removal.

CAUTION:

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

TURN SIGNAL LAMP BULB

Removal

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

Installation

Installation is in the reverse order of removal.

CAUTION:

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

FOG LAMP

Exploded View

INFOID:000000009795997

А



Removal and Installation	INFOID:000000009795998	EXL
REMOVAL		5.4
 Partially remove front fender protector. Refer to <u>EXT-28, "FENDER PROTECTOR : Explod</u> Disconnect the harness connector from the fog lamp. 	<u>ed View"</u> .	IVI
3. Remove fog lamp bolts and fog lamp.		Ν
INSTALLATION Installation in the reverse order of removal		
NOTE: After installation, perform fog lamp aiming adjustment. Refer to <u>EXL-117, "Aiming Adjustment F</u>	<u>'rocedure"</u> .	0
Bulb Replacement	INFOID:000000009795999	_
WARNING: Do not touch bulb by hand while it is lit or right after being turned off. Burning may resu	lt.	Р

- Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.
- 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.

< REMOVAL AND INSTALLATION >

REMOVAL

- 1. Partially remove front fender protector. Refer to EXT-28. "FENDER PROTECTOR : Exploded View".
- 2. Disconnect the harness connector from the fog lamp (A).
- 3. Rotate bulb (1) counterclockwise and remove.



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

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

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Removal and Installation

REMOVAL

- 1. Release the optical sensor (2) from defroster grille (1) using a suitable tool.
- Disconnect the harness connector (A) from the optical sensor (2) and remove.



INSTALLATION Installation is in the reverse order of removal.

Μ

Ν

Ο

Ρ

Κ

J

[HALOGEN HEADLAMP]

INFOID:000000010336279

А

F

G

Н

COMBINATION SWITCH

< REMOVAL AND INSTALLATION >

COMBINATION SWITCH

Exploded View

INFOID:000000010351322

[HALOGEN HEADLAMP]



← Front

Removal and Installation

INFOID:000000010351323

REMOVAL

- 1. Remove the steering angle sensor. Refer to <u>BRC-139</u>, "Removal and Installation".
- 2. Disconnect harness connector from combination switch.
- 3. Remove screw (A) and combination switch (1).



INSTALLATION

Installation is in the reverse order of removal.

HAZARD SWITCH

< REMOVAL AND INSTALLATION >

HAZARD SWITCH

Exploded View

INFOID:000000009796002

А

[HALOGEN HEADLAMP]



- 1. Remove center ventilator grille. Refer to <u>VTL-13</u>, "CENTER VENTILATOR GRILLE : Removal and Installation".
- 2. Release the pawls and remove the hazard switch.

INSTALLATION

Installation is in the reverse order of removal.

Μ

Ν

Ο

Ρ

1

J

Κ

< REMOVAL AND INSTALLATION >

SIDE TURN SIGNAL LAMP

Removal and Installation

REMOVAL

- 1. Remove door mirror rear finisher. Refer to <u>MIR-25, "Removal and Installation"</u>.
- 2. Remove door mirror glass. Refer to MIR-24, "Removal and Installation".
- 3. Remove the screws (A) and reposition side turn signal lamp.



4. Disconnect the harness connector from the side turn signal lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:000000010357680

The side turn signal lamp bulb is not serviced separately. Refer to EXL-126, "Removal and Installation".

INFOID:000000010357679

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Exploded View

INFOID:000000009796004

А

[HALOGEN HEADLAMP]



Removal and Installation

REMOVAL

- 1. Remove side air spoiler. Refer to EXT-48, "Removal and Installation".
- 2. Remove rear combination lamp bolts.
- 3. Pull rear combination lamp rearward to release from clip and locators.
- 4. Disconnect the harness connector from the rear combination lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

WARNING:

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

- Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.
- 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.

STOP LAMP BULB

M

Ρ

EXL

INFOID:000000010338569

INFOID:000000009796005

< REMOVAL AND INSTALLATION >

Removal

- 1. Remove rear combination lamp. Refer to EXL-127, "Removal and Installation".
- 2. Rotate stop lamp bulb socket counterclockwise and remove.
- 3. Remove stop lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

CAUTION: After installing the bulb, install bulb socket securely for watertightness.

TAIL LAMP BULB

Removal

- 1. Remove rear combination lamp. Refer to EXL-127, "Removal and Installation".
- 2. Rotate tail lamp bulb socket counterclockwise and remove.
- 3. Remove tail lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

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

TURN SIGNAL LAMP BULB

Removal

- 1. Remove rear combination lamp. Refer to EXL-127, "Removal and Installation".
- 2. Rotate turn signal lamp bulb socket counterclockwise and remove.
- 3. Remove turn signal lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

CAUTION:

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

< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000009796007

А

[HALOGEN HEADLAMP]



BACK-UP LAMP ASSEMBLY

< REMOVAL AND INSTALLATION >

BACK-UP LAMP ASSEMBLY

Exploded View

INFOID:000000009796009



[] Stud

Removal and Installation

REMOVAL

- 1. Remove back door finisher. Refer to INT-38. "Removal and Installation".
- 2. Remove back-up lamp assembly nuts.
- 3. Pull back-up lamp assembly rearward, disconnect the harness connector and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

WARNING:

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

- Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.
- 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.

TAIL LAMP BULB

Removal

- 1. Remove back-up lamp assembly. Refer to <u>EXL-130</u>, "Removal and Installation".
- 2. Rotate tail lamp bulb socket counterclockwise and remove.
- 3. Remove tail lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

CAUTION:

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

BACK-UP LAMP BULB

Removal

INFOID:000000009796010

INFOID:000000009796011

BACK-UP LAMP ASSEMBLY

[HALOGEN	HEADLAMP]
----------	-----------

< R	EMOVAL AND INSTALLATION >	[HALOGEN HEADLAMP]	
1.	Remove back-up lamp assembly. Refer to EXL-130, "Removal and Installation	<u>on"</u> .	
2.	Rotate back-up lamp bulb socket counterclockwise and remove.		А
3.	Remove back-up lamp bulb from bulb socket.		
Inst Inst CA	allation allation is in the reverse order of removal. UTION:		В
Aft	er installing the bulb, install bulb socket securely for watertightness.		С
			D

Κ

EXL

M

Ν

0

Ρ

Е

F

G

Н

J

< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

INFOID:000000010365316

[HALOGEN HEADLAMP]



- 1. License plate lamp bulb License plate lamp assembly 4.
- 2. License plate lamp seal License plate lamp bulb socket
- License plate lamp

INFOID:000000009796013

Removal and Installation

REMOVAL

1. Release the license lamp finisher. Refer to EXT-50, "Exploded View".

Α.

Remove the screw (A) (LH or RH) and pull license plate lamp (1) 2. (LH or RH) downward.



Disconnect the harness connector from the license plate lamp and remove. 3.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:000000009796014

WARNING:

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

EXL-132

< REMOVAL AND INSTALLATION > **CAUTION:** Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to pre-А vent damage to the bulb. 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. В REMOVAL Remove license plate lamp. Refer to <u>EXL-132, "Removal and Installation"</u>. С 2. Rotate license plate lamp bulb socket counterclockwise and remove. Remove license plate lamp bulb from bulb socket. 3. INSTALLATION D Installation is in the reverse order of removal. CAUTION: After installing the bulb, install the bulb socket securely for watertightness. Ε

Н

F

EXL

Κ

Μ

Ν

Ο

Ρ

UNIT DISASSEMBLY AND ASSEMBLY FRONT COMBINATION LAMP

Exploded View

INFOID:000000010377938



- 1. Front combination lamp
 - Plastic cover
- Parking (side marker) lamp bulb socket 3.
 Headlamp (high beam) bulb 5.
- 3. Headlamp (low beam) bulb
 - 5. Turn signal lamp bulb socket

Disassembly and Assembly

INFOID:000000009795996

DISASSEMBLY

4

- 1. Remove front combination lamp. Refer to EXL-119. "Removal and Installation".
- 2. Rotate the headlamp (low beam) bulb counterclockwise and remove.
- 3. Disconnect the harness connector from headlamp (low beam) bulb.
- 4. Remove plastic cover.
- 5. Rotate the headlamp (high beam) bulb counterclockwise and remove.
- 6. Disconnect the harness connector from headlamp (high beam) bulb.
- 7. Rotate the parking (side marker) lamp bulb socket counterclockwise and remove.
- 8. Remove the parking (side marker) lamp bulb from the bulb socket.
- 9. Rotate the turn signal lamp bulb socket counterclockwise and remove.
- 10. Remove the turn signal lamp bulb from the bulb socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

REAR COMBINATION LAMP

< UNIT DISASSEMBLY AND ASSEMBLY >

REAR COMBINATION LAMP





1.	Remove rear combination lamp. Refer to EXL-127, "Removal and Installation".
2.	Rotate the stop lamp bulb socket counterclockwise and remove.

- Remove the stop lamp bulb from the bulb socket. 3.
- 4. Rotate the tail lamp bulb socket counterclockwise and remove.
- 5. Remove the tail lamp bulb from the bulb socket.
- 6. Rotate the turn signal lamp bulb socket counterclockwise and remove.
- 7. Remove the turn signal lamp bulb from bulb socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

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

А

Μ

Ν

Ο

Ρ

SERVICE DATA AND SPECIFICATIONS (SDS)

[HÁLOGEN HEADLAMP]

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

Bulb Specifications

INFOID:000000010336293

	Item	Wattage (W)*
	High beam	65
	Low beam	55
Front combination lamp	Turn signal lamp	28/8
	Parking (side marker) lamp	5
	Daytime running lamp	_
Fog lamp (if equipped)		55
Side turn signal lamp		_
	Stop lamp	21
Rear combination lamp	Tail lamp	5
	Turn signal lamp	21
Pack up lamp	Tail lamp	5
Баск-иртаптр	Back-up lamp	16
License plate lamp		5
High-mounted stop lamp		_

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

А

В

Ε

EXL

Μ

Ν

Ο

Ρ

< PRECAUTION > PRECAUTION PRECAUTIONS

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

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

WARNING:

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

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

WARNING:

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

INFOID-0000000010335191

< PREPARATION > PREPARATION

PREPARATION

Special Service Tool

INFOID:000000010351309

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

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION **COMPONENT PARTS**

Component Parts Location

INFOID:000000010330263 В

А

С

D

Е

F

G

Н

J

Κ

Μ

Ν

Ο

Ρ



< SYSTEM DESCRIPTION >

- A. Right rear wheel area
- B. Instrument panel
- C. Engine compartment

D.	Left side of instrument panel (view
	with trim panel removed)

No.	Part	Function
1.	Optical sensor	Refer to EXL-140, "Optical Sensor".
2.	LED headlamp control module	Turns the headlamps ON according to the power supply from IPDM E/R.
3.	Headlamp aiming motor	Moves the headlamps up/down based on inputs from the front and rear height sensors.
4.	Front height sensor	Sends the vehicles pitch angle signal to the IPDM E/R necessary for adjusting the headlamp aiming motors.
5.	Rear height sensor	Sends the vehicles pitch angle signal to the IPDM E/R necessary for adjusting the headlamp aiming motors.
6.	Combination switch (Lighting and turn signal switch)	Refer to <u>BCS-9</u> , "COMBINATION SWITCH READING SYSTEM : System Descrip- tion".
7.	Hazard switch	Refer to EXL-141, "Hazard Switch".
8.	IPDM E/R	 Supplies voltage to the load according to the request from BCM (via CAN communication). Refer to <u>PCS-4</u>. "Component Parts Location" for detailed installation location.
9.	ВСМ	 Detects each switch condition by the combination switch reading function. Judges that the exterior lamps are turned ON according to the vehicle condition. Requests the headlamp (HI/LO), tail lamp and front fog lamp ON to IPDM E/R (via CAN communication). Requests high beam indicator lamp ON to the combination meter (via CAN communication). Judges the outside brightness from the optical sensor signal. Judges the ON/OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp according to the outside brightness and the vehicle condition. Refer to <u>BCS-7, "BODY CONTROL SYSTEM : Component Parts Location"</u> (with Intelligent Key) or <u>BCS-79, "BODY CONTROL SYSTEM : Component Parts Location"</u> (without Intelligent Key).

Optical Sensor

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



INFOID:000000010330264

COMPONENT PARTS

< SYSTEM DESCRIPTION >

Hazard Switch

INFOID:000000010330265

А

В

С

D

Е

F

G

Н

J

Κ

[LED HEADLAMP]

Inputs the hazard switch ON/OFF signal to BCM.





Μ

Ν

Ο

Ρ

Revision: November 2013

SYSTEM HEADLAMP SYSTEM

HEADLAMP SYSTEM : System Description

INFOID:000000010330266

SYSTEM DIAGRAM



OUTLINE

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

HEADLAMP (LO) OPERATION

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

Headlamp (LO) ON condition

- Lighting switch 2ND
- Lighting switch AUTO (auto light function ON judgment)
- Lighting switch AUTO, with the front fog lamp switch ON and the power switch ON
- Lighting switch PASS

HEADLAMP (HI) OPERATION

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

Headlamp (HI) ON condition

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

HEADLAMP SYSTEM : Fail-Safe

INFOID:000000010330267

CAN COMMUNICATION CONTROL

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

If no CAN communication is available with BCM

SYSTEM

< SYSTEM DESCRIPTION >

[LED	HEADL	_AMP]
------	-------	-------



SYSTEM

< SYSTEM DESCRIPTION >

The auto light adjustment system automatically, dims/brightens the display, according to brightness outside the vehicle, when lighting switch 1ST, lighting switch 2ND or lighting switch AUTO is operated. Refer to <u>EXL-143</u>, "AUTO LIGHT SYSTEM : System Description".

DELAY TIMER FUNCTION

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

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

*: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to <u>BCS-19</u>, "<u>HEAD-LAMP</u> : <u>CONSULT Function (BCM - HEADLAMP</u>)"</u> with (Intelligent Key) or <u>BCS-90</u>, "<u>HEADLAMP</u> : <u>CONSULT Function (BCM - HEADLAMP</u>)"</u> (without Intelligent Key).

NOTE:

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

DAYTIME RUNNING LIGHT SYSTEM

DAYTIME RUNNING LIGHT SYSTEM : System Description

INFOID:000000010330272

SYSTEM DIAGRAM



OUTLINE

• Daytime running light is controlled by daytime running light control function and combination switch reading function of BCM, and smart FET of IPDM E/R.

DAYTIME RUNNING LIGHT OPERATION

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

Daytime running light ON condition:

- Vehicle condition READY
- Lighting switch OFF or 1ST
- Lighting switch AUTO, and the auto light function OFF judgment
- Parking brake switch OFF
- IPDM E/R controls the daytime running light request signal.
- Power is supplied from the IPDM E/R to the daytime lights.

HEADLAMP AIMING CONTROL SYSTEM (AUTO)
[LED HEADLAMP]



Ρ

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM : System Description

INFOID:000000010330273

SYSTEM DIAGRAM



OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

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

HIGH FLASHER OPERATION

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

NOTE:

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMP SYSTEM

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

< SYSTEM DESCRIPTION >

scription

[LED HEADLAMP]

INFOID:0000000010330274

Н

Κ

Μ

SYSTEM DIAGRAM



OUTLINE

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

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS OPERATION

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

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

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

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

INFOID:000000010330276

CAN COMMUNICATION CONTROL

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

If no CAN communication is available with BCM

Control part	Fail-safe operation	N
 Parking lamp License plate lamp Illumination Tail lamp Side marker lamp 	 Turns ON the tail lamp when the power switch is turned ON Turns OFF the tail lamp when the power switch is turned OFF 	0
FRONT FOG LA	MP SYSTEM	P

< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM : System Description

INFOID:000000010330277

[LED HEADLAMP]

SYSTEM DIAGRAM



OUTLINE

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

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition:

- Front fog lamp switch ON, and any of the following condition is satisfied (except for the high beam ON).
- Lighting switch 2ND
- Lighting switch AUTO and the power switch ON
- IPDM E/R turns the front fog lamp ON according to the front fog lights request signal.

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

FRONT FOG LAMP SYSTEM : Fail-Safe

INFOID:000000010330279

CAN COMMUNICATION CONTROL

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

If no CAN communication is available with BCM

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

EXTERIOR LAMP BATTERY SAVER SYSTEM

< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM : System Description

INFOID:000000010330280

А

[LED HEADLAMP]

SYSTEM DIAGRAM



OUTLINE

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

Controlled by BCM:

- Combination switch reading function

- Headlamp control function

- Exterior lamp battery saver function

Controlled by IPDM E/R:

- BCM turns the exterior lamps* OFF after a period of time to prevent the battery from over-discharge when the power switch is turned OFF with the exterior lamps ON.
- *: Headlamp (LO/HI), parking lamp, tail lamp, side marker lamp, license plate lamp and front fog lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

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

NOTE:

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

EXL

Н

J

Κ

Ν

 \sim

DIAGNOSIS SYSTEM (BCM) WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM) INFOLD:000000010287185

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			×	×	×			
Exterior lamp	HEADLAMP			×	×	×			
Wiper and washer	WIPER			×	×	×			
Turn signal and hazard warning lamps	FLASHER			×	×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×			
Combination switch	COMB SW			×					
BCM	BCM	×	х			×	×	×	
Immobilizer	IMMU		×	×	×				
Interior room lamp battery saver	BATTERY SAVER			×	×				
Back door open	TRUNK			×					
Vehicle security system	THEFT ALM			×	×	×			
RAP system	RETAINED PWR			×					
Signal buffer system	SIGNAL BUFFER			х					
TPMS	AIR PRESSURE MONITOR		×	×	×	×			

WITH INTELLIGENT KEY : CONSULT Function (BCM - HEADLAMP)

INFOID:000000010287188

DATA MONITOR

Revision: November 2013

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

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

ACTIVE TEST

Test Item	Description	1
FR FOG LAMP	This test is able to check front fog lamp operation [On/Off].	J
STOP LAMP 1	This test is able to check rear combination lamp stop lamp operation [On/Off].	
STOP LAMP 3	This test is able to check high-mounted stop lamp operation [On/Off].	Κ

WORK SUPPORT

Support Item	Setting	Description	EXL
	MODE2*	Autolamp function ON.	
	MODE1	Autolamp function OFF.	M
	MODE4	Less sensitive than normal setting (turns ON later).	
	MODE3	More sensitive than MODE2.	
	MODE2	More sensitive than normal setting (turns ON earlier).	N
	MODE1*	Normal setting.	
	MODE 8		
	MODE 7	-	0
	MODE 6	-	
	MODE 4		Р
ILL DELAY SET	MODE 5		
	MODE 3	-	
	MODE 2		
	MODE 1*		

*: Initial setting

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[LED HEADLAMP]

WITH INTELLIGENT KEY : CONSULT Function (BCM - FLASHER)

INFOID:000000010287191

DATA MONITOR

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

ACTIVE TEST

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

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010287193

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			×	×	×			

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

		Direct Diagnostic Mode							-
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr	B
Warning chime	BUZZER			×	×				-
Interior room lamp timer	INT LAMP			×	×	×			D
Remote keyless entry system	MULTI REMOTE ENT					×			-
Exterior lamp	HEADLAMP			×	×				-
Wiper and washer	WIPER			×	×	×			-
Turn signal and hazard warning lamps	FLASHER			×	×				-
Combination switch	COMB SW			×					F
BCM	BCM	×	×			×	×	×	-
Immobilizer	IMMU		×		×				-
Interior room lamp battery saver	BATTERY SAVER			×	×				G
Back door open	TRUNK			×					-
Vehicle security system	THEFT ALM			×	×	×			H
RAP system	RETAINED PWR			×					-
TPMS	AIR PRESSURE MONITOR		×	×	×	×			-
WITHOUT INTELLIGENT	KEY : CONSULT F	unctio	on (BC	:М - Н	EADL	_AMP)) INFOID:0000	000001028719	4 J
Monitor Item [Unit]			Desc	ription					_
TURN SIGNAL R [On/Off]									K
TURN SIGNAL L [On/Off]									
TAIL LAMP SW [On/Off]									
HI BEAM SW [On/Off]	Indicates condition of cor	Indicates condition of combination switch.						EX	
HEAD LAMP SW [On/Off]		1							

TURN SIGNAL R [On/Off]		K
TURN SIGNAL L [On/Off]		
TAIL LAMP SW [On/Off]		
HI BEAM SW [On/Off]	Indicates condition of combination switch.	EXL
HEAD LAMP SW [On/Off]		
LIGHT OFF SW [On/Off]		M
PASSING SW [On/Off]		
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	Ν
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.	
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.	0
DOOR SW-BK [On/Off]	Indicates condition of back door switch.	0

ACTIVE TEST

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

Ρ

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

WITHOUT INTELLIGENT KEY : CONSULT Function (BCM - FLASHER) INFOLD:000000010287195

DATA MONITOR

Monitor Item [Unit]	Description
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination switch
TURN SIGNAL L [On/Off]	
HAZARD SW [On/Off]	Indicates condition of hazard switch.
RKE-LOCK [On/Off]	Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]	Indicates condition of unlock signal from Intelligent Key.
RKE-PANIC [On/Off]	Indicates condition of panic alarm signal from Intelligent Key.

ACTIVE TEST

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

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

APPLICATION ITEM

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

Direct Diagnostic Mode	Description	C
Ecu Identification	The IPDM E/R part number is displayed.	
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.	
Data Monitor	The IPDM E/R input/output data is displayed in real time.	D
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.	E

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-20, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description	
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) po- sition.	Η
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.	
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.	
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.	
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.	J
HOOD SW [Open/Close]	Indicates condition of hood switch.	
COMPRESSOR [OFF/ON]	Indicates condition of A/C compressor.	K
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.	1
COOLING FAN [OFF/ON]	Indicates condition of cooling fan relay-1.	
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.	EXL
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.	
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.	ЪЛ
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.	IVI
COOLING FAN RELAY 1 [OFF/ON]	Indicates condition of cooling fan relay-1.	
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.	Ν
COMP ECV DUTY [%]	Indicates condition of A/C compressor.	
COOLING FAN RELAY 2 [%]	Indicates condition of cooling fan relay-2.	
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.	0
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.	
PARKING LAMP [%]	Indicates condition of parking lamp.	Р
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.	
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.	
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.	
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.	
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.	

[LED HEADLAMP]

INFOID:000000010287196

А

В

F

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.
A/C RELAY STUCK [NG/OK]	Indicates condition of A/C relay.
A/C RELAY [Off/On]	Indicates condition of A/C relay.
COMP ECV STATUS [NG/OK]	Indicates condition of A/C compressor.
VEHICLE SECURITY HORN [Off/On]	Indicates condition of horn relay.
BATTERY CURRENT SENSOR [NG/OK]	Indicates condition of battery current sensor.
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.
COMP ECV CURRENT [A]	Indicates condition of A/C compressor current.
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.
COOLING FAN DUTY [%]	Indicates condition of cooling fans.
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.
TAIL LAMP [Off/On]	Indicates condition of tail lamps.
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) po- sition.
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.
AFTER COOLING TIME [No request/Request]	Indicates condition of cooling fan request.
AFTER COOLING SPEED [%]	Indicates condition of cooling fans.
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates cooling fan type.
COMPRESSOR REQ1 [Off/On]	Indicates condition of A/C compressor request.
VHCL SECURITY HORN REQ [Off/On]	Indicates condition of horn relay request.
DTRL REQ [Off/On]	Indicates condition of daytime running light request.
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates condition of IPDM E/R sleep/wake.
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.
HORN CHIRP [Off/On]	Indicates condition of horn relay request.
COOLING FAN REQ [%]	Indicates condition of cooling fan request.
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.

Revision: November 2013

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[LED HEADLAMP]

Monitor Item [Unit]	Description	^
TURN SIGNAL REQ [Off/LH/RH]	Indicates condition of turn signal request.	А
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates condition of front wiper motor request.	
SHIFT POSITION [P/R/N/D/L]	Indicates condition of transmission range switch positions.	В
LOW BEAM REQ [Off/On]	Indicates condition of headlamp low beam request.	
POSITION LIGHT REQ [Off/On]	Indicates condition of parking lamp request.	
COMPRESSOR REQ2 [Off/On]	Indicates condition of A/C compressor request.	С
IGNITION SW [Off/On]	Indicates condition of ignition switch.	
VEHICLE SPEED (METER) [mph/km/h]	Indicates vehicle speed.	D
BAT DISCHARGE COUNT [0-100]	Indicates condition of battery discharge.	
BATTERY STATUS [NG/OK]	Indicates battery status.	
		F

ACTIVE TEST

Test item	Description	
HORN	This test is able to check horn operation [Off/On].	F
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].	
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].	G
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].	
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/3/5].	
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].	Η
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].	
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].	
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].	
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].	
		J

CAN DIAG SUPPORT MNTR

Refer to LAN-14, "CAN Diagnostic Support Monitor".

EXL

Μ

Ν

Ο

Ρ

Κ

ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

List of ECU Reference

INFOID:000000010330283

ECU	Reference
	BCS-28, "Reference Value" (with Intelligent Key system) BCS-96, "Reference Value" (without Intelligent Key system)
RCM	BCS-47, "Fail Safe" (with Intelligent Key system) BCS-107, "Fail Safe" (without Intelligent Key system)
	BCS-47. "DTC Inspection Priority Chart" (with Intelligent Key system) BCS-107. "DTC Inspection Priority Chart" (without Intelligent Key system)
	BCS-48. "DTC Index" (with Intelligent Key system) BCS-108. "DTC Index" (without Intelligent Key system)
	PCS-12, "Reference Value".
IPDM E/R	PCS-19, "Fail-safe"
	PCS-20, "DTC Index"

WIRING DIAGRAM

HEADLAMP

Wiring Diagram



А





HEADLAMP

TE		Signal Name	I	
lor WHI	8 7 16 15 1	Color of Wire	ГG	00
Connector Co	禄 H.S.	Terminal No.	-	c

Signal Nam	I	I	I	I	
Color of Wire	ГG	SB	GR	BG	
Terminal No.	-	2	e	4	



< WIRING DIAGRAM >

H.S. 佢

Signal Name I PWR ECU I GND1 I GND2 Color of Wire ≥ В в Ferminal No.

170 161

171

AALIA2138GB

'IRING DIAGRAM >	[LED HEADLAMP]
M43 M43 JOINT CONNECTOR-M02 Ilor BLUE Color of Signal Name P - P - P - P - P -	M69 M69 Ine WIRE TO WIRE Ior WHITE Ior WHITE Ior Signal 12 Ior Signal Name Color of Signal Name P -
Connector Nar Connector Nar Connector Nar Connector Col 1 1 1 1 1 1 1 1 1 5	Connector No. Connector National Connector Nation Connector Collector Collector Collector Collector Collector Collector Nation Terminal No.
Signal Name	ELOCK (J/B) NN Signal Name Signal Name
Tal No. Color of Wire 21 P P 22 P 22 P 22 P 22 P 22 P 22 P 2	ector No. M68 ector Name FUSE ector Color BROV Intel IsRIARIA AR V V
131 VIRE TO WIRE VIRE TO WIRE 51 44 51 44 101 31 102 31 103 31 103 31 103 31 103 31 103 31 103 31 103 32 103 32 103 32 103 33 103 33 103 33 103 33 103 33 103 33 103 33 103 33 103 33 103 33 103 34 103 34 103 34 103 34 103 34 103 34 103 34	744 -044 -USE BLOCK (J/B) -05 PHE 20120 PHE - PHE -
Connector Name V Connector Name V Connector Calor V 31/20 31	Connector No. 1 Connector Name F Connector Color V LAR BP LAN 13P LAN
	AALIA2139GB

Ρ

Connector No. E40 Connector Name WIRE TO WIRE Connector Color WHITE	H.S.	Terminal No. Color of Wire Signal Name 2 GR - 3 B -	Connector No. E120 Connector Name IPDM E/R (INTELLIGENT Connector Name POWER DISTRIBUTION Connector Color GRAY Image: State of the state	Terminal No. Color of Signal Name	22 P CAN-L	24 L CAN-H	31 B 2ND SIGNAL GROUND
7 MBINATION METER ITE	12 43 44 45 46 14 30 51 52	Signal Name CAN-H CAN-L BAT IGN GND2	9 M E/R (INTELLIGENT WER DISTRIBUTION DULE ENGINE ROOM) AY	Signal Name	SIGNAL GROUND		
Connector No. M7 Connector Name CO Connector Color WH	H.S.	Terminal No. Color of Wire 41 L 42 P 45 LA/G 46 LA/BR 52 B	Connector No. E11 Connector Name PO MO Connector Color GR	Terminal No. Color of Wire	12 B		
M76 © COMBINATION METER • WHITE	7 8 9 10 11 12 13 14 16 16 17 18 19 20 27 28 29 30 31 32 33 34 30 30 40	Nor of Signal Name Mire GND1	E44 JOINT CONNECTOR-E01 WHITE 1011100 11100 11110	olor of Signal Name	1	1	-
Connector No. Connector Name Connector Color	H.S. 11 22 23 24 25 26 21	Terminal No. Col W	Connector No. Connector Name Connector Color H.S.	Terminal No. Col	5	9	6

HEADLAMP

Revision: November 2013

< WIRING DIAGRAM >

Terminal No. Color of Signal Name 61J L 62J P	Connector No. E218 Connector Name IPDM E/R (INTELLIGENT Connector Name POWER DISTRIBUTION Connector Color WHITE Connector Color WHITE Image: State of the color Signal Name State of the color Vire State of the color Color of the color State of the color Vire State of the color Color of the color
E TO WIRE E TO WIRE 1, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 24, 25, 25, 25, 25, 25, 23, 29, 30, 44, 45, 66, 67, 48, 84, 93, 40, 41, 44, 45, 66, 67, 48, 84, 93, 40, 41, 44, 45, 66, 67, 48, 84, 93, 40, 41, 54, 75, 76, 77, 78, 78, 88, 90, 61, 64, 65, 78, 77, 78, 78, 89, 90, 61, 91, 92, 1, 98, 1, 99, 1, 95, 94, 97, 1, 98, 1, 96, 1, 95, 1,	7 A E/R (INTELLIGENT A E/R DISTRIBUTION OULE ENGINE ROOM) WN Signal Name O LIGHT LBEAM LH LI LED DETECTION 2 O LIGHT HBEAM RH
0. E15; ame WIR 111 [11] [11] [12] [13] [11] [22] [23] [23] [23] [23] [23] [23] [23	Color of LG LG LG LG LG
	Connector N Connector N Connector C Connector C F A.S 53 53 54
ELR (INTELLIGENT ER DISTRIBUTION ULE ENGINE ROOM) Signal Name POWER GROUND	E E Signal Name
B B B B B B B B C S S S S S S S S S S S	Color of B B B B B B B B B B B B B B B B B B
Connector No Connector Co Connector Co H.S.	Connector No. Connector Na. Connector Col A.S. A.S. A.S. A.S. A.S. A.S. Connector No. Connector Na. Connector No. Connector Na. Connector Na. Connector Na. Connector Na. Connector Na. Connector Na. Connector Na. Connector No. Connector No.

HEADLAMP

< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2142GB

HEADLAMP

< WIRING DIAGRAM >

Wiring Diagram

HK : WITH HALOGEN HEADLAMPS

UV):WITH LED HEADLAMPS

INFOID:000000010288649

А

В

С

D

Ε

F

Н

J

Κ

EXL

Μ

Ν

Ο

Ρ



DAYTIME LIGHT SYSTEM

AALWA0771GB









M20

Connector No.

AALIA2121GB

< WIRING DIAGRAM >



< WIRING DIAGRAM >

[LED HEADLAMP]

Revision: November 2013

Ρ

AALIA2122GB

< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2123GB

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

> Connector Name Connector Color

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

> Connector Name Connector Color

E120

Connector No.

GRAY

RED

E121

Connector No.

.S.H.

27 39

H.S.

E



AALIA2124GB

Ρ



AALIA2125GB

< WIRING DIAGRAM >





Signal Name	I
Color of Wire	٩
Terminal No.	24

_

25



Signal Name	CAN-H	CAN-L
Color of Wire	_	٩
Terminal No.	60	80

EXL

Μ Ν

Ο AALIA2126GB

Ρ

Connector Name JOINT CONNECTOR-B01

B63

Connector No.

Connector Color GRAY

А

В

С

D

Е

F

G

Н

J

Κ

AUTO LIGHT SYSTEM

Wiring Diagram

INFOID:000000010288650



AALWA0767GB

	7 6 5 4 3 2 1 7 26 25 24 23 22 21	[щ	.					T													
A (BODY CONTROL DULE) AY	15 14 13 12 11 10 9 8 1 35 34 33 32 31 30 29 28 2	Signal Name	U PWR AUTOLIGHT SENSOR I AUTOLIGHT SENSC	O GND AUTOLIGHT SENSOR	I CSW 5	O CSW 5	I CSW 3	1 CSW 4		I CSW 2												
0. M18 ame BCM MOI blor GR	19 18 17 16 39 38 37 36	Color of Wire	RG ≤	>	LG	~	ۍ ا	۲ <u>5</u> >	>	≥												
onnector No onnector Na onnector Co	H.S.	erminal No.	12	30	33	34	36	3/ 38	8	39												
00		Ľ Ĕ																				
]				
CAL SENSOR IE			Signal Name	I	ı	I						(BODY CONTRC ULE)	NN	164163162161 1731721171170169168	Signal Name	I PWR ECU		1010-				
M13 me OPTI or WHI1			Color of		: EG	>					M20	ne BCM MOD	or BRO	167166165 176175174	Color of Wire	N		נ				
Connector No. Connector Nar Connector Col	雨 H.S.		Terminal No.	-	~ ~	m					Connector No.	Connector Nai	Connector Col	品. H.S.	Terminal No.	161	170	-				
[]				-11			-				— —		 1		82 81 81 81 81 81 81 81 81 81 81 81 81 81]						
CONNECTOR-M01	3 2 1 10 15 14	19 18 17 23 22 21	Signal Name	I	I	1 1						BODY CONTROL JLE)	×	$\overline{\mathbf{k}}$	91 90 89 88 87 86 85 84 83 11110109108107106105104100	Signal Name		0 CSW 1	O CSW 3	O CSW 4	I SHORTING PIN	
- M6 me JOINT or GRAY	4 0 0 0 0	24	Color of Wire	<u>с</u>		<u>ר</u>	1				M19		lor BLAC		95 94 93 92 151141131121	Color of	Wire	SB SB	3 a	BG	>	
or Nai			nal No.		4 1	\ «					ector No.	ector Nai	ector Col		98 97 96 5 118 117 116 1			5 58	3 88	87	95	

AUTO LIGHT SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

Revision: November 2013

Ρ









Connector No	
	NIDS
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN
	6R 5R 4R 3R 2R 1R
16	R15R14R13R12R11R10R 9R 8R

H.S.

Connector Color WHITE





< WIRING DIAGRAM >



AALIA2114GB

Ρ

< WIRING DIAGRAM >

Connector N	io. E	=217		Connector No). E21	18	Connector N	lo. B1		
Connector N	lame F	PDM E/R (INTELLIGENT POWER DISTRIBUTION		Connector Na		WER DISTRIBUTION	Connector N	Jame BC MC	M (BODY CONTROL DULE)	
			_		В И		Connector C	Color GF	REN	
Connector C		BROWN		Connector Co	olor WH	ITE				
SH 昭		51 50 49 56 55 54 53		日 日 日	59 64	58 57 53 52 61 60	吗. S.H			
				ò			60 59 58 57 5 80 79 78 77 7	6 55 54 53 6 75 74 73	52 51 50 49 48 47 46 45 44 43 4 72 71 70 69 68 67 66 65 64 63 6	61
Terminal No	. Color Wir∈	of Signal Name		Terminal No.	Color of Wire	Signal Name	Terminal No	Color of Wire	Signal Name	
49	щ	O LIGHT DTRL LH		57	>	O LIGHT FR FOG	50	×	I RR DOOR SW	
50		O LIGHT LBEAM LI	T	5	:	LAMPS RH	51	ГG	I TGATE SW	
51	>	O LIGHT FR FOG		28	<u>د</u> ر	O LIGHT DTRL RH	52	œ	I RL DOOR SW	
54	- -	O LIGHT HREAM R	Ţ	ec	ס		53	SB	I AS DOOR2 SW	
5	3		- W	61	GR		57	B.	I DR DOOR2 SW	
26	BG	FRLH		62	SB	O LIGHT LBEAM RH	80		CAN-H	
							8			
Name of the second s			Γ	Canada Ma			A reference O			
Connector N	0. 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	341 MIDE TO MIDE		Connector NC). B46			10. B4		
Connector C		WIRE TO WIRE WHITE		Connector Co		HITE	Connector C		HITE	
							Æ	Ŀ		
H.S.	2 3 4 18 19 2(4 5 6 7 8 9 10 11 12 13 0 21 22 23 24 25 26 27 28 29	14 15 16 30 31 32	H.S. 17 18	3 4 5 19 20 21	6 7 8 9 10 11 12 13 14 15 16 22 23 24 25 26 27 28 29 30 31 32	H.S.	- 9	7 8 9 10 11 12	
							1			
Terminal No	. Color Wir∈	of Signal Name		Terminal No.	Color of Wire	Signal Name	Terminal Nc	Color of Wire	Signal Name	
24	۹	1		19	ГG	I	9	SB	I	
25		1					10	≥	I	



< WIRING DIAGRAM >

[LED HEADLAMP]

				A
DR SWITCH LH	Signal Name -	OR SWITCH RH	signal Name -	С
B70 B70 WHITE	Nor of R	B141 B141 WHITE 1 2 3 4	Vire GR	D
onnector No. onnector Name onnector Color	arminal No. Co	nnector No. onnector Name onnector Color	arminal No. Cc	E
				F
T CONNECTOR-B01	Signal Name	E TO WIRE	Signal Name	G
Color GRA		No. B140 Name WIRE Color WHI1	lo. Color of Wire W	I
Connector Connector Connector	Terminal N 3 4 7 8	Connector Connector Connector	Terminal N 6 10	J
E TO WIRE	Signal Name	NT DOOR SWITCH LH	Signal Name	K EXL M
Connector No. B54 Connector Name WIRE Connector Color WHI1	Terminal No. Color of Mire 1 B	Connector No. B71 Connector Name FRO Connector Color WHI	Terminal No. Color of Wire 3 SB	N
			AALIA2116GB	

< WIRING DIAGRAM >

[LED HEADLAMP]

Revision: November 2013

Ρ

< WIRING DIAGRAM >

AUTO LIGHT SYSTEM

[LED HEADLAMP]





AALIA2117GB





FRONT FOG LAMP SYSTEM

Revision: November 2013

AALIA2127GB

[LED HEADLAMP]

T

ശ

ß


< WIRING DIAGRAM >

Connector Name JOINT CONNECTOR-M02

M43

Connector No.

Signal Name

Color of Wire

Terminal No.

_ ۵

61J

WIRE TO WIRE

Connector Name Connector Color

M31

Connector No.

WHITE

H.S.

佢

62J

Т I.

Connector Color BLUE

H.S. E

[LED HEADLAMP]



AALIA2128GB



AALIA2129GB

FRONT FOG LAMP SYSTEM

Revision: November 2013

FRONT FOG LAMP SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2130GB

Р



AALIA2131GB

FRONT FOG LAMP SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< WIRING DIAGRAM >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Wiring Diagram



[LED HEADLAMP]

А

В

С

D

Е

F

Н

J

Κ

Μ

Ν

0



2 3 4

H.S.

佢

Connector Color WHITE

BROWN

Connector Color



AALIA2162GB

< WIRING DIAGRAM >

[LED HEADLAMP]

< WIRING DIAGRAM >	[LED HEADLAMP]
	ļ
CTOR-M02	(J/B) a Name
Sign	Sign Sign Sign OWN
P P Color of Color BLU A43	Name FUS Color of Vite FUS
Connector I Connector I Connector I E f 12 15	Connector I Connector I Connector I I terminal No 3R 14R
nal Name	ECTOR-M26
	HITE Sig
No. Color Color Wire BG	No. Color Mire B B
Connect Connect Connect Entimal	Connect Connect Connect
	A Name B)
Signal E	Signal BLOCK (J.
P P ≤ Color of USB Color of	M44 ame FUSE Color of WHIT TP EP EP (1991159744) Mire LA/G
Sonnector N Sonnector N Sonnector N 1 5 5 7 15 15	Sonnector N Sonnector N Sonnector C BP 13P
	AALIA2163GB
	F

Revision: November 2013

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< WIRING DIAGRAM >

[LED HEADLAMP]

I

ш

-

T

LAY

5

1 1

GR GR

~

-



AALIA2164GB



< WIRING DIAGRAM >

[LED HEADLAMP]



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

Signal Name Signal Name Connector Name REAR COMBINATION LAMP RH Т Т I
 1
 2
 3
 4
 5

 6
 7
 8
 9
 10
 11
 12
 Connector Name WIRE TO WIRE 4 3 2 1 Connector Color WHITE WHITE B102 B49 Color of Wire Color of Wire LAV ш ٩ Connector Color Connector No. Connector No. Terminal No. Ferminal No. ÷ ო 4 H.S. H.S. E Æ
 1
 2
 3
 4
 5
 6
 7
 8
 9
 10
 11
 12
 13
 14
 15
 16

 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 30
 31
 32
 Signal Name Signal Name Connector Name REAR COMBINATION I. Т Т Т Connector Name WIRE TO WIRE 4 3 2 1 Connector Color WHITE WHITE B90 B41 Color of Wire Color of Wire ЧÖ ٩ ഫ Connector Color Connector No. Connector No. Terminal No. Terminal No. 25 24 4 ო H.S. H.S. 佢 佢 O DI RR RIGHT B O DI RR LEFT B Connector Name BCM (BODY CONTROL MODULE) Signal Name Signal Name T I. T Т
 4
 3
 2
 1

 8
 7
 6
 5

 12
 11
 10
 9

 16
 15
 14
 13

 20
 19
 18
 17

 24
 23
 22
 21
 Connector Color GRAY B23 B63 ٩

151150149148 147146145 160159158157156155154153152 Color of Wire Terminal No. H.S. E



160



Color of Wire ٩ _ _ ۵ Terminal No. 4 ω ო

AALIA2166GB

Connector No.









ñ

Connector No.

Signal Name	I	I	
Color of Wire	LA/B	LA/G	
Ferminal No.	2	22	





1

LAV

÷



Termin	13	14	
Signal Name	I		
Color of Wire	LA/B		
Terminal No.	ł		
Signal Name	I		

ΕX
M
Ν
0
Р

А

В

С

D

Ε

F

Н

J

Κ

AALIA2239GB

5

H.S.

佢

< WIRING DIAGRAM >

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

Wiring Diagram

INFOID:000000010288653

[LED HEADLAMP]





< WIRING DIAGRAM >



< WIRING DIAGRAM >

I I. I T

> ≥ ≻ >

9 ~ I

ВВ

ω 10 15

- o

10 2

H.S.H.

F

Connector Color WHITE

٩

I

[LED HEADLAMP]



Signal Name	I	I	I	I	
Color of Wire	ГG	SB	GR	BG	
Terminal No.	÷	2	3	4	



170 161 171

I PWR ECU I GND1 I GND2

≥ ш ш

AALIA2149GB







< WIRING DIAGRAM >



AALIA2151GB

< WIRING DIAGRAM >

[LED HEADLAMP]





< WIRING DIAGRAM >



AALIA2153GB

< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2154GB

< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2155GB

< WIRING DIAGRAM >



AALIA2156GB

Р

< WIRING DIAGRAM >



AALIA2157GB

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

	А
	В
	С
	D
	E
	F
	G
	Н
	I
	J
	К
	EXL
Sign Sign Sign Sign Sign Sign Sign Sign	Μ
Or No. Color Name B24 Color N	Ν
Connect Connect Terminal	0
	AALIA2173GB

Wiring Diagram

INFOID:000000010288654

[LED HEADLAMP]



STOP LAMP

AALWA0765GB

WIRING DIAGRAM >	[LED HEADLAMP]
Annector No. E28 connector Name EUSE BLOCK (J/B) Connector Name FUSE BLOCK (J/B) connector Color WHITE Mail Mail Mail Minimal No. SM V SM V connector No. E44	Onnector Color WHTE 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 1 1 23 LG - 27 LG -
r No. M68 r No. M68 r Color BROWN r Color BROWN r Color of Signal 1 No. Color of Signal 1 r No. E38 r No. E38 r No. E38	r Color WHITE
Connecto Connecto Terminal Connecto Connecto Connecto Connecto Connecto	Connect
CONNECTORS M20 M20 M20 M20 M20 M20 M20 M20	M0DULE) BLACK alitalizatizatizatizatizatizatizatizatizatizat
STOP LAMP C Connector Name Connector Name Connector Color 171 171 171 Connector No. Connector No. Connector No.	Connector Color Terminal No. Cc

STOP LAMP

AALIA2158GB

[LED HEADLAMP]

	Dector Name BCM (BOUT CONTROL MODULE) Dector Color GREEN	Connector Color GRAY	BODY CONTROL LE)	Connector No. B Connector Name V Connector Color V	6 IRE TO WIRE HITE	
Imail No. Option of Nine Signal Name 79 LAW O STOP LAMP 1 79 LAW O STOP LAMP 1 153 LAW O STOP LAMP 1 153 LAW O STOP LAMP 1 154 LAV 2 NISSANELIR 158 LAV 2 NISSANELIR 158 Connector Name JUNT CONNECTOR-B01 158 Connector Name JUNT CONNECTOR-B01 159 LAV 2 NISSANELIR 150 Connector Name JUNT CONNECTOR-B01 151 Connector Name JUNT CONNECTOR-B01	S 9 78 77 76 55 54 53 72 71 70 69 68 67 64 63 22 2	101100140 1001100140 H.S.	1440 11471461145 15715611551155415341531152	H.S.	5 6 7 8 9 10 11 12 13 14 15 12 12 22 23 24 25 27 28 29 30 31 5	
79 LWW O STOP LAMP 1 79 LWW O STOP LAMP 1 153 LWW O STOP LAMP 1 153 LWV O STOP LAMP 1 153 LW Connector Name WIRE TO WIRE 153 L LW 153 L 153 L 153 L 153 L </td <td>ninal No. Color of Signal Name</td> <td>Terminal No. Color of Wire</td> <td>Signal Name</td> <td>Terminal No. Color Wire</td> <td>of Signal Name</td> <td></td>	ninal No. Color of Signal Name	Terminal No. Color of Wire	Signal Name	Terminal No. Color Wire	of Signal Name	
Image: Low big	79 LA/W O STOP LAMP 3	153 LA/W	O STOP LAMP 1	17 LAW	1	
	mector No. B49 mector Name WIRE TO WIRE	Connector No. B54 Connector Name WIRE	TO WIRE	Connector No. B Connector Name J	83 INT CONNECTOR-B01	
Image: Second state Image: Second state						
ninal No. Color of Wire Signal Name 8 LAW - 1 B Terminal No. Color of Wire 8 LAW Terminal No. Color of Wire Terminal No. Color of Wire Terminal No. Color of Wire Participation	Q	H.S.	-12	H.S.	4 3 2 1 8 7 6 5 12 11 10 9 15 15 14 13 20 19 18 17 24 23 22 21	
8 LAW - 1 B - 1 LAY -	minal No. Color of Signal Name	Terminal No. Color of Wire	Signal Name	Terminal No. Color	of Signal Name	
	8 LAW –	- B	I	1 LAN	I	

/IRING DIAGRAM >	[LED HEADLAMP]
	nal Name
B140 WIRE TO WIH B505 D505 WHITE WHITE	S. S.
r Color r Color	
Connect Connect Terminal 8 8 8 Connect Connect	Terminal 1
BINATION 	ignal Name
11 E S S S S S S S S S S S S S S S S S S	<u>60</u>
Color V No. DE Color V Name RELAX	a. Color c Mire B
Connector Connector Connector 4 Connector Connector	Terminal N
Z 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	e
	signal Nar
0f 0f <	
No. No. No. No. No. No. 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	o. Color- Wire-
onnector onnector arminal N. arminal N. armi	17

BACK-UP LAMP

Wiring Diagram

INFOID:000000010288655

[LED HEADLAMP]



BACK - UP LAMP

AALWA0763GB



Ρ

AALIA2118GB



BACK-UP LAMP

< WIRING DIAGRAM >

	-UP LAMP MBLΥ RH	ш				I
o. D519	ame BACK ASSE	olor WHIT		Color of	Wire	E E
Connector N	Connector N	Connector C	晤	Torminol No		-
				.		
	-UP LAMP MBLY LH					I
0. U518	ame BACK	olor WHITE		Color of	Wire	GB GB
Connector N	Connector N	Connector C	留	ormino. Mo		-
				J	1	
					D	
	0 WIRE			Ciccol No		ı
D505	ne WIRE TO			Color of	Wire	в
onnector No.	onnector Nai		H.S.			-
Ŭ	<u> </u>	<u>)</u>	te I	Ĺŕ	-	

< WIRING DIAGRAM >

HEADLAMP AIMING SYSTEM (AUTOMATIC)

Wiring Diagram



[LED HEADLAMP]



HEADLAMP AIMING SYSTEM



HEADLAMP AIMING SYSTEM CONNECTORS

Connector No.

H.S.

倨

Revision: November 2013

Terminal No.

ო 4 \sim ω Connector No.

Terminal No.

H.S.

佢

170 171

AALIA2143GB

161

А

В

С

D

Е

F

Н

J

Κ

EXL

Μ

Ν

0

< WIRING DIAGRAM >

[LED HEADLAMP]



Signal Name	I	I	I	I	I	I
Color of Wire	L	_	L	Ъ	Ч	٩
Terminal No.	۲.	2	5	11	12	15

Signal Name	I	I	
Color of Wire	Γ	٩	
Terminal No.	61J	62J	





Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN
际 16H	6R 5R 4R3R 2R 1R 5R14R13R12R11R10R 9R 8R

Connector Name FUSE BLOCK (J/B)

M44

Connector No.

Signal Name	I	I	
Color of Wire	٨	Ν	
Terminal No.	3R	14R	

Signal Name Г I

Color of Wire ۵. _

Terminal No.

25 24



H.S. f

AALIA2144GB

Т

< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2145GB

< WIRING DIAGRAM >

[LED HEADLAMP]







AALIA2146GB


< WIRING DIAGRAM >

[LED HEADLAMP]



AALIA2147GB

Р

HEADLAMP AIMING SYSTEM (AUTOMATIC)

< WIRING DIAGRAM >



AALIA2148GB

< BASIC INSPECTION >

BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

INFOID:000000010287040

А

В

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

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

>> GO TO 5.

4.CONFIRM THE SYMPTOM

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

>> GO TO 6.

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-47</u>, "<u>DTC Inspection Priority Chart</u>" (with Intelligent Key system) or <u>BCS-107</u>, "<u>DTC Inspection Priority Chart</u>" (without Intelligent Key system) (BCM) or <u>PCS-20</u>, "<u>DTC Index</u>" (IPDM E/R), and determine trouble diagnosis order.

NOTE:

• Freeze frame data is useful if the DTC is not detected.

• Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to GI-41, "Intermittent Incident".

6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >	[LED HEADLAMP]
7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE	
Inspect according to Diagnostic Procedure of the system. Is malfunctioning part detected?	
YES >> GO TO 8. NO >> Check according to <u>GI-41, "Intermittent Incident"</u> .	
 O.REPAIR OR REPLACE THE MALFUNCTIONING PART 1. Repair or replace the malfunctioning part. 2. Reconnect parts or connectors disconnected during Diagnostic Procedure again at 	tor repair and replace
 Reconnect parts of connectors disconnected during Diagnostic Procedure again an ment. Check DTC. If DTC is detected, erase it. 	
>> GO TO 9. 9.FINAL CHECK	
When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, a malfunction is repaired securely. When symptom is described by the customer, refer to confirmed symptom in step 3 or symptom is not detected.	nd then check that the 4, and check that the
Is DTC detected and does symptom remain? YES-1 >> DTC is detected: GO TO 7.	
NO >> Before returning the vehicle to the customer, always erase DTC.	

EXL

M

Ν

0

Ρ

J

Κ

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Description

CAUTION:

• When the IPDM E/R is replaced or disconnected and reconnected, perform "SENSOR INITIALIZE" with CONSULT.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement

1.SENSOR INITIALIZE

CONSULT WORK SUPPORT Perform "SENSOR INITIALIZE". Refer to EXL-222, "SENSOR INITIALIZE : Special Repair Requirement".

>> WORK END SENSOR INITIALIZE

SENSOR INITIALIZE : Description

HEADLAMP AIMING CONTROL SYSTEM

Perform the sensor initialize when installing, removing and replacing the auto levelizer control unit or suspension components.

SENSOR INITIALIZE : Special Repair Requirement

CAUTION:

If performing aiming adjustment after the levelizer initialization, be sure to start the engine after turning ignition switch OFF.

- **1.**VEHICLE CONDITION CHECK
- 1. Park the vehicle in the straight-forward position.
- 2. Unload the vehicle (no passenger aboard).

>> GO TO 2.

2.SENSOR INITIALIZE

OCNSULT WORK SUPPORT

- 1. Select "SENSOR INITIALIZE" of IPDM E/R work support item.
- 2. Select "START".
- 3. When "INITIALIZE COMPLETE", select "END".

If "INITIALIZE NOT DONE" is indicated, auto levelizer control unit detects that the sensor lever signal was changing. The sensor initialization is cancelled. In this case, turn the ignition switch OFF, do not allow the vehicle height to change. Perform the sensor initialization again.

Is the sensor initialize completed?

- YES >> GO TO 3.
- NO >> Perform the sensor initialize again.

3.SELF-DIAGNOSIS RESULT CHECK

Perform the self-diagnosis with CONSULT. Check that any DTC is not detected.

Is any DTC detected?

YES >> GO TO 2.

NO >> Sensor initialize completed.

INFOID-000000010365309

INFOID:000000010365313

INFOID:000000010365314

LED HEADLAMP OPERATION INSPECTION

< BASIC INSPECTION >

LED HEADLAMP OPERATION INSPECTION

Diagnosis Procedure

1.CHECK START

- 1. In the cool LED status (wait for more than 10 minutes after turning headlamp OFF), turn ON and turn OFF headlamp for the several times. Check that headlamp operates normally each time.
- In the cool LED status, turn headlamp ON, wait until headlamp enters to the stable status (approximately 5 minutes after turning headlamp ON), and then check that headlamp operates normally without blinking or flickering.
- In the warm LED status (turn headlamp ON for more than 15 minutes and wait for 1 minute after turning OFF), turn ON and turn OFF headlamp for the several times. Check that headlamp operates normally each time.
- 4. Turn headlamp ON for approximately 30 minutes, and then check that headlamp operates normally without difference in brightness between LH and RH, blinking or flickering.

Is the inspection result normal?

YES >> Inspection End.

NO >> Refer to EXL-256, "Symptom Table".

G

Ε

F

А

В

INFOID:000000010287041

Н

- J
- Κ

M

N

0

Ρ

[LED HEADLAMP]

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM)

BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

INFOID:0000000010290271

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1. CHECK FUSE

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
161	BCM power supply	7 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector M20.

2. Check voltage between BCM connector M20 and ground.

B	CM	Ground	Voltage	
Connector	Terminal	Ground	(Approx.)	
M20	161	_	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

 $\mathbf{3.}$ CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

BCM		Cround	Continuity	
Connector	Terminal	Ground	Continuity	
M20	170		Voc	
IVI20	171	—	162	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM)

BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure INFOID:000000010290272

Regarding Wiring Diagram information, refer to <u>BCS-110, "Wiring Diagram"</u>.

1. CHECK FUSE

Revision: November 2013

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

А

D

F

Check that the following fuse is not blown.

Terminal No.	Signal name	Fuse No.
161	BCM power supply	7 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Disconnect BCM connector M20.
- 2. Check voltage between BCM connector M20 and ground.

BCM		Ground	Voltage	
Connector	Terminal	Cround	(Approx.)	Ľ
M20	161	_	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connectors.

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M20 and ground.

				Н	
BCM		Ground		11	
Connector	Terminal	Croand	Continuity		
M20	170	Ves	Vas	Vec	
WZ0	171		163		

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

Κ

EXL

Μ

Ν

Ο

Ρ

J

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Component Function Check

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT

CONSULT DATA MONITOR

Turn power switch ON.

2. Select "OPTICAL SENSOR" of BCM (HEADLAMP) data monitor item.

3. Turn lighting switch AUTO.

4. With the optical sensor illuminating, check the monitor status.

Monitor item	Condition		Voltage (Approx.)
OPTICAL SENSOR	Ontical sensor	When illuminating	3.1 V or more *
OF HOME DENOOR	Optical Scribbl	When shutting off light	0.6 V or less

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

Is the inspection result normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-226, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK OPTICAL SENSOR POWER SUPPLY INPUT

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

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

(+) Optical sensor				
		(-)	(Approx.)	
Connector	Terminal			
M13	1	Ground	5 V	

Is the inspection result normal?

YES >> GO TO 2.

NO >> GO TO 4.

2.CHECK OPTICAL SENSOR GROUND INPUT

Check voltage between optical sensor harness connector and ground.

(+) Optical sensor		(-)	Voltage
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
M13	3	Ground	0 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 6.

3.CHECK OPTICAL SENSOR SIGNAL OUTPUT

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

INFOID:000000010350547

INFOID:000000010350548

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

(+)	-			Voltage
Optical s	Terminal	(–)	Condition		(Approx.)
	0	Orevred	When illuminating		3.1 V or more *
M13	2	Ground	Optical sensor	When shutting off light	t 0.6 V or less
Illuminate the op the inspection r YES >> GO T NO >> Repla CHECK OPTIC Turn power so Disconnect op Check continu	otical sensor. The esult normal? O 7. Ince the optical section of the optical section CAL SENSOR Convict of the optical sensor convity between optical section	ne value may l ensor. DPEN CIRCUI nnector and B tical sensor ha	the less than th T CM connector. Arness connect	e standard if brightr	ness is weak.
On	tical sensor			ВСМ	
Connector	Termir	nal	Connector	Terminal	Continuity
M13	1		M18	12	Yes
Check continuity b	Detween optical	sensor harnes	ss connector a	nd ground.	• • •
Connector	·	Terminal	- Cont Ground		Continuity
M13		1		-	No
s the inspection r YES >> Repla and li NO >> Repa CHECK OPTIC . Turn power sv Disconnect op . Check continu	esult normal? ice BCM. Refer <u>istallation"</u> (with ir or replace har CAL SENSOR G witch OFF. otical sensor co uity between op	to <u>BCS-75, "</u> nout I Key). rness. ROUND OPE nnector and B tical sensor ha	Removal and N CIRCUIT CM connector.	Installation" (with I	Key) or <u>BCS-135, "Re</u> ss connector.
Op	tical sensor			BCM	Continuity
Connector	Termi	nal	Connector	Terminal	
M13	3		M18	30	Yes
the inspection r YES >> Repla and Ir NO >> Repa	<u>esult normal?</u> ice BCM. Refer <u>istallation"</u> (with ir or replace har CAL SENSOR S	to <u>BCS-75, "</u> hout I Key). ness. SIGNAL OPEN	Removal and	Installation" (with I	Key) or <u>BCS-135. "Re</u>

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Optical sensor		BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M13	2	M18	19	Yes	

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness.

8.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check continuity between optical sensor harness connector and ground.

Optica	l sensor		Continuity
Connector	Terminal	Ground	Continuity
M13	2		No

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u> (with I Key) or <u>BCS-135, "Removal and Installation"</u> (without I Key).

NO >> Repair or replace harness.

HAZARD SWITCH

[LED HEADLAMP]

HAZARD SWITCH	1				
Component Function	n Check				INFOID:000000010350549
1.CHECK HAZARD SWI	TCH SIGNAL BY (CONSULT			
CONSULT DATA MON 1. Turn power switch ON 2. Select "HAZARD SW 3. With operating the ha	TOR I. ' of BCM (FLASHE zard switch, check	R) data me the monite	onitor item. or status.		
Monitor item		Con	dition		Monitor status
	Hezerd owitch			ON	On
	Hazard Switch			OFF	Off
YES >> Hazard switch NO >> Refer to EXL- Diagnosis Procedure	n circuit is normal. 229. "Diagnosis Pr Ə	rocedure".			INFCID:000000010350550
1.CHECK HAZARD SWI	TCH SIGNAL INPU	JT			
 Turn power switch OF Disconnect hazard sw Check voltage betweet 	F. vitch connector. en hazard switch co	onnector a	nd ground.		
	(+)				
Ha	zard switch			(-)	Voltage (Approx.)
Connector	Termina	al			Detter wellere
ls the inspection result po			G	ilouna	Ballery vollage
YES $>>$ GO TO 4. NO $>>$ GO TO 2. 2. CHECK HAZARD SWI	TCH SIGNAL OPE	EN CIRCUI	т		
 Disconnect BCM cont Check continuity betw 	nector. /een hazard switch	harness c	onnector ar	nd BCM harness	connector.
Hazard sv	vitch		BCI	M	Continuity
Connector	Terminal	Conr	ector	Terminal	
M26	2	М	Iδ	11	Yes
YES >> GO TO 3. NO >> Repair or repl 3. CHECK HAZARD SWI Check continuity between	ace harness. TCH SIGNAL SHC hazard switch har	ORT CIRCU	JIT ector and gr	ound.	
Haza	ard switch				
Connector	Terminal		G	Ground	Continuity
M26	2				No
Is the inspection result no	rmal?				

YES >> Replace BCM. Refer to <u>BCS-75</u>, "<u>Removal and Installation</u>" (with Intelligent Key system) or <u>BCS-135</u>, "<u>Removal and Installation</u>" (without Intelligent Key system).

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

< DTC/CIRCUIT DIAGNOSIS >

4. CHECK HAZARD SWITCH GROUND OPEN CIRCUIT

Check continuity between hazard switch harness connector and ground.

Hazaro	d switch		Continuity
Connector	Connector Terminal		Continuity
M26	3	•	Yes

Is the inspection result normal?

YES >> Replace hazard switch. Refer to EXL-276, "Removal and Installation".

NO >> Repair or replace harness.

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

TURN SIGNAL LAMP CIRCUIT

Description				INFOID:000000010350551
The BCM monitors inputs from activate the turn signals. The B operation or both during hazard bination meter via the CAN cor	the combinati CM outputs vo warning oper nmunication lir	on switch (light oltage direction f ation. The BCM	ing and turn signal switch) to det to the left and right turn signals du sends a turn signal indicator requ	ermine when to B uring turn signal uest to the com-
The BCM performs the fast flas	sher operation	(fail-safe) if any	bulb or harness of the turn signa	al lamp circuit is C
Turn signal lamp blinks at norm	al speed wher	n using the haza	ard warning lamp.	D
Component Function Ch	leck			INFOID:000000010350552
1.CHECK TURN SIGNAL LAN	ИР			E
 CONSULT Select FLASHER of BCM (While operating the test ite 	(FLASHER) ac ms, check that	tive test item. t the turn signal	lamp blinks.	F
LH : Turn signal	lamps (LH) O	N		
RH : Turn signal	lamps (RH) C	N		G
Off : Turn signal	lamps OFF			
Is the inspection result normal?YES>> Turn signal lamp cNO>> Refer to EXL-231,	2 ircuit is normal "Diagnosis Pro	ocedure".		Н
Diagnosis Procedure				INFOID:000000010350553
Regarding Wiring Diagram info	rmation, refer	to <u>EXL-185, "W</u>	iring Diagram".	J
1.CHECK TURN SIGNAL LAN	MP BULB			K
Check the applicable lamp bulk	to be sure the	e proper bulb sta	andard is in use and the bulb is no	ot open.
Is the bulb OK?				EX
NO >> Replace the bulb.				
2. CHECK TURN SIGNAL LAN	MP OUTPUT V	OLTAGE		N
 Turn the ignition switch OF Disconnect the front combiner rear combination lamp harm Turn the ignition switch ON 	F. nation lamp ha ness connecto I.	arness connecto r in question.	or or the side turn signal harness o	connector or the
 Operate the turn signal sw While the turn signal is operator and ground. 	itch. erating, check t	he voltage betw	veen the front combination lamp h	arness connec-
(+)	Terminal	(-)	Voltage (Approx.)	P
	ICIIIIIdi		()	

А

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

LH	E105			
RH	E103	1	Ground	

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

(+) Connector Terminal		()	Voltage (Approx.)	
LH	B90			
RH	B102	3	Ground	
				PKID0926E

Are the inspection results normal?

YES >> GO TO 5.

NO >> GO TO 3.

3.CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.

2. Disconnect BCM harness connector E29 or B23.

 Check continuity between the BCM harness connector E29 and the front combination lamp harness connector.

BCM			Front comb	ination lamp	Continuity
Cor	nnector	Terminal	Connector	Terminal	Continuity
LH	E20	135	E105	1	Vec
RH	L29	136	E103		165

4. Check continuity between the BCM harness connector B23 and the rear combination lamp harness connector.

BCM			Rear comb	ination lamp	Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
LH	P33	157	B90	3	Vec
RH	B23	160	B102	5	165

Are the inspection results normal?

YES >> GO TO 4.

NO >> Repair or replace the harness or connectors.

4.CHECK TURN SIGNAL LAMP SHORT CIRCUIT

1. Check continuity between the BCM harness connector E29 and ground.

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[LED HEADLAMP]

Connector Terminal Ground Contactive LH E29 135		Boli				Continuity	
LH E29 135 No RH E29 136 No	Coni	nector	Termina	I	Ground	•••••••	
RH Los 136 .re Check continuity between the BCM harness connector M20 and ground. BCM Continuity LH B23 157 RH B23 160 No e the inspection results normal? ES >> Replace BCM. Refer to BCS-75. "Removal and Installation" (with Intelligent Key) or BCS "Removal and Installation" (without Intelligent Key). No NO >> Repair or replace the harness or connectors. Check continuity between the front combination lamp harness connector or the side turn signal has connector or the rear combination lamp harness connector in question and ground. Front combination lamp (-) Continuity LH E103 2 Ground Yes Check continuity between the rear combination lamp harness connector and ground. Yes Check continuity between the rear combination lamp harness connector and ground. Yes Check continuity between the rear combination lamp harness connector and ground. Yes Check continuity between the rear combination lamp harness connector and ground. Yes Check continuity between the rear combination lamp harness connector and ground. Yes Check continuity between the rear combination lamp harness connector and ground. Continuity	LH	F29	135		Crodina	No	
Check continuity between the BCM harness connector M20 and ground. BCM Continuity Connector Terminal Continuity Ground Continuity Continuity Connector Terminal Continuity Repection results normal? ES >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key) or BCS "Removal and Installation" (without Intelligent Key). O Sepair or replace the harness or connectors. CHECK TURN SIGNAL LAMP GROUND CIRCUIT Turn the ignition switch OFF. Check continuity between the front combination lamp harness connector or the side turn signal has connector or the rear combination lamp harness connector in question and ground. Front combination lamp (-) Continuity LH E103 Continuity Rear combination lamp (-) Continuity Check continuity between the rear combination lamp harness connector and ground. Rear combination lamp (-) Continuity <td>RH</td> <td>220</td> <td>136</td> <td></td> <td></td> <td>110</td>	RH	220	136			110	
$\begin{tabular}{ c c c } \hline c c \\ \hline Connector & Ierminal & Ground & Ground & Continuity & Continuity & Ground & Groun$	Check contin	uity between t	he BCM harness	connector M20 a	and ground.		
Connector Terminal LH B23 157 RH B23 160 e the inspection results normal? (with listellation" (with Intelligent Key) or BCS "Removal and Installation" (with Intelligent Key). IO >> Repair or replace the harness or connectors. CHECK TURN SIGNAL LAMP GROUND CIRCUIT Turn the ignition switch OFF. Check continuity between the front combination lamp harness connector or the side turn signal har connector or the rear combination lamp harness connector in question and ground. IH E105 RH E103 Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity Between the rear combination lamp harness connector and ground. Check continuity Babaa (-)		BCM				Continuity	
$\begin{tabular}{ c c c c c c } \hline \mathbf{L} & \mathbf{H} & $\mathbf{B23}$ & 157 & $\mathbf{Removal}$ & $\mathbf{Interms}$ & \mathbf{No} & $\mathbf{Removal}$ & $\mathbf{Replace}$ & \mathbf{BCM} & \mathbf{Refer} to $\mathbf{BCS-75}$, $\mathbf{Removal}$ & \mathbf{and} & $\mathbf{Installation}$ & $(with Intelligent Key)$ or \mathbf{BCS} & $\mathbf{Replace}$ & \mathbf{BCM} & \mathbf{Refer} to $\mathbf{BCS-75}$, $\mathbf{Removal}$ & \mathbf{and} & $\mathbf{Installation}$ & $(with Intelligent Key)$ or \mathbf{BCS} & \mathbf{Repair} & $\mathbf{Removal}$ & \mathbf{and} & $\mathbf{Installation}$ & $(with Intelligent Key)$ or \mathbf{BCS} & $\mathbf{Removal}$ & \mathbf{and} & $\mathbf{Installation}$ & $(with Intelligent Key)$ or \mathbf{BCS} & \mathbf{Repair} & \mathbf{RH} & $\mathbf{E105}$ & 2 & \mathbf{Ground} & \mathbf{Yes} & $\mathbf{Rescombination}$ & $Rescombinatio$	Conne	ctor	Terminal	G	round		
RH Internal Internal Internal e the inspection results normal? (Figure 100 and Installation" (with Intelligent Key) or BCS "Removal and Installation" (with Intelligent Key). (With Intelligen	LH	B23	157			No	
e the inspection results normal? (ES) >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key) or BCS "Removal and Installation" (without Intelligent Key). (O) >> Repair or replace the harness or connectors. CHECK TURN SIGNAL LAMP GROUND CIRCUIT Turn the ignition switch OFF. Check continuity between the front combination lamp harness connector or the side turn signal has connector or the rear combination lamp harness connector in question and ground. Front combination lamp (-) Continuity LH E105 RH E103 Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. Check continuity between the rear combination lamp harness connector and ground. RH E103 Connector Terminal (-) Continuity Check continuity between the rear combination lamp harness connector and ground. Rear combination lamp (-) Connector Terminal (-) Continuity Connector Terminal (-) Continuity Rear combination lamp (-) (-) Continuity <td>RH</td> <td></td> <td>160</td> <td></td> <td></td> <td></td>	RH		160				
Front combination lampTerminal(-)ContinuityConnectorTerminal(-)ContinuityLHE1052GroundYesRHE1032GroundYesCheck continuity between the rear combination lamp harness connector and ground.Rear combination lampContinuity <td colspa<="" th=""><th>Turn the ignit Check contin connector or</th><th>ion switch OFI uity between t the rear comb</th><th>= the front combination lamp hare</th><th>ation lamp harne ness connector ir</th><th>ss connector or th question and gro</th><th>ne side turn signal ha nund.</th></td>	<th>Turn the ignit Check contin connector or</th> <th>ion switch OFI uity between t the rear comb</th> <th>= the front combination lamp hare</th> <th>ation lamp harne ness connector ir</th> <th>ss connector or th question and gro</th> <th>ne side turn signal ha nund.</th>	Turn the ignit Check contin connector or	ion switch OFI uity between t the rear comb	= the front combination lamp hare	ation lamp harne ness connector ir	ss connector or th question and gro	ne side turn signal ha nund.
ConnectorTerminalTerminalLHE1052GroundYesRHE1032GroundYesCheck continuity between the rear combination lamp harness connector and ground.Rear combination lamp(-)ContinuityConnectorTerminal(-)ContinuityLHB904GroundYesRHB1024GroundYes							
LHE1052GroundYesRHE1032GroundYesCheck continuity between the rear combination lamp harness connector and ground.Rear combination lampConnectorConnectorConnectorTerminal(-)LHB904GroundRHB1024Ground		Front com	bination lamp		(-)	Continuity	
RHE103Check continuity between the rear combination lamp harness connector and ground.Rear combination lamp ConnectorConnectorTerminalLHB90 B1024GroundYes		Front com Connector	bination lamp	Terminal	- (-)	Continuity	
Rear combination lamp(-)ContinuityConnectorTerminal(-)ContinuityLHB904GroundYesRHB1024GroundYes	LH	Front com Connector	E105 E103	Terminal 2	- (-) Ground	Continuity Yes	
ConnectorTerminal(-)ContinuityLHB904GroundYesRHB1024GroundYes	LH RH Check contin	Front com Connector	E105 E103 he rear combina	Terminal 2 tion lamp harness	Ground	Continuity Yes round.	
LH B90 4 Ground Yes RH B102 4 Ground Yes	LH RH Check contin	Front com Connector uity between the Rear com	bination lamp E105 E103 he rear combina bination lamp	Terminal 2 tion lamp harness	- (-) Ground	Continuity Yes round.	
RH B102	LH RH Check contin	Front com Connector uity between the Rear com Connector	bination lamp E105 E103 he rear combina bination lamp	Terminal 2 tion lamp harness Terminal	- (-) Ground s connector and gr	round. Continuity	
	LH RH Check contin	Front com Connector uity between th Rear com Connector	bination lamp E105 E103 he rear combination lamp B90	Terminal 2 tion lamp harness Terminal	- (-) Ground s connector and gr - (-)	round.	
	LH RH Check contin	Front com Connector uity between the Rear com Connector	bination lamp E105 E103 he rear combination lamp B90 B102 al?	Terminal 2 tion lamp harness Terminal 4	- (-) Ground s connector and gr - (-) Ground	round. Continuity Yes Continuity Yes	
 Yes >> Replace the malfunctioning lamp. >> Repair or replace the barness or connectors. 	LH RH Check contin LH RH e the inspection ES >> Repla	Front com Connector uity between th Rear com Connector Connector n results norma ace the malfun ir or replace th	bination lamp E105 E103 he rear combination lamp bination lamp B90 B102 al? ictioning lamp.	Terminal 2 tion lamp harness Terminal 4	- (-) Ground s connector and gr - (-) Ground	round. Continuity Yes Yes Yes	
 Yes >> Replace the malfunctioning lamp. Yes >> Repair or replace the harness or connectors. 	LH RH Check contin	Front com Connector uity between th Rear com Connector Connector	bination lamp E105 E103 he rear combina bination lamp B90 B102 al? ctioning lamp. he harness or co	Terminal 2 tion lamp harness Terminal 4 nnectors.	- (-) Ground s connector and gr - (-) Ground	round. Continuity Yes Continuity Yes	
 'ES >> Replace the malfunctioning lamp. IO >> Repair or replace the harness or connectors. 	LH RH Check contin LH RH e the inspection ES >> Repla	Front com Connector uity between th Rear com Connector Connector n results norma ace the malfun ir or replace th	bination lamp E105 E103 he rear combination lamp B90 B102 al? ctioning lamp. he harness or co	Terminal 2 tion lamp harness Terminal 4 nnectors.	- (-) Ground s connector and gi - (-) Ground	round. Continuity Yes Yes Yes	
 Yes >> Replace the malfunctioning lamp. Yes >> Repair or replace the harness or connectors. 	LH RH Check contin	Front com Connector uity between th Rear com Connector Connector n results norma ace the malfun ir or replace th	bination lamp E105 E103 he rear combina bination lamp B90 B102 al? ctioning lamp. he harness or co	Terminal 2 tion lamp harness Terminal 4 nnectors.	- (-) Ground s connector and gi - (-) Ground	round. Continuity Yes Continuity Yes	
 Yes >> Replace the malfunctioning lamp. Yes >> Repair or replace the harness or connectors. 	LH RH Check contin LH RH e the inspection ES >> Repla	Front com	bination lamp E105 E103 he rear combination lamp B90 B102 al? ctioning lamp. he harness or co	Terminal 2 tion lamp harness Terminal 4	- (-) Ground s connector and gi - (-) Ground	round. Continuity Yes Yes Yes	
 Yes >> Replace the malfunctioning lamp. Yes >> Repair or replace the harness or connectors. 	LH RH Check contin	Front com Connector uity between th Rear com Connector Connector	bination lamp E105 E103 he rear combina bination lamp B90 B102 al? actioning lamp. he harness or co	Terminal 2 tion lamp harness Terminal 4 nnectors.	- (-) Ground s connector and gr - (-) Ground	Continuity Yes round. Continuity Yes	
 Yes >> Replace the malfunctioning lamp. Yes >> Repair or replace the harness or connectors. 	LH RH Check contin	Front com	bination lamp E105 E103 he rear combination lamp B90 B102 al? octioning lamp. he harness or co	Terminal 2 tion lamp harness Terminal 4	- (-) Ground s connector and g - (-) Ground	round. Continuity Yes Continuity Yes	

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B121A FRONT FOG LAMP LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376092

INFOID:000000010376093

[LED HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B121A	FR FOG LAMP LH PWR SPLY CIRC [CIRC SHORT TO GROUND	Short to ground	IPDM E/RShort to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(P)With CONSULT.

Turn ignition switch ON. 1.

2. Perform self-diagnostic result.

Is DTC B121A detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-234, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK FOG LAMP SHORT CIRCUIT TO GROUND

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

	IPDM E/R		Continuity	
Connector		Terminal	Ground	Continuity
LH	E217	51		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check fog lamp short circuit to ground

1. Reconnect IPDM E/R connector.

Check continuity between fog lamp harness connector and ground. 2.

	Fog lamp (LH)		Continuity	
Connector		Terminal	Ground	Continuity
LH	E222	1		No

Is the inspection result normal?

YES

>> Refer to <u>GI-41, "Intermittent Incident"</u>.
>> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>. NO

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT [LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

B1231 DAYTIME RUNNING LIGHT RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376094

А

В

DTC	DETECTION LOGIC	

DTC	Displa	ly Item	Malfunction detected c	ondition	Possible causes
B1231	DTRL RH PWR [CIRC SHORT	SPLY CIRC FO GRND]	When a short circuit to ground in the lamp circuit is detected.	e daytime running	 IPDM E/R Short to ground
DTC CC	ONFIRMATIC	N PROCEDL	JRE		
1. CHE	CK SELF-DIA	GNOSTIC RES	SULT		
With 1. Turr	CONSULT.	h ON.			
2. Perf <u>s DTC F</u> YES NO	form self-diagr <u>31231 detecte</u> >> Proceed to >> Inspection	iostic result. <u>d?</u> o diagnosis pro End.	ocedure. Refer to <u>EXL-235, "</u>	Diagnosis Proce	edure".
Diagno	osis Proced	ure			INFOID:000000010376095
1 .CHE 1. Disc 2. Che	CK FRONT CC connect front c cck continuity b	OMBINATION L ombination lam petween IPDM	LAMP SHORT CIRCUIT TO np connector and IPDM E/R E/R harness connector and	GROUND connector. ground.	
		IPDM E/R	२		Continuity
	Conn	ector	Terminal	Ground	Continuity
	RH	E218	58		No
YES NO 2.CHE 1. Rec 2. Che	>> GO TO 2. >> Repair or CK FRONT CO connect IPDM I eck continuity b	replace harnes DMBINATION L E/R connector. between front c	SS. LAMP SHORT CIRCUIT TO combination lamp harness co	GROUND	bund.
	F	ront combination I	lamp (RH)		Continuity
	Conn	E240	lerminal	Ground	No
la tha in			5		110
Is the ins YES NO	F Conn RH spection result >> Refer to G >> Replace IF	ront combination I ector E240 normal? I-41, "Intermitte PDM E/R. Refe	lamp (RH) Terminal 8 tent Incident". er to PCS-35, "Removal and	Ground	Continuity

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B1256 FRONT FOG LAMP RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376096

INFOID:000000010376097

[LED HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B1256	FR FOG LAMP RH PWR SPLY CIRC [CIRC SHORT TO GRND]	When a short circuit to ground is detected.	 IPDM E/R Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(P)With CONSULT.

Turn ignition switch ON. 1.

2. Perform self-diagnostic result.

Is DTC B1256 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-236, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK FOG LAMP SHORT CIRCUIT TO GROUND

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

	IPDM E/R			Continuity
Coni	nector	Terminal	Ground	Continuity
LH	E217	51		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check fog lamp short circuit to ground

1. Reconnect IPDM E/R connector.

Check continuity between fog lamp harness connector and ground. 2.

	Fog lamp (LH)			Continuity
Coni	nector	Terminal	Ground	Continuity
LH	E222	1		No

Is the inspection result normal?

YES

>> Refer to <u>GI-41, "Intermittent Incident"</u>.
>> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>. NO

B1C00 HEIGHT SENSOR POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B1C00 HEIGHT SENSOR POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376098

А

В

D

Ε

Н

Κ

Μ

Ν

Ρ

[LED HEADLAMP]

DTC DETECTION LOGIC DTC Malfunction detected condition Possible causes **Display Item** HEIGHT SENSOR PWR SPLY CIRC [CIRC SHORT TO GRND] When the height sensor power supply circuit is short-· Short to ground B1C00 ed to supply power or shorted to ground Short to supply voltage HEIGHT SENSOR PWR SPLY CIRC [CIRC SHORT TO BATTERY] DTC CONFIRMATION PROCEDURE **1.**CHECK SELF-DIAGNOSTIC RESULT (R)With CONSULT. Turn ignition switch ON. 1. Perform self-diagnostic result. 2. Is DTC B1C00 detected? >> Proceed to diagnosis procedure. Refer to EXL-237, "Diagnosis Procedure". YES NO >> Inspection End. Diagnosis Procedure INFOID:000000010376099 1. CHECK HEIGHT SENSOR SHORT CIRCUIT TO GROUND Disconnect front and rear height sensor connector and IPDM E/R connector. 2. Check continuity between IPDM E/R harness connector and ground. IPDM F/R Continuity Connector Terminal Ground E120 25 No Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace harness. 2.CHECK HEIGHT SENSOR SHORT CIRCUIT TO BATTERY VOLTAGE EXL Check the voltage between IPDM E/R harness connector and ground. IPDM E/R Voltage (Approx.) Connector Terminal Ground E120 25 0 V Is the inspection result normal? YES >> GO TO 3. NO >> Repair or replace harness. 3.CHECK HEIGHT SENSOR SHORT CIRCUIT TO BATTERY VOLTAGE Reconnect IPDM E/R connector. 1. Check the voltage between IPDM E/R harness connector and ground. 2. IPDM E/R Voltage (Approx.) Connector Terminal Ground

Is the inspection result normal?

>> Refer to GI-41, "Intermittent Incident". YES

E120

25

0 V

< DTC/CIRCUIT DIAGNOSIS >

NO >> Replace IPDM E/R. Refer to <u>PCS-35</u>, "Removal and Installation".

B1C01 FRONT HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

B1C01 FRONT HEIGHT SENSOR SIGNAL

DTC	DETECTION	ON LOGIC

DTC Logic

INFOID:000000010376100

DTC No.	Self-d	iagnosis item	0	OTC Detection Cond	ition	Possible	causes
B1C01	FR HEIGHT [CIRC SHOF FR HEIGHT [CIRC SHOF OPEN] FR HEIGHT [CIRC VOLT, RANGE]	SENSOR SIGNA RT TO BATTERY SENSOR SIGNA RT TO GROUND SENSOR SIGNA AGE OUT OF	L DR SR Ci	nort to ground nort to supply voltag ircuit voltage out of r	e ange	 Harness or connectors sensor and the IPDM E (The sensor circuit is of IPDM E/R Height sensor 	between the front height /R pen or shorted)
	FIRMATIC	ON PROCED	URE				
1.SELF-D	DIAGNOSIS	WITH IPDM	E/R				
1. Turn ig 2. Check <u>s DTC de</u> YES > NO >	gnition swite Self-diagne tected? > Refer to <u>E</u> > Inspectior	ch ON. ostic result wit <u>EXL-239, "Diag</u> n End.	h CONS gnosis P	SULT. <u>rocedure"</u> .			
Diagnos	is Proced	lure					INFOID:00000001037610
1a							
	HEIGHTS	ENSOR SHO			ND		
2. Check	c continuity l	between IPDN	I E/R ha	rness connector	and gr	ound.	
		IPDM E	/R	1			Continuity
	Conr	nector		Terminal		Ground	NI-
a tha inan		t normal?		20			NO
YES > NO > 2.CHECk	 > GO TO 2. > Repair or K HEIGHT S continuity b 	replace harne ENSOR SHO etween IPDM	ess. RT OPE E/R hai	EN CIRCUIT	and he	ight sensor connecto	r.
	IPDM F/R			Front height sensor			
Con	nector	Terminal	Conne	ctor Te	erminal	Ground	Continuity
E	120	20	E11	0	1		Yes
s the insp YES > NO > 3.CHECk	ection resul > GO TO 3. > Repair or < HEIGHT S	t normal? replace harne ENSOR SHO ween IPDM F	ess. RT CIR(CUIT TO BATTE	RY VO	LTAGE	
	Tonage Det		, , , , , , , , , , , , , , , , , , ,				
	Con	IPDM E	/R	Terminal		Ground	Voltage (Approx.)

Is the inspection result normal? Revision: November 2013

E120

20

0 V

В

А

B1C01 FRONT HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Repair or replace harness.

4.CHECK HEIGHT SENSOR SHORT CIRCUIT TO BATTERY VOLTAGE

- 1. Reconnect IPDM E/R connector.
- 2. Check the voltage between IPDM E/R harness connector and ground.

IPDM E/R			Voltage
Connector	Terminal	Ground	(Approx.)
E120	20		0 V

Is the inspection result normal?

YES >> Refer to GI-41, "Intermittent Incident".

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B1C02 REAR HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

B1C02 REAR HEIGHT SENSOR SIGNAL

DTC Logic

DTC DETECTION LOGIC

[LED HEADLAMP]

INFOID:000000010376102

DTC No.	Self-diag	nosis item	DTC Detection Cor	dition	Possible of	causes
B1C02	RR HEIGHT SE [CIRC SHORT T RR HEIGHT SE [CIRC SHORT T OPEN] RR HEIGHT SE [CIRC VOLTAG RANGE]	NSOR SIGNAL TO BATTERY] NSOR SIGNAL TO GROUND OR NSOR SIGNAL E OUT OF	 Short to ground Short to supply volta Circuit voltage out of 	nge f range •	Harness or connectors b sensor and the IPDM E/F (The sensor circuit is ope IPDM E/R Height sensor	etween the rear height R en or shorted)
	FIRMATION	PROCEDUR	E			
1.SELF-D	DIAGNOSIS W	ITH IPDM E/R				
1. Turn i 2. Check <u>s DTC de</u> YES > NO >	gnition switch < Self-diagnost tected? > Refer to <u>EXI</u> > Inspection E	ON. ic result with C <u>241, "Diagno</u> ind.	ONSULT. sis Procedure".			
Diagnos	is Procedu	re				INFOID:000000010376103
1. CHEC	K HEIGHT SEN	NSOR SHORT	CIRCUIT TO GRO	UND		
1. Disco 2. Check	nnect rear heig c continuity bet	ght sensor con ween IPDM E/	nector and IPDM E/ R harness connecto	R connect or and gro	tor. und.	
	0	IPDM E/R	Tauraiaa		Oneverd	Continuity
	E120	lor	21		Ground	No
s the insp YES > NO > 2.CHECk	ection result n > GO TO 2. > Repair or replaced of the set of th	ormal? place harness. NSOR SHORT ween IPDM F/l	OPEN CIRCUIT	or and heic	aht sensor connector	
	IPDM E/R	Forminal (Rear height sense	or Terminal	Ground	Continuity
Con						
Con	120	20	B91	1		Yes
Con E Is the insp YES > NO > 3. CHECh Check the	incode in	20 ormal? place harness. NSOR SHORT een IPDM E/R I	B91 CIRCUIT TO BATT narness connector a	1 ERY VOL	TAGE d.	Yes
Con E Is the insp YES > NO > 3. CHECH Check the	incode incode	20 ormal? place harness. NSOR SHORT een IPDM E/R I	B91 CIRCUIT TO BATT narness connector a	1 ERY VOL	TAGE d.	Yes
Con E Is the insp YES > NO > 3. CHECP Check the	incode incode	20 ormal? place harness. NSOR SHORT een IPDM E/R I	B91 CIRCUIT TO BATT narness connector a Terminal	1 ERY VOL	TAGE d. Ground	Yes Voltage (Approx.)

Revision: November 2013

А

В

B1C02 REAR HEIGHT SENSOR SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Repair or replace harness.

4.CHECK HEIGHT SENSOR SHORT CIRCUIT TO BATTERY VOLTAGE

- 1. Reconnect IPDM E/R connector.
- 2. Check the voltage between IPDM E/R harness connector and ground.

IPDM E/R			Voltage
Connector	Terminal	Ground	(Approx.)
E120	21		0 V

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B1C07 AIMING MOTOR DRIVE SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

B1C07 AIMING MOTOR DRIVE SIGNAL

DTC Logic

B 1 0 B E 1 E 0 1 0 1 1 E 0 0 1 0

DTC	Display Item	Malfunction detected c	ondition	Possible causes
	AIMING MOTOR DRIVE SIGNAL [CIRC SHORT TO GRND]			
B1C07	AIMING MOTOR DRIVE SIGNAL [CIRC SHORT TO BATTERY]	DC motor circuit short to groDC motor circuit short to su	ound • F pply voltage • If	ront combination lamp harness PDM E/R
	AIMING MOTOR DRIVE SIGNAL [SIGNAL COMPARE FAILURE]			
отс сс	ONFIRMATION PROCEDURE			
1.снес	CK SELF-DIAGNOSTIC RESULT			
With I. Turn 2. Perf s DTC E	CONSULT. n ignition switch ON. form self-diagnostic result. 31C07 detected?			
YES NO	 >> Proceed to diagnosis procedu >> Inspection End. 	ıre. Refer to <u>EXL-243, "D</u>	iagnosis Procedu	<u>ure"</u> .
Diagno	osis Procedure			INFOID:00000001037610
1 снес	CK HEADLAMP AIMING MOTOR	DRIVE SIGNAL SHORT		
1. Disc 2 Che	connect LH and RH headlamp aim	ling motor connectors and d	d IPDM E/R conr	nector.
. 0110				
	IPDM E/R	Terminal	Ground	Continuity
	E218	64	Cround	No
<u>s the ins</u> YES	spection result normal? >> GO TO 2.			
NO 2.снес	CK HEADLAMP AIMING MOTOR	DRIVE SIGNAL SHORT	CIRCUIT TO BA	ATTERY VOLTAGE
NO 2.CHEC Check th	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har	DRIVE SIGNAL SHORT	CIRCUIT TO BA	ATTERY VOLTAGE
NO 2.CHE(Check th	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har	DRIVE SIGNAL SHORT	CIRCUIT TO BA	
NO 2.CHEC Check th	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har IPDM E/R Connector	DRIVE SIGNAL SHORT	CIRCUIT TO BA	Voltage (Approx.)
NO 2.CHEC Check th	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har IPDM E/R Connector E218	DRIVE SIGNAL SHORT ness connector and grou Terminal 64	CIRCUIT TO BA	ATTERY VOLTAGE Voltage (Approx.) 0 V
NO 2.CHEC Check the sthe ins YES NO 3.CHEC	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har IPDM E/R Connector E218 Spection result normal? >> GO TO 3. >> Repair or replace harness. CK HEADLAMP AIMING MOTOR	DRIVE SIGNAL SHORT rness connector and grou Terminal 64 DRIVE SIGNAL SHORT	CIRCUIT TO BA	ATTERY VOLTAGE
NO 2.CHEC Check the is the ins YES NO 3.CHEC 1. Rec 2. Che	CK HEADLAMP AIMING MOTOR he voltage between IPDM E/R har IPDM E/R Connector E218 Spection result normal? >> GO TO 3. >> Repair or replace harness. CK HEADLAMP AIMING MOTOR onnect IPDM E/R connector. ck the voltage between IPDM E/R	DRIVE SIGNAL SHORT rness connector and grou Terminal 64 DRIVE SIGNAL SHORT	CIRCUIT TO BA	ATTERY VOLTAGE
NO 2.CHEC Check tr Is the ins YES NO 3.CHEC 1. Rec 2. Che	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har IPDM E/R Connector E218 Spection result normal? >> GO TO 3. >> Repair or replace harness. CK HEADLAMP AIMING MOTOR onnect IPDM E/R connector. ck the voltage between IPDM E/R	DRIVE SIGNAL SHORT rness connector and grou Terminal 64 DRIVE SIGNAL SHORT tharness connector and	CIRCUIT TO BA	ATTERY VOLTAGE Voltage (Approx.) 0 V ATTERY VOLTAGE Voltage
NO 2.CHEC Check the is the ins YES NO 3.CHEC 1. Rec 2. Che	CK HEADLAMP AIMING MOTOR ne voltage between IPDM E/R har IPDM E/R Connector E218 Spection result normal? >> GO TO 3. >> Repair or replace harness. CK HEADLAMP AIMING MOTOR onnect IPDM E/R connector. ck the voltage between IPDM E/R IPDM E/R Connector	DRIVE SIGNAL SHORT mess connector and grou Terminal 64 DRIVE SIGNAL SHORT tharness connector and Terminal	CIRCUIT TO BA nd. Ground CIRCUIT TO BA ground. Ground	ATTERY VOLTAGE

INFOID:000000010376104

А

В

B1C07 AIMING MOTOR DRIVE SIGNAL

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>. NO >> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>.

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20CB DAYTIME RUNNING LIGHT LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376106

А

[LED HEADLAMP]

DTC DETECTION LOGIC В DTC Malfunction detected condition Possible causes **Display Item** DTRL LH PWR SPLY CIRC IPDM E/R B20CB When a short circuit to ground is detected. [CIRC SHORT TO GRND] · Short to ground DTC CONFIRMATION PROCEDURE D 1.CHECK SELF-DIAGNOSTIC RESULT (P)With CONSULT. Е 1. Turn ignition switch ON. Perform self-diagnostic result. Is DTC B02CB detected? >> Proceed to diagnosis procedure. Refer to EXL-245, "Diagnosis Procedure". YES NO >> Inspection End. **Diagnosis** Procedure INFOID:0000000010376107 1. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND Н 1. Disconnect front combination lamp connector and IPDM E/R connector. Check continuity between IPDM E/R harness connector and ground. 2. IPDM E/R Continuity Connector Terminal Ground LH E217 49 No Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace harness. Κ 2.CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND Reconnect IPDM E/R connector. 1. EXL 2. Check continuity between fog lamp harness connector and ground. Front combination lamp (LH) Continuity Μ Terminal Connector Ground LH E239 8 No Is the inspection result normal? Ν >> Refer to GI-41, "Intermittent Incident". YES NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20CE HEADLAMP (HI) LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376108

INFOID:000000010376109

[LED HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20CE	DTRL LH PWR SPLY CIRC [CIRC SHORT TO GRND]	Short to ground	 IPDM E/R Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

With CONSULT.

1. Turn ignition switch ON.

2. Perform self-diagnostic result.

Is DTC B20CE detected?

YES >> Proceed to diagnosis procedure. Refer to <u>EXL-246</u>, "<u>Diagnosis Procedure</u>". NO >> Inspection End.

Diagnosis Procedure

1. CHECK HEAD LAMP SHORT CIRCUIT TO GROUND

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

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

	IPDM E/R			Continuity
Conr	nector	Terminal	Ground	Continuity
LH	E218	59		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK HEAD LAMP SHORT CIRCUIT TO GROUND

1. Reconnect IPDM E/R connector.

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

	Front combination lamp (LF		Continuity	
Conr	nector	Terminal	Ground	Continuity
LH	E236	15		No

Is the inspection result normal?

YES >> Refer to <u>GI-41</u>, "Intermittent Incident".

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20CF HEADLAMP (HI) RH POWER SUPPLY CIRCUIT

DTC Logic

[LED HEADLAMP]

INFOID:0000000010376110

А

DTC DETECTION LOGIC В DTC Malfunction detected condition Possible causes **Display Item** HL (HI) RH PWR SPLY CIRC IPDM E/R B20CF · Short to ground [CIRC SHORT TO GRND] · Short to ground DTC CONFIRMATION PROCEDURE D 1.CHECK SELF-DIAGNOSTIC RESULT (P)With CONSULT. Е 1. Turn ignition switch ON. Perform self-diagnostic result. Is DTC B20CF detected? >> Proceed to diagnosis procedure. Refer to EXL-247, "Diagnosis Procedure". YES NO >> Inspection End. **Diagnosis** Procedure INFOID:000000010376111 1. CHECK HEAD LAMP SHORT CIRCUIT TO GROUND Н 1. Disconnect front combination lamp connector and IPDM E/R connector. Check continuity between IPDM E/R harness connector and ground. 2. IPDM E/R Continuity Connector Terminal Ground RH E217 54 No Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace harness. Κ 2.CHECK HEAD LAMP SHORT CIRCUIT TO GROUND Reconnect IPDM E/R connector. 1. EXL Check continuity between front combination lamp harness connector and ground. 2. Front combination lamp (RH) Continuity Μ Connector Terminal Ground RH E240 5 No Is the inspection result normal? Ν >> Refer to GI-41, "Intermittent Incident". YES NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

Ρ

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D0 HEADLAMP (LO) LH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376112

INFOID:0000000010376113

[LED HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20D0	HI (LO) RH PWR SPLY CIRC [CIRC SHORT TO GRND]	Short to ground	IPDM E/RShort to ground

DTC CONFIRMATION PROCEDURE

1.CHECK SELF-DIAGNOSTIC RESULT

With CONSULT.

1. Turn ignition switch ON.

2. Perform self-diagnostic result.

Is DTC B20D0 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-248, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

1. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND

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

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

	IPDM E/R			Continuity
Conr	nector	Terminal	Ground	Continuity
LH	E217	50		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND

1. Reconnect IPDM E/R connector.

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

	Front combination lamp (LF		Continuity	
Conr	Connector		Ground	Continuity
LH	E239	6		No

Is the inspection result normal?

YES >> Refer to GI-41, "Intermittent Incident".

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT DIAGNOSIS > [LED HEADLAMP]

< DTC/CIRCUIT DIAGNOSIS >

B20D1 HEADLAMP (LO) RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376114

А

DIC	Display Item		Malfunction detected condition	on	Possible causes
B20D1	HL (LO) RH PWR SPLY CIRC [CIRC SHORT TO GRND]	Short to	ground	•	IPDM E/R Short to ground
TC C	ONFIRMATION PROCED	URE			
1. CHE	CK SELF-DIAGNOSTIC RE	SULT			
With 1. Tur	CONSULT. n ignition switch ON.				
2. Per	form self-diagnostic result.				
Is DTC	B20D1 detected?				
YES NO	>> Proceed to diagnosis pr >> Inspection End	ocedure. F	Refer to <u>EXL-249, "Diag</u>	nosis Proced	ure".
Diagn	nsis Procedure				NEOD-00000004
a singh					INF-OID:000000010
1. CHE	CK FRONT COMBINATION	LAMP SH	IORT CIRCUIT TO GRO	DUND	
1. Dise	connect front combination la	mp conne	ctor and IPDM E/R con	nector.	
2 (Cha	ook oontinuutu hotuvoon IDDNV	L/D horn	and connector and arou	nd	
2. Che	eck continuity between IPDN	I E/R harn	ess connector and grou	nd.	
2. Che	eck continuity between IPDM IPDM E/	R	ess connector and grou	nd.	Continuity
2. Che	ECK CONTINUITY between IPDM IPDM E/ Connector	R	Terminal	nd. Ground	Continuity
2. Che	Connector RH E218	R	Terminal 62	nd. Ground	Continuity
2. Che	Connector RH E218 Spection result normal? CRD TO 2	R	Terminal 62	nd. Ground	Continuity
2. Che	Eck continuity between IPDW IPDM E/ Connector RH E218 spection result normal? >> GO TO 2. >> Repair or replace harne	SS.	Terminal 62	nd. Ground	Continuity
2. Che <u>Is the in</u> YES NO 2. CHE	Eck continuity between IPDW IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION	ss.	Terminal 62 HORT CIRCUIT TO GR	nd. Ground	Continuity No
2. Che <u>Is the in</u> YES NO 2.CHE 1. Rec	Eck continuity between IPDW IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION connect IPDM E/R connector	SS.	Terminal 62 HORT CIRCUIT TO GR	nd. Ground OUND	Continuity No
2. Che <u>Is the in</u> YES NO 2. CHE 1. Rec 2. Che	Eck continuity between IPDW IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION connect IPDM E/R connector eck continuity between front	SS. LAMP SF	Terminal 62 HORT CIRCUIT TO GR	nd. Ground OUND ctor and grou	Continuity No
2. Che <u>Is the in</u> YES NO 2. CHE 1. Rec 2. Che	Eck continuity between IPDW IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION connect IPDM E/R connector eck continuity between front Front combination	SS. LAMP SF	Terminal 62 HORT CIRCUIT TO GR	nd. Ground OUND ctor and groun	Continuity No nd.
2. Che <u>Is the in</u> YES NO 2.CHE 1. Rec 2. Che	Eck continuity between IPDW IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION connect IPDM E/R connector Eck continuity between front Front combination Connector	SS. LAMP SF combination	Terminal 62 HORT CIRCUIT TO GR on lamp harness connection Terminal	nd. Ground OUND ctor and groun	nd.
2. Che <u>Is the in</u> YES NO 2. CHE 1. Rec 2. Che	IPDM E/ IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION Connect IPDM E/R connector Front combination Connector RH E240	SS. LAMP SH r. combination	Terminal 62 HORT CIRCUIT TO GR on lamp harness connect Terminal 6	nd. Ground OUND ctor and groun Ground	nd.
2. Che <u>Is the in</u> YES NO 2.CHE 1. Rec 2. Che <u>Is the in</u>	IPDM E/ IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION Connect IPDM E/R connector Eront combination Connector RH E240 Ispection result normal?	SS. LAMP SF combination	Terminal 62 HORT CIRCUIT TO GR on lamp harness connect Terminal 6	nd. Ground OUND ctor and groun Ground	nd.
2. Che <u>Is the in</u> YES NO 2.CHE 1. Rec 2. Che <u>Is the in</u> YES	IPDM E/ IPDM E/ Connector RH E218 Ispection result normal? >> GO TO 2. >> Repair or replace harne CK FRONT COMBINATION Connect IPDM E/R connector Eck continuity between front Connector RH E240 Ispection result normal? >> Refer to GI-41, "Intermit	SS. LAMP SF combination lamp (LH)	Terminal 62 HORT CIRCUIT TO GR Don lamp harness connect Terminal 6 Ent ^{III} . 25. "Domourol and loopt	nd. Ground OUND ctor and groun Ground	nd.

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D2 PARKING LAMP POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376116

[LED HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20D2	PARKING LAMP PWR SPLY CIRC [CIRC SHORT TO GROUND]	When a short to ground is detected in the parking lamp power supply circuit.	Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

()With CONSULT.

- 1. Turn ignition switch ON.
- 2. Perform self-diagnostic result.

Is DTC B20D2 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-250, "Diagnosis Procedure".

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010376117

1. CHECK FRONT COMBINATION LAMP SHORT CIRCUIT TO GROUND

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

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

	IPDM E/R			Continuity
Conr	nector	Terminal	Cround	
LH	E217	56	Giouna	No
RH	E218	61		

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.check front combination lamp short circuit to ground

1. Reconnect IPDM E/R connector.

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

	IPDM E/R			Continuity
Conr	nector	Terminal	Ground	
LH	E217	56	Ground	No
RH	E218	61		

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D4 TAIL LAMP LH POWER SUPPLY CIRCUIT

DTC Logic

[LED HEADLAMP]

INFOID:000000010376118

А

DIC	Display Item	Malfunction detected condition	Possible causes
B20D4 TAIL LA [CIRC \$	MP LH PWR SPLY CIRC SHORT TO GRND]	Short to ground	IPDM E/R Short to ground
	ATION PROCEDURE		
1.CHECK SEL	F-DIAGNOSTIC RESULT		
With CONSU Turn ignitior	LT. a switch ON.		
2. Perform self I <u>s DTC B20D4 c</u> YES >> Proc	f-diagnostic result. letected? ceed to diagnosis procedure	. Refer to <u>EXL-251, "Diagnosis Pro</u>	cedure".
NO >> Insp	ection End.		
Diagnosis Pr	ocedure		INFOID:0000000
1.CHECK TAIL	LAMP SHORT CIRCUIT TO) GROUND	
connector			
2. Check conti	nuity between IPDM E/R har	mess connector and ground.	
2. Check conti	nuity between IPDM E/R har IPDM E/R Connector	Terminal Ground	d
LH	IPDM E/R har IPDM E/R Connector E119	Terminal Ground	d Continuity No
2. Check conti LH Is the inspection YES >> GO NO >> Rep 2.CHECK TAIL 1. Reconnect I	IPDM E/R har IPDM E/R Connector E119 Iresult normal? TO 2. air or replace harness. LAMP SHORT CIRCUIT TO PDM E/R connector.	Terminal Ground	d Continuity No
2. Check conti LH Is the inspection YES >> GO NO >> Rep 2.CHECK TAIL 1. Reconnect I 2. Check conti	IPDM E/R har IPDM E/R Connector E119 TO 2. air or replace harness. LAMP SHORT CIRCUIT TO PDM E/R connector. nuity between rear combinat	Terminal Ground 4 Groun Groun 4 Groun 4 Groun 5 GROUND GROUND GROUND	d Continuity No round.
2. Check conti LH Is the inspection YES >> GO NO >> Rep 2.CHECK TAIL 1. Reconnect I 2. Check conti	IPDM E/R har IPDM E/R Connector E119 result normal? TO 2. air or replace harness. LAMP SHORT CIRCUIT TO PDM E/R connector. nuity between rear combinat Rear combination lamp (LH)	Terminal Ground 4 Groun Groun 4 Groun 0 GROUND GROUND	d Continuity No round.
2. Check conti LH Is the inspection YES >> GO NO >> Rep 2.CHECK TAIL 1. Reconnect I 2. Check conti	IPDM E/R har IPDM E/R Connector E119 TO 2. air or replace harness. LAMP SHORT CIRCUIT TO PDM E/R connector. nuity between rear combinat Rear combination lamp (LH) Connector	Terminal Ground O GROUND Cion lamp harness connector and g Terminal Groun Cion lamp harness connector and g Cion lamp harness connector and g	d Continuity No round. d Continuity

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20D5 TAIL LAMP RH POWER SUPPLY CIRCUIT

DTC Logic

INFOID:000000010376120

INFOID:000000010376121

[LED HEADLAMP]

DTC DETECTION LOGIC

DTC	Display Item	Malfunction detected condition	Possible causes
B20D5	TAIL LAMP RH PWR SPLY CIRC [CIRC SHORT TO GRND]	When a short circuit to ground is detected in the tail lamp supply voltage circuit.	IPDM E/R Short to ground

DTC CONFIRMATION PROCEDURE

1. CHECK SELF-DIAGNOSTIC RESULT

(P)With CONSULT.

Turn ignition switch ON. 1.

2. Perform self-diagnostic result.

Is DTC B20D5 detected?

YES >> Proceed to diagnosis procedure. Refer to EXL-252, "Diagnosis Procedure". NO >> Inspection End.

Diagnosis Procedure

1. CHECK TAIL LAMP SHORT CIRCUIT TO GROUND

1. Disconnect rear combination lamp (RH), back up lamp connectors and IPDM E/R connector.

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

IPDM E/R				Continuity
Connector		Terminal	Ground	Continuity
RH	E119	17		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2.CHECK TAIL LAMP SHORT CIRCUIT TO GROUND

1. Reconnect IPDM E/R connector.

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

Rear combination lamp (RH)				Continuity
Connector		Terminal	Ground	Continuity
RH	B102	1		No

Is the inspection result normal?

YES

>> Refer to <u>GI-41, "Intermittent Incident"</u>.
>> Replace IPDM E/R. Refer to <u>PCS-35, "Removal and Installation"</u>. NO
B20DB HEIGHT SENSOR INITIALIZE NOT DONE (LED HEADLAMP)

< DTC/CIRCUIT DIAGNOSIS >

B20DB HEIGHT SENSOR INITIALIZE NOT DONE

DTC Logic

INFOID:000000010376122

А

В

DTC DETECTION LOGIC

DTC	Display Item	DTC detection condition	Possible causes	
B20DB	HEIGHT SENS INTIALIZE NOT DONE [MISSING CALIBRATION]	Sensor initialization is not complete	 Incomplete sensor initialization. Rear height sensor Front height sensor 	
DZUDB -	HEIGHT SENS INTIALIZE NOT DONE [NOT CONFIGURED]			
	NFIRMATION PROCED	JRE		
1.PERF	ORM SELF-DIAGNOSIS			
	ULT			
1. Turn 2 Perfo	ignition switch ON. In self-diagnosis of IPDN	/ F/R using CONSULT		
ls DTC B2	20DB detected?			
YES >	>> Refer to <u>EXL-253, "Dia</u>	agnosis Procedure".		
NO >	>> Inspection End.			
Diagnos	sis Procedure		INFOID:000000010	0376123
1 .CHEC	K SELF-DIAGNOSTIC RI	ESULT		
With C	ONSULT.			
1. Turn	ignition ON.	of IDDM E/D Work Support itor	~	
2. Selection Selection Selection (Selection Selection) (Selection	20DB detected?		11.	
YES >	>> Replace IPDM E/R. Re	efer to PCS-35, "Removal and li	nstallation".	
NO >	>> Inspection End.			

EXL

Μ

Ν

Ο

Ρ

B20E2 LED HEADLAMP RH

< DTC/CIRCUIT DIAGNOSIS >

B20E2 LED HEADLAMP RH

DTC Logic

[LED HEADLAMP]

INFOID:000000010350724

DTC DETECTION LOGIC

DTC No.	Self-diagnosis item	DTC Detection Condition	Possible causes
B20E2	LED HEADLAMP RH [CMPNENT INTERNAL MLFNCTN]	Detection signal circuit short to ground	 Harness or connectors between the front combination lamp RH and the IPDM E/R IPDM E/R

DTC CONFIRMATION PROCEDURE

1.SELF-DIAGNOSIS WITH IPDM E/R

- 1. Turn ignition switch ON.
- 2. Check Self-diagnostic result with CONSULT.

Is DTC detected?

YES >> Refer to <u>EXL-254</u>, "Diagnosis Procedure". NO >> Inspection End.

Diagnosis Procedure

INFOID:000000010350725

1. CHECK FRONT COMBINATION LAMP RH SHORT CIRCUIT TO GROUND

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

IPDM E/R		Continuity	
Connector	Terminal	Ground	Continuity
E218	60		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK FRONT COMBINATION LAMP RH SHORT CIRCUIT TO GROUND

1. Reconnect IPDM E/R connector.

2. Check continuity between front combination lamp RH harness connector and ground.

Front combination lamp RH		Ground	
Connector	Terminal	Ground	Gibana
E240	7		No

Is the inspection result normal?

YES >> Refer to GI-41, "Intermittent Incident".

NO >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

B20E3 LED HEADLAMP LH

< DTC/CIRCUIT DIAGNOSIS >

B20E3 LED HEADLAMP LH

DTC Logic

А

INFOID:000000010350728

[LED HEADLAMP]

No.	Self-diagnosis item	DTC De	ection Condition	Possi	ble causes	
B20E3	LED HEADLAMP LH [CMPNENT INTERNAL MLFNCTN]	Detection signa	al circuit short to groun	Harness or connected bination lamp LH an IPDM E/R	 Harness or connectors between the front combination lamp LH and the IPDM E/R IPDM E/R 	
отс со	ONFIRMATION PRO	CEDURE				
1. SELF	-DIAGNOSIS WITH IP	DM E/R				
1. Turr	ignition switch ON.					
2. Che	ck Self-diagnostic resu	It with CONSU	_T.			
YES	>> Refer to EXL-255	"Diagnosis Pro	cedure"			
NO	>> Inspection End.	Diagnosis i To	<u>sedure</u> .			
Diagno	sis Procedure				INFOID:00000001035072	
1 Снес						
	connect front combinati					
2. Che	ck continuity between	PDM E/R harn	ess connector and	ground.		
	-			_		
	P	DM E/R	Torminal	Cround	Continuity	
	Connector		reminal	Ground		
	F217		53		No	
Is the ins	E217 spection result normal?		53		No	
ls the ins YES	E217 spection result normal? >> GO TO 2.		53		No	
l <u>s the ins</u> YES NO	E217 spection result normal? >> GO TO 2. >> Repair or replace h	arness.	53		No	
<u>Is the ins</u> YES NO 2. CHE0	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT	arness. TON LAMP LH	53 SHORT CIRCUIT	TO GROUND	No	
Is the ins YES NO 2. CHE0	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R conn	arness. ION LAMP LH ector.	53 SHORT CIRCUIT	TO GROUND	No	
Is the ins YES NO 2.CHE0 1. Rec 2. Che	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R conn ck continuity between f	arness. TON LAMP LH ector. ront combinatio	53 SHORT CIRCUIT on lamp LH harnes	TO GROUND	No No	
<u>Is the ins</u> YES NO 2. CHE(1. Rec 2. Che	E217 Spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R conn ck continuity between the Front comb	arness. TON LAMP LH ector. front combinatio	53 SHORT CIRCUIT	TO GROUND	No Id.	
Is the ins YES NO 2.CHE0 1. Rec 2. Che	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R conn ck continuity between the Front comb Connector	arness. TON LAMP LH ector. front combinatio	53 SHORT CIRCUIT on lamp LH harnes Terminal	TO GROUND s connector and grour Ground	No Id. Ground	
Is the ins YES NO 2.CHE0 1. Rec 2. Che	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R connect ck continuity between the Front combined Connector E239	arness. TON LAMP LH ector. ront combinatio	53 SHORT CIRCUIT on lamp LH harnes Terminal 7	TO GROUND s connector and grour Ground	No No Ground No	
Is the ins YES NO 2.CHE0 1. Rec 2. Che	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R conn ck continuity between the Front comb Connector E239 spection result normal?	arness. TON LAMP LH ector. front combination ination lamp LH	53 SHORT CIRCUIT on lamp LH harnes Terminal 7	TO GROUND s connector and grour Ground	No nd. Ground No	
Is the ins YES NO 2.CHE0 1. Rec 2. Che s the ins YES	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R conn ck continuity between th Front comb Connector E239 spection result normal? >> Refer to GI-41, "Int	arness. TON LAMP LH ector. iront combination ination lamp LH ermittent Incide	53 SHORT CIRCUIT on lamp LH harnes Terminal 7	TO GROUND s connector and grour Ground	No nd. Ground No	
Is the ins YES NO 2.CHE0 1. Rec 2. Che Is the ins YES NO	E217 spection result normal? >> GO TO 2. >> Repair or replace h CK FRONT COMBINAT onnect IPDM E/R connect ck continuity between the Front combined Connector E239 spection result normal? >> Refer to GI-41, "Integration of the second seco	arness. TON LAMP LH ector. front combination ination lamp LH ermittent Incide . Refer to PCS	53 SHORT CIRCUIT on lamp LH harnes Terminal 7 <u>ent"</u> . <u>35. "Removal and</u>	TO GROUND s connector and grour Ground	No nd. Ground No	

Ρ

EXTERIOR LIGHTING SYSTEM SYMPTOMS

SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000010350643

CAUTION:

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

Symptom		Possible cause	Inspection item	
Headlamp (HI) is not	One side	 Fuse LED Harness between IPDM E/R and headlamp (HI) Harness between headlamp (HI) and ground IPDM E/R 	Headlamp (HI) circuit Refer to EXL-246. "DTC Logic" (LH)	
turned ON.	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to <u>EXL-246</u> , " <u>DTC Logic</u> " (LH) or <u>EXL-247</u> , " <u>DTC Logic</u> " (RH).	or <u>EXL-247. "DTC Logic"</u> (RH).	
High beam indicator lamp [Headlamp (HI) is turned C	is not turned ON. DN.]	Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEAD LAMP) Active test "HEADLAMP" 	
Headlamp (LO) is not turned ON.	One side	 Fuse LED Harness between IPDM E/R and headlamp lamp (LO) Harness between headlamp (LO) and ground IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-248, "DTC Logic"</u> (LH) or <u>EXL-249, "DTC Logic"</u> (RH).	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-248, "DTC Logic"</u> (LH) or <u>EXL-249, "DTC Logic"</u> (RH).		
Each lamp is not turned ON	N/OFF with lighting switch	 Combination switch Harness between combination switch and BCM BCM 	Combination switch Refer to <u>BCS-73, "Symptom Table"</u> (with Intelligent Key) or <u>BCS-133,</u> <u>"Symptom Table"</u> (without Intelli- gent Key).	
AUTO.		 Optical sensor Harness between optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-226, "Component</u> <u>Function Check"</u> .	
Daytime running light is not turned ON. [Headlamp (HI) is turned ON.]		 Fuse Harness between IPDM E/R and front combination lamp IPDM E/R BCM ECM Combination meter 	 Daytime running light circuit Refer to <u>EXL-235, "DTC Logic"</u>. BCM (HEADLAMP) Data monitor "ENGINE STATE" Combination meter Data monitor "PKB SW" BCM (HEADLAMP) Active test "DAYTIME RUNNING LIGHT" 	
Parking lamp is not turned ON.		 Fuse Parking lamp bulb Harness between IPDM E/R and front combination lamp IPDM E/R 	Parking lamp circuit Refer to <u>EXL-250, "DTC Logic"</u> .	

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[LED HEADLAMP]

Symp	otom	Possible cause	Inspection item
Front side marker lamp is not turned ON.		 Front side marker lamp bulb Harness between IPDM E/R and front side marker lamp Harness between front side marker lamp and ground IPDM E/R 	Front side marker lamp circuit Refer to <u>EXL-250, "DTC Logic"</u> .
License plate lamp is not turned ON.		 License plate lamp bulb Harness between IPDM E/R and license plate lamp Harness between license plate lamp and ground 	License plate lamp circuit Refer to <u>EXL-251, "DTC Logic"</u> .
Parking lamp, side marker cense plate lamp are not to	lamp, tail lamp and li- urned ON.	Symptom diagnosis "PARKING, SIDE MARKER, LICEN NOT TURNED ON" Refer to <u>EXL-261, "Description"</u> .	NSE PLATE AND TAIL LAMPS ARE
Tail lamp indicator is not tu (Exterior lamps are turned	rned ON. ON.)	Combination meter	 Combination meter Data monitor "LIGHT IND" BCM (HEADLAMP) Active test "TAIL LAMP"
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms high flasher acti- vation.)	 Turn signal lamp bulb Door mirror Harness between BCM and each turn signal lamp Harness between each turn sig- nal lamp and ground 	Turn signal lamp circuit Refer to <u>EXL-93, "Component</u> <u>Function Check"</u> .
	One side	Combination meter	
Turn signal indicator lamp does not blink. (Turn signal lamp is nor- mal.)	Both sides (Always)	 Turn signal indicator lamp signal BCM Combination meter 	 Combination meter Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
	Both sides (Only when activating hazard warning lamp with ignition switch OFF)	 Combination meter power supply and ground circuit Combination meter 	Combination meter Power supply and ground circuit Refer to <u>MWI-59. "COMBINATION</u> <u>METER : Diagnosis Procedure"</u> .
 Hazard warning lamp do Hazard warning lamp co (Turn signal is normal.) 	es not activate. ntinues activating.	 Hazard switch Harness between hazard switch and BCM Harness between hazard switch and ground BCM 	Hazard switch circuit Refer to <u>EXL-229, "Component</u> <u>Function Check"</u> .
Front fog lamp is not turned ON.	One side	 Front fog lamp bulb Harness between IPDM E/R and front fog lamp Harness between front fog lamp and ground IPDM E/R 	Front fog lamp circuit Refer to <u>EXL-234, "DTC Logic"</u> (LH) or <u>EXL-236, "DTC Logic"</u> (RH).
	Both sides	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS Refer to <u>EXL-234, "DTC Logic"</u> (LH	S ARE NOT TURNED ON" H) or <u>EXL-236. "DTC Logic"</u> (RH).

Ρ

NORMAL OPERATING CONDITION

Description

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON [LED HEADLAMP] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON А Description INFOID:000000010350645 Both side headlamps (HI) are not turned ON when setting to the lighting switch HI or PASS. В **Diagnosis** Procedure INFOID:000000010350646 **1**.COMBINATION SWITCH INSPECTION Check combination switch. Refer to BCS-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system). D Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. Ε 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT **(P)CONSULT DATA MONITOR** 1. Select "HEADLAMP (HI)" of IPDM E/R data monitor item. F 2. With operating the lighting switch, check the monitor status. Condition Monitor item Monitor status HI or PASS On Lighting switch HEADLAMP (HI) (2ND) LO Off Н Is the inspection result normal? YES >> GO TO 3. NO >> Replace BCM. Refer to BCS-75, "Removal and Installation" (with Intelligent Key system) or BCS-135, "Removal and Installation" (without Intelligent Key system). **3.**HEADLAMP (HI) CIRCUIT INSPECTION Check headlamp (HI) circuit. Refer to EXL-246. "DTC Logic" (LH) or EXL-247. "DTC Logic" (RH).

Is the inspection result normal?

YES >> Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> Repair or replace the malfunctioning part.

Κ

EXL

Μ

Ν

Ο

Ρ

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.CHECK COMBINATION SWITCH

Check combination switch. Refer to <u>BCS-73, "Symptom Table"</u> (with Intelligent Key system) or <u>BCS-133,</u> "Symptom Table" (without Intelligent Key system).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

CONSULT DATA MONITOR

1. Select "HEADLAMP (LO)" of IPDM E/R data monitor item.

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

Monitor item	Condition		Monitor status
	Lighting owitch	2ND	On
HEADEAMIF (LO)		OFF	Off

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-75</u>, "<u>Removal and Installation</u>" (with Intelligent Key system) or <u>BCS-135</u>, "<u>Removal and Installation</u>" (without Intelligent Key system).

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check headlamp (LO) circuit. Refer to EXL-248, "DTC Logic" (LH) or EXL-249, "DTC Logic" (RH).

Is the inspection result normal?

YES >> Refer to GI-41, "Intermittent Incident".

NO >> Repair or replace the malfunctioning part.

INFOID:000000010350647

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

	10		
< SYMPTOM DIAGNOSIS	>		[LED HEADLAMP]
PARKING, LICENS TURNED ON	E PLATE, SIDE	E MARKER AND TAI	L LAMPS ARE NOT
Description			INFOID:000000010350649
The parking, license plate, s	ide marker, tail lamps	and each illumination are not	turned ON in any condition.
Diagnosis Procedure			INFOID:000000010350650
1.COMBINATION SWITCH	INSPECTION		
Check combination switch. "Symptom Table" (without In	Refer to <u>BCS-73, "S</u> telligent Key system)	Symptom Table" (with Intellige	nt Key system) or <u>BCS-133,</u>
YES >> GO TO 2. NO >> Repair or replace 2.CHECK TAIL LAMP REC	e the malfunctioning UEST SIGNAL INPU	part. IT	
CONSULT DATA MONITO 1. Select "TAIL LAMP" of I 2. With operating the lighti	DR PDM E/R data monito ng switch, check the i	or item. monitor status.	
Monitor item		Condition	Monitor status
TAIL LAMP	Liahtina switch	1ST	On
		OFF	Off

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".

NO >> Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u> (with Intelligent Key system) or <u>BCS-135, "Removal and Installation"</u> (without Intelligent Key system).

J

Κ

EXL

Μ

Ν

Ο

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

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

Diagnosis Procedure

1.CHECK COMBINATION SWITCH

Check combination switch. Refer to <u>BCS-73, "Symptom Table"</u> (with Intelligent Key) or <u>BCS-133, "Symptom</u> <u>Table"</u> (without Intelligent Key).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

2.check front fog lamp request signal input

CONSULT DATA MONITOR

1. Select "FRONT FOG LAMP REQ" of IPDM E/R data monitor item.

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

Monitor item	Condition		Monitor status
	Front fog lamp switch	ON	On
TROUT TOO EANIT REQ	(With lighting switch 2ND)	OFF	Off

Is the item status normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-35</u>, "Removal and Installation".

NO >> Replace BCM. Refer to <u>BCS-75, "Removal and Installation"</u> (with Intelligent Key) or <u>BCS-135,</u> <u>"Removal and Installation"</u> (without Intelligent Key).

INFOID:000000010350651



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

Р

Κ

EXL

Μ

Ν

[LED HEADLAMP]

А

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

Aiming Adjustment Procedure

INFOID:000000010247822

[LED HEADLAMP]



A (Highest cutoff line height)	-13.3 mm (0.5 in)	0.1° up
B (Lowest cutoff line height)	53.2 mm (2.1 in)	0.4° down

LOW BEAM AND HIGH BEAM **NOTE:**

- · Basic illuminating area for evaluation and/or adjustment should be within range shown on aiming chart.
- Use adjustment screw to perform aiming adjustment.
 Ensure fog lamps are turned off.
- Block the opposite headlamp from projecting a beam pattern onto the adjustment screen, using a suitable object. Aim each headlamp individually.
 CAUTION:

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

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

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

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

< PERIODIC MAINTENANCE >

	Distance between the headlamp center and the screen (D) :7.62 m (25 ft)	А
5. 6. 7.	Start the engine. Turn the headlamp on. Determine the preferred vertical aim range dimensions, using the aiming chart. Measure the projected beam within the aim evaluation segment on the screen.	В
0.	highest and lowest cutoff line height) is positioned within the vertical aim range dimensions shown on aiming chart.	
		D
		E
		F
		Н
		I
		J
		K
		EXL
		M
		Ν
		0

Ρ

Aiming Chart

< PERIODIC MAINTENANCE >

FRONT FOG LAMP AIMING ADJUSTMENT

Aiming Adjustment Procedure



(LH)

- - (LH)
- Vertical center line of fog lamp 100mm (4in) 4. 5. Vertical center axis Α. (RH)

NOTE:

- (LH) Fog lamp aiming specifications shown, (RH) similar.
- Check the following conditions before performing the aiming adjustment.
- Keep all tires inflated to correct pressure.
- Place vehicle on level ground.
- See that vehicle is unloaded (except for full levels of coolant, engine oil and fuel, and spare tire, jack, and tools). Have the driver or equivalent weight placed in driver seat.
- When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.
- Set the distance between the screen and the center of the fog 1.
 - lamp lens as shown.
 - (1) Aiming screen or a matte white surface
 - (2) 7.62 m (25 ft)
 - (3) Floor to center of fog lamp lens
 - (4) Floor



Turn front fog lamps ON. 2.

FRONT FOG LAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

3. Access adjusting screw (A) from underneath front bumper fascia. Adjust front fog lamps using adjusting screw so that the top edge of the high intensity zone is at the fog lamp centers above ground.



[LED HEADLAMP]

Μ

Ν

Ο

Ρ

Е

F

G

Н

J

Κ

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

Exploded View

INFOID:000000010247825

[LED HEADLAMP]



1. Front fender

.

Front combination lamp

Removal and Installation

REMOVAL

1. Remove front bumper fascia. Refer to EXT-17, "Removal and Installation".

2.

- 2. Remove front combination lamp bolts and clip.
- 3. Pull front combination lamp forward.
- 4. Disconnect the harness connectors from the front combination lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

After installation, perform headlamp aiming adjustment. Refer to EXL-114, "Inspection".

Bulb Replacement

HEADLAMP (LOW BEAM) BULB

The headlamp (low beam) bulb is not serviced separately. Refer to EXL-119, "Removal and Installation".

HEADLAMP (HIGH BEAM) BULB

The headlamp (high beam) bulb is not serviced separately. Refer to EXL-119, "Removal and Installation".

EXL-268

INFOID:000000010247827

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >	[LED HEADLAMP]	
PARKING (SIDE MARKER) LAMP BULB The parking lamp (side marker) bulb is not serviced separately. Refer to <u>EXL-119</u> .	."Removal and Installation".	А
TURN SIGNAL LAMP BULB		
Removal		В
1. Rotate bulb socket counterclockwise and remove from the front combination	lamp.	
2. Remove the bulb from bulb socket.		
Installation		С

Installation is in the reverse order of removal.

CAUTION:

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

EXL

Μ

Ν

Ο

Ρ

D

Е

F

G

Н

J

Κ

HEIGHT SENSOR

< REMOVAL AND INSTALLATION >

HEIGHT SENSOR

Exploded View

INFOID:000000010353869

[LED HEADLAMP]



Locator

Removal and Installation - Front Height Sensor

REMOVAL

- 1. Disconnect the harness connector from the front height sensor.
- 2. Remove the nuts and the front height sensor.

INSTALLATION

Installation is in the reverse order of removal. After installation, perform height sensor initialization. Refer to <u>EXL-222, "SENSOR INITIALIZE : Description"</u>.

HEIGHT SENSOR

< REMOVAL AND INSTALLATION >

Exploded View

[LED HEADLAMP]

INFOID:000000010353870



REMOVAL

- Disconnect the harness connector from the rear height sensor. 1.
- 2. Remove the bolts and rear height sensor.

INSTALLATION

Installation is in the reverse order of removal.

After installation, perform height sensor initialization. Refer to EXL-222, "SENSOR INITIALIZE : Description".

Ν

Μ

Ο

FOG LAMP

Exploded View

INFOID:000000010247829

[LED HEADLAMP]



<⊐ Front

Removal and Installation

INFOID:000000010247830

REMOVAL

- 1. Partially remove front fender protector. Refer to EXT-28, "FENDER PROTECTOR : Exploded View".
- 2. Disconnect the harness connector from the fog lamp.
- 3. Remove fog lamp bolts and fog lamp.

INSTALLATION

Installation in the reverse order of removal. **NOTE:**

After installation, perform fog lamp aiming adjustment. Refer to EXL-117, "Aiming Adjustment Procedure".

Bulb Replacement

INFOID:000000010247831

WARNING:

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

- Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.
- 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.

< REMOVAL AND INSTALLATION >

А

REMOVAL

- 1. Partially remove front fender protector. Refer to EXT-28. "FENDER PROTECTOR : Exploded View".
- 2. Disconnect the harness connector from the fog lamp (A).
- 3. Rotate bulb (1) counterclockwise and remove.



	AWLIAZUJUZZ	
INSTALLATION Installation is in the reverse order of removal. CAUTION:		E
After installing the bulb, install the bulb socket securely for watertightness.		F
		G
		Η
		J
		K
		EXI
		Μ
		Ν
		0

Р

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Removal and Installation

REMOVAL

- 1. Release the optical sensor (2) from defroster grille (1) using a suitable tool.
- Disconnect the harness connector (A) from the optical sensor (2) and remove.



INSTALLATION Installation is in the reverse order of removal.

COMBINATION SWITCH

< REMOVAL AND INSTALLATION >

COMBINATION SWITCH

Exploded View

SEC. 251

INFOID:000000010351324

А

[LED HEADLAMP]





Removal and Installation

REMOVAL

- 1. Remove the steering angle sensor. Refer to <u>BRC-139</u>, "Removal and Installation".
- 2. Disconnect harness connector from combination switch.
- 3. Remove screw (A) and combination switch (1).



Installation is in the reverse order of removal.



INFOID:0000000010351325

Κ

EXL

HAZARD SWITCH

< REMOVAL AND INSTALLATION > HAZARD SWITCH

Exploded View

INFOID:000000010247834

[LED HEADLAMP]



Removal and Installation

INFOID:000000010247835

REMOVAL

- 1. Remove center ventilator grille. Refer to <u>VTL-13</u>, "CENTER VENTILATOR GRILLE : Removal and Installation".
- 2. Release the pawls and remove the hazard switch.

INSTALLATION

Installation is in the reverse order of removal.

< REMOVAL AND INSTALLATION >

SIDE TURN SIGNAL LAMP

Removal and Installation

REMOVAL

- 1. Remove door mirror rear finisher. Refer to MIR-25, "Removal and Installation".
- 2. Remove door mirror glass. Refer to MIR-24, "Removal and Installation".
- 3. Remove the screws (A) and reposition side turn signal lamp.



INSTALLATION	G	
Bulb Replacement	1000010365196 H	
The side turn signal lamp bulb is not serviced separately. Refer to EXL-126. "Removal and Installation".		
	J	
	K	

Μ

Ν

Ο

Ρ

А

В

[LED HEADLAMP]

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Exploded View

INFOID:000000010247838



Removal and Installation

INFOID:000000010247839

REMOVAL

- 1. Remove side air spoiler. Refer to EXT-48, "Removal and Installation".
- 2. Remove rear combination lamp bolts.
- 3. Pull rear combination lamp rearward to release from clip and locators.
- 4. Disconnect the harness connector from the rear combination lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:000000010338571

WARNING:

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

- Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.
- 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.

STOP LAMP BULB

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >	[LED HEADLAMP]
Removal	
 Remove rear combination lamp. Refer to <u>EXL-127</u>. Rotate stop lamp bulb socket counterclockwise and Remove stop lamp bulb from bulb socket. 	<u>"Removal and Installation"</u> . d remove.
Installation Installation is in the reverse order of removal. CAUTION:	v for watertightness
	y for watertightness.
Removal	
 Remove rear combination lamp. Refer to <u>EXL-127</u>. Rotate tail lamp bulb socket counterclockwise and Remove tail lamp bulb from bulb socket. 	<u>"Removal and Installation"</u> . remove.
Installation Installation is in the reverse order of removal. CAUTION: After installing the bulb, install bulb socket securel	y for watertightness.
TURN SIGNAL LAMP BULB	
Removal	
 Remove rear combination lamp. Refer to <u>EXL-127</u>. Rotate turn signal lamp bulb socket counterclockwids. Remove turn signal lamp bulb from bulb socket. 	<u>"Removal and Installation"</u> ise and remove.
Installation Installation is in the reverse order of removal.	

Κ

EXL

M

Ν

Ο

Ρ

< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

INFOID:000000010247841

[LED HEADLAMP]



Removal and Installation

INFOID:000000010247842

REMOVAL

- 1. Remove access cover using a suitable tool. Refer to <u>INT-38, "Exploded View"</u>.
- 2. Remove high-mounted stop lamp nuts.
- 3. Disconnect the harness connector from high-mounted stop lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

INFOID:000000010338577

HIGH-MOUNTED STOP LAMP BULB

The high-mounted stop lamp bulb is not serviced separately. Refer to EXL-129. "Removal and Installation".

BACK-UP LAMP ASSEMBLY

< REMOVAL AND INSTALLATION >

BACK-UP LAMP ASSEMBLY

Exploded View

INFOID:000000010247843

А

[LED HEADLAMP]



BACK-UP LAMP ASSEMBLY

< REMOVAL AND INSTALLATION >

- 1. Remove back-up lamp assembly. Refer to EXL-130, "Removal and Installation".
- 2. Rotate back-up lamp bulb socket counterclockwise and remove.
- 3. Remove back-up lamp bulb from bulb socket.

Installation

Installation is in the reverse order of removal.

CAUTION:

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

LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

INFOID:000000010365390

А

F

Κ

Ρ

[LED HEADLAMP]



License plate lamp assembly 4.

Removal and Installation

REMOVAL

- 1. Release the license lamp finisher. Refer to EXT-50, "Exploded View".
- 2. Remove the screw (A) (LH or RH) and pull license plate lamp (1) (LH or RH) rearward.



INFOID:000000010247847

3. Disconnect the harness connector from the license plate lamp and remove.

INSTALLATION

Installation is in the reverse order of removal.

Bulb Replacement

WARNING:

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

EXL-283

CAUTION:

- Do not touch the glass surface of the bulb with bare hands or allow oil or grease to get on it to prevent damage to the bulb.
- 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.

REMOVAL

- 1. Remove license plate lamp. Refer to EXL-283. "Removal and Installation".
- 2. Rotate license plate lamp bulb socket counterclockwise and remove.
- 3. Remove license plate lamp bulb from bulb socket.

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

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

UNIT DISASSEMBLY AND ASSEMBLY FRONT COMBINATION LAMP

Exploded View

А

Κ

EXL

Μ

Ν

Ο

Ρ



DISASSEMBLY

- Remove front combination lamp. Refer to EXL-268, "Removal and Installation". 1.
- Rotate the turn signal lamp bulb socket counterclockwise and remove. 2.
- 3. Remove the turn signal lamp bulb from the bulb socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

REAR COMBINATION LAMP

< UNIT DISASSEMBLY AND ASSEMBLY >

REAR COMBINATION LAMP

Exploded View



[LED HEADLAMP]



- 1. Rear combination lamp
- 4. Stop lamp bulb
- 2. Turn signal lamp bulb
- A. Rear combination lamp harness

INFOID:000000010377950

Disassembly and Assembly

DISASSEMBLY

- 1. Remove rear combination lamp. Refer to EXL-278, "Removal and Installation".
- 2. Rotate the stop lamp bulb socket counterclockwise and remove.
- 3. Remove the stop lamp bulb from the bulb socket.
- 4. Rotate the tail lamp bulb socket counterclockwise and remove.
- 5. Remove the tail lamp bulb from the bulb socket.
- 6. Rotate the turn signal lamp bulb socket counterclockwise and remove.
- 7. Remove the turn signal lamp bulb from bulb socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

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

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

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

Bulb Specifications

INFOID:000000010336294

А

[LED HEADLAMP]

	Item	Wattage (W)*	-
Front combination lamp	High beam	_	-
	Low beam	_	-
	Turn signal lamp	28/8	-
	Parking (side marker) lamp	_	-
	Daytime running lamp	_	-
Fog lamp		55	_
Side turn signal lamp		_	-
Rear combination lamp	Stop lamp	21	_
	Tail lamp	5	_
	Turn signal lamp	21	-
Back-up lamp	Tail lamp	5	_
	Back-up lamp	16	-
License plate lamp		5	_
High-mounted stop lamp		_	_

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

K

J

EXL

Μ

Ν

0

Р