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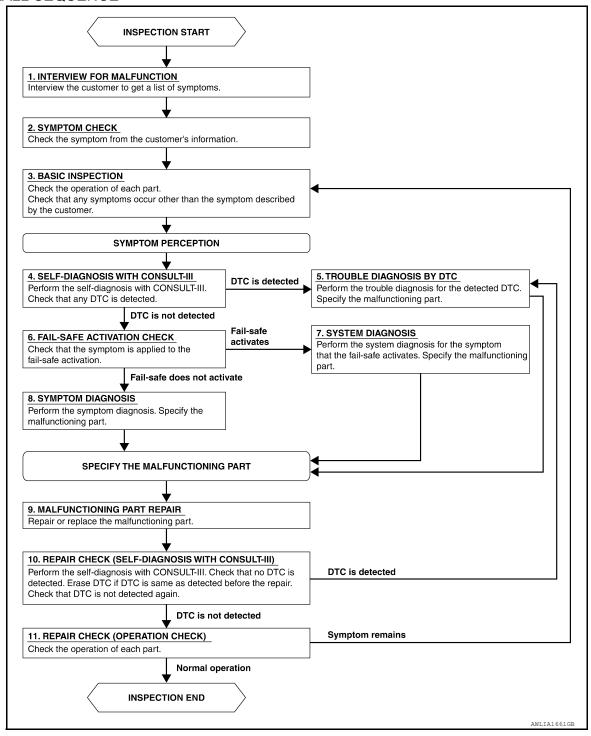
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# **BASIC INSPECTION**

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

#### **OVERALL SEQUENCE**



# **DIAGNOSIS AND REPAIR WORKFLOW**

< BASIC INSPECTION >	_
DETAILED FLOW	
1.INTERVIEW FOR MALFUNCTION	
Find out what the customer's concerns are.	-
>> GO TO 2	
2.symptom check	
Verify the symptom from the customer's information.	-
>> GO TO 3	
3.BASIC INSPECTION	
Check the operation of each part. Check that any concerns occur other than those mentioned in the custome interview.	•
>> GO TO 4	
4.self-diagnosis with consult-iii	
Perform the self diagnosis with CONSULT-III. Check that any DTC is detected.	
<u>ls any DTC detected?</u> YES >> GO TO 5	
NO >> GO TO 6	
5.TROUBLE DIAGNOSIS BY DTC	
Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.	•
>> GO TO 9  6. FAIL-SAFE ACTIVATION CHECK	
Determine if the customer's concern is related to fail-safe activation.	-
Determine if the customer's concern is related to fail-sale activation.  Does the fail-safe activate?	
YES >> GO TO 7	
NO >> GO TO 8	1
7.SYSTEM DIAGNOSIS	
Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part.	
>> GO TO 9	
8.symptom diagnosis	
Perform the symptom diagnosis. Specify the malfunctioning part.	-
chorn the symptom diagnosis. Openity the manufictioning part.	
>> GO TO 9	
9.malfunction part repair	
J. MALFUNCTION PART REPAIR	•
Repair or replace the malfunctioning part.	

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Is any DTC detected?

### **DIAGNOSIS AND REPAIR WORKFLOW**

### < BASIC INSPECTION >

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

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

### Does it operate normally?

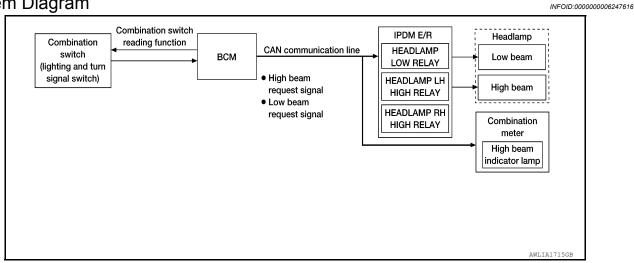
YES >> Inspection End.

NO >> GO TO 3

# SYSTEM DESCRIPTION

### **HEADLAMP**

System Diagram



# System Description

INFOID:0000000006247617

Control of the headlamp system operation is dependent upon the position of the combination switch (lighting and turn signal switch). When the lighting switch is placed in the 2nd position, the BCM (body control module) receives input requesting the headlamps and park lamps to illuminate. This input is communicated to the IPDM E/R (intelligent power distribution module engine room) via the CAN communication lines. The CPU (central processing unit) of the IPDM E/R controls the headlamp LH high, headlamp RH high and headlamp low relay coils. When energized, these relays direct power to the respective headlamps, which then illuminate.

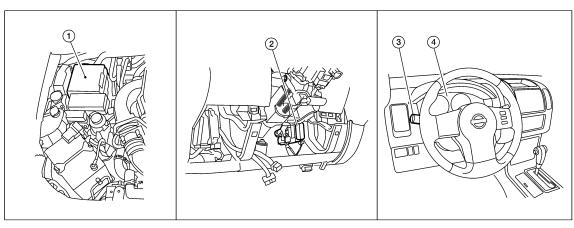
#### HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

With the lighting switch in the 2ND position and placed in HIGH position, the BCM receives input requesting the headlamp high beams to illuminate. The flash to pass feature can be used any time and also sends a signal to the BCM. This input is communicated to the IPDM E/R via the CAN communication lines. The CPU of the combination meter controls the ON/OFF status off the HIGH BEAM indicator. The CPU of the IPDM E/R controls the headlamp high relay coil which supplies power to the high beam headlamps.

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

# Component Parts Location

INFOID:0000000006247618



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### **HEADLAMP**

### < SYSTEM DESCRIPTION >

- 1. IPDM E/R E122, E123, E124
- BCM M18, M20 (view with lower instru- 3. ment panel LH removed)
- Combination switch (lighting and turn signal switch) M28

4. Combination meter M24

# **Component Description**

INFOID:0000000006247619

Part name	Description
BCM	<ul> <li>Receives lighting switch requests via BCM combination switch reading function.</li> <li>Sends headlamp high/low request signal to the IPDM E/R.</li> </ul>
IPDM E/R	Activates the headlamp high and headlamp low relays upon request from the BCM.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

### **DAYTIME RUNNING LIGHT SYSTEM**

#### < SYSTEM DESCRIPTION >

### DAYTIME RUNNING LIGHT SYSTEM

### System Diagram

Combination switch reading function Headlamp high Combination CAN communication line RH switch (lighting IPDM E/R Daytime light request signal and turn signal Headlamp high switch) LH Daytime CAN communication line **ECM** light Engine status signal всм relay Parking brake switch Combination meter Parking brake switch signal

# System Description

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INFOID:0000000006247620

The headlamp system for Canada vehicles is equipped with a daytime light control that activates the high beam headlamps at approximately half illumination whenever the engine is operating. If the parking brake is depressed before the engine is started the daytime lights will not be illuminated. The daytime lights will illuminate once the parking brake is released. Thereafter, the daytime lights will continue to operate when the parking brake is depressed.

#### **OPERATION**

The BCM monitors inputs from the parking brake switch and the combination switch (lighting and turn signal switch) to determine when to activate the daytime light system. The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The IPDM E/R grounds the daytime light relay 1 which in turn, provides power to the ground side of the LH high beam lamp. Power flows backward through the LH high beam lamp to the IPDM E/R, through the high beam fuses, through the RH high beam lamp circuit to the RH high beam lamp and on to ground. The high beam lamps are wired in series which causes them to illuminate at a reduced intensity.

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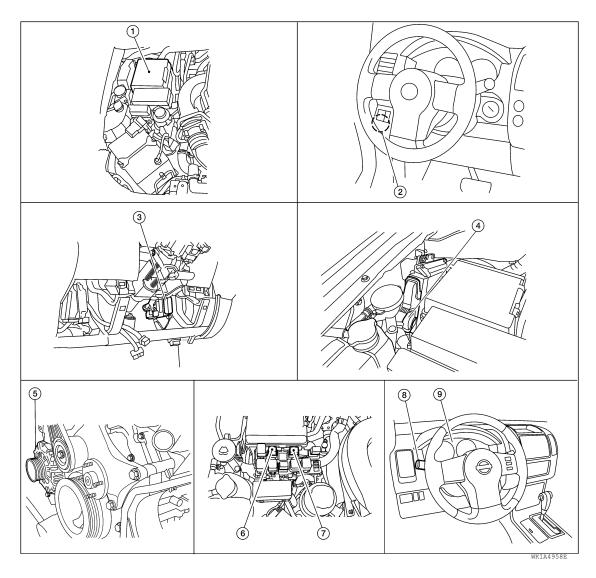
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# **Component Parts Location**

INFOID:0000000006247622



- 1. IPDM E/R E119, E122, E123, E124
- 4. ECM E16 (view with ECM cover removed)
- 7. Daytime light relay 2, E104
- 2. Parking brake switch E53
- 5. Generator E205, E209
- 8. Combination switch (lighting and turn 9. signal switch) M28
- 3. BCM M18, M20 (view with lower instrument panel LH removed)
- 6. Daytime light relay 1, E103
- 9. Combination meter M24

# **Component Description**

INFOID:0000000006247623

Part name	Description
BCM	<ul> <li>Receives combination switch (lighting and turn signal switch) inputs via BCM combination switch reading function.</li> <li>Receives parking brake depressed input from the parking brake switch.</li> <li>Receives engine running status from the ECM via CAN communication.</li> </ul>
IPDM E/R	Receives daytime light request from the BCM and activates the daytime light relay.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

### **DAYTIME RUNNING LIGHT SYSTEM**

### < SYSTEM DESCRIPTION >

Park brake switch	Outputs parking brake status to the combination meter which forwards that information to the BCM via CAN communication.
ECM	Outputs engine running status to the BCM.

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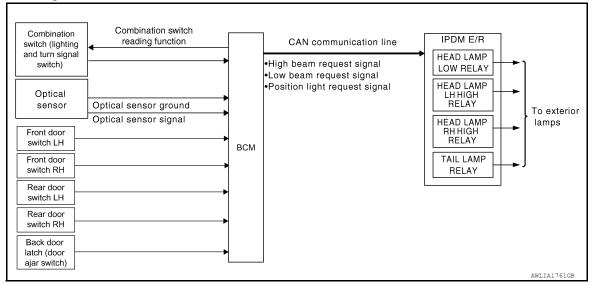
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### **AUTO LIGHT SYSTEM**

### System Diagram

INFOID:0000000006247624



# System Description

INFOID:0000000006247625

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

When the lighting switch is in AUTO position, it automatically turns ON/OFF the parking, license plate, tail and headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details, Refer to EXL-29, "HEADLAMP: CONSULT-III Function (BCM - HEAD LAMP)".

#### **AUTO LIGHT OPERATION**

The auto light system operates the low beam and high beam headlamps, parking lamps, tail lamps and license plate lamps. The BCM monitors the combination switch (lighting and turn signal switch) position as a part of the BCM combination switch reading function. When the lighting switch is in the AUTO position, the BCM automatically turns the lamps ON/OFF according to ambient light brightness.

#### NOTE:

Timing for when lamps turn ON/OFF can be changed by the function setting of CONSULT-III. Refer to <u>EXL-29</u>, "HEADLAMP: CONSULT-III Function (BCM - HEAD LAMP)".

# **Component Parts Location**

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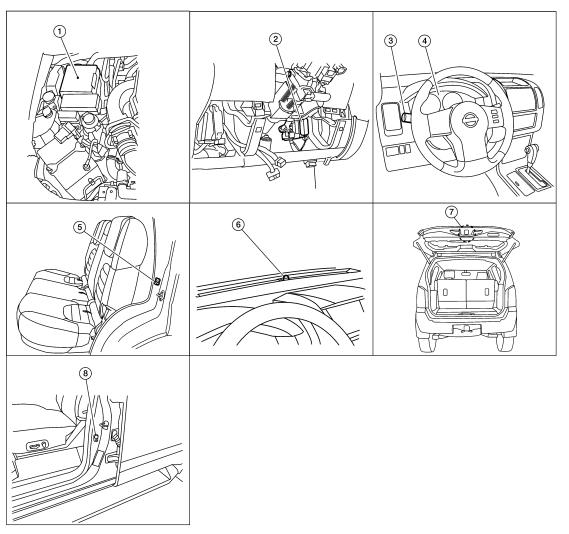
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- 1. IPDM E/R E122, E123, E124
- 4. Combination meter M24
- 7. Back door latch (door ajar switch) D502
- 2. BCM M18, M19, M20 (view with lower 3. instrument panel LH removed)
- 5. Rear door switch LH B18 RH B116
- 8. Front door switch LH B8 RH B108

- Combination switch (lighting and turn signal switch) M28
- Optical sensor M145

# **Component Description**

INFOID:0000000006247627

Part name	Description
BCM	BCM (Body Control Module) controls auto light operation according to signals from optical sensor, lighting switch, door switches, and ignition switch.
IPDM E/R	IPDM E/R (Intelligent Power Distribution Module Engine Room) operates parking, license plate, tail and headlamps according to CAN communication signals from BCM.
Combination switch (lighting switch)	The lighting switch outputs lighting requests to the BCM.

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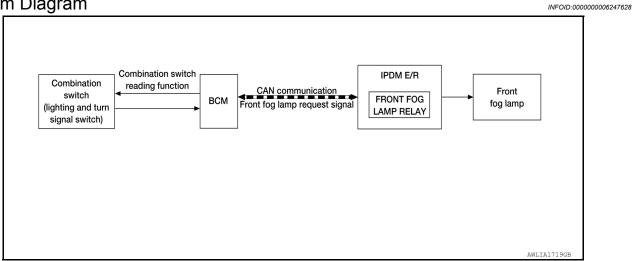
### **AUTO LIGHT SYSTEM**

### < SYSTEM DESCRIPTION >

( )ntical sensor	Optical sensor detects ambient brightness and converts light (lux) to voltage, then sends the optical sensor signal to BCM.
Door switches	Provides door OPEN input to BCM for auto light timer.

### FRONT FOG LAMP

System Diagram



# System Description

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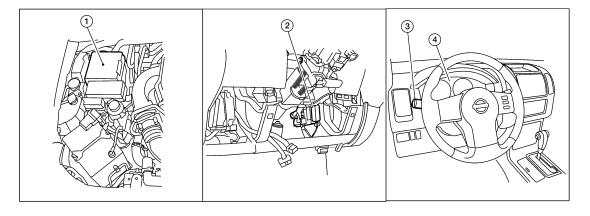
The front fog lamps are activated with the combination switch (lighting and turn signal switch). The lighting switch signal to the BCM is monitored with the BCM combination switch reading function. When the fog lamps are turned ON with the lighting switch, the BCM sends a front fog lamp request signal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

#### FRONT FOG LAMP OPERATION

When the lighting switch is in front fog lamp ON position and also in 1ST or 2ND position or AUTO position (headlamp is ON), the BCM detects FR FOG ON and the HEAD LAMP1, 2 ON or the AUTO LIGHT ON. The BCM sends a front fog lamp request ON signal via the CAN communication lines to the IPDM E/R. The IPDM E/R then turns ON the front fog lamp relay sending power to the front fog lamps.

# Component Parts Location

INFOID:0000000006247630



1. IPDM E/R E122, E123, E124

 BCM M18, M20 (view with lower instru- 3. ment panel LH removed) Combination switch (lighting and turn signal switch) M28

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Combination meter M24

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### **FRONT FOG LAMP**

# < SYSTEM DESCRIPTION >

# **Component Description**

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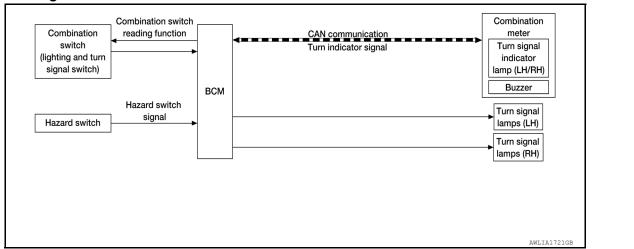
Part name	Description
ВСМ	<ul> <li>Receives lighting switch requests via BCM combination switch reading function.</li> <li>Sends headlamp high/low request signal to the IPDM E/R.</li> </ul>
IPDM E/R	Activates the front fog lamp relay upon request from the BCM.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

### TURN SIGNAL AND HAZARD WARNING LAMPS

#### < SYSTEM DESCRIPTION >

# TURN SIGNAL AND HAZARD WARNING LAMPS

### System Diagram



# System Description

INFOID:0000000006247633

INFOID:0000000006247632

### **TURN SIGNAL OPERATION**

When the turn signal switch is in LH or RH position with the ignition switch in ON position, the BCM detects the TURN RH or TURN LH ON request. The BCM outputs the flasher signal to the respective turn signal lamp. The BCM also sends a turn indicator signal ON request via the CAN communication lines to the combination meter. The combination meter then activates the appropriate turn signal indicator and audible buzzer.

#### HAZARD LAMP OPERATION

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

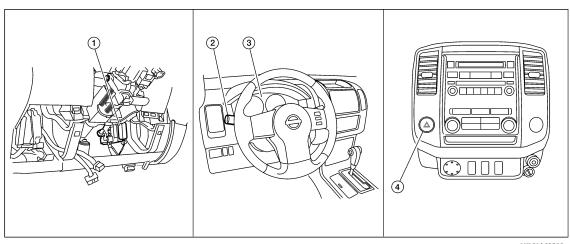
#### REMOTE KEYLESS ENTRY OPERATION

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

Refer to SEC-19, "System Description".

# Component Parts Location

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### TURN SIGNAL AND HAZARD WARNING LAMPS

### < SYSTEM DESCRIPTION >

- BCM M18, M20 (view with lower instru- 2. Combination switch (lighting and turn 3. Combination meter M24 ment panel LH removed)
   Combination switch (lighting and turn 3. Combination meter M24 signal switch) M28
- 4. Hazard switch M55

# **Component Description**

INFOID:0000000006247635

Part name	Description
BCM	Controls turn signal and hazard flasher operation.
Combination switch (lighting and turn signal switch)	Lighting and turn signal switch requests are output to the BCM.
Hazard switch	Hazard flasher request signal is output to the BCM.
Combination meter	Outputs turn and hazard indicator as requested by the BCM.

### PARKING, LICENSE PLATE AND TAIL LAMPS

#### < SYSTEM DESCRIPTION >

# PARKING, LICENSE PLATE AND TAIL LAMPS

System Diagram

INFOID:0000000006247636 Combination switch Combination reading function IPDM E/R CAN communication line switch (lighting BCM and turn TAIL LAMP Position light ront parking lamp signal switch) RELAY request signal License plate lamp Tail lamp Front side marker lamp To illumination ABIJTA2837GE

# System Description

INFOID:0000000006247637

### PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

#### EXTERIOR LAMP BATTERY SAVER CONTROL

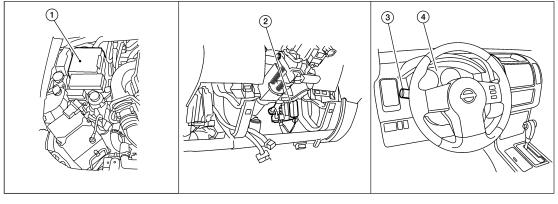
With the combination switch (lighting and turn signal switch) in the 2ND position and the ignition switch is turned from ON or ACC to OFF, the battery saver feature is activated.

Under this condition, the headlamps remain illuminated for 5 minutes unless the lighting switch position is changed. If the lighting switch position is changed, then the headlamps are turned off.

This setting can be changed by CONSULT-III. Refer to <u>EXL-29</u>, "<u>HEADLAMP</u>: <u>CONSULT-III Function (BCM - HEAD LAMP)"</u>.

# **Component Parts Location**

INFOID:0000000006247638



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IPDM E/R E121, E122, E123, E124

- BCM M18, M20 (view with lower instru- 3. ment panel LH removed)
- Combination switch (lighting and turn signal switch) M28

Combination meter M24

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# PARKING, LICENSE PLATE AND TAIL LAMPS

# < SYSTEM DESCRIPTION >

# **Component Description**

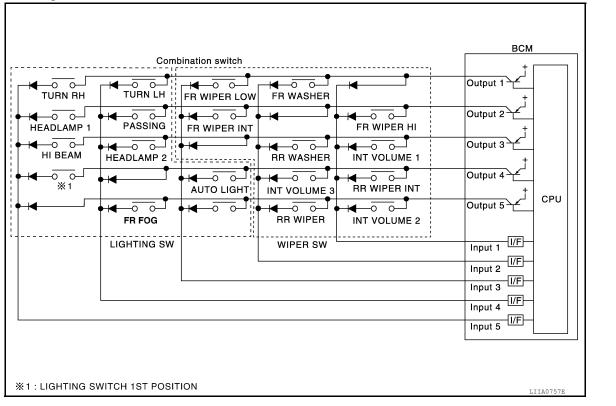
INFOID:0000000006247639

Part name	Description
BCM	<ul> <li>Receives lighting switch requests via BCM combination switch reading function.</li> <li>Sends parking light request signal to the IPDM E/R.</li> </ul>
IPDM E/R	Activates the tail lamp relay upon request of the BCM.
Combination switch (lighting and turn signal switch)	Outputs lighting requests to the BCM.

### < SYSTEM DESCRIPTION >

### COMBINATION SWITCH READING SYSTEM

# System Diagram



# **System Description**

OUTLINE

• BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.

BCM is a combination of 5 output terminals (OUTPUT 1 - 5) and 5 input terminals (INPUT 1 - 5). It reads a
maximum of 20 switch status.

### **COMBINATION SWITCH MATRIX**

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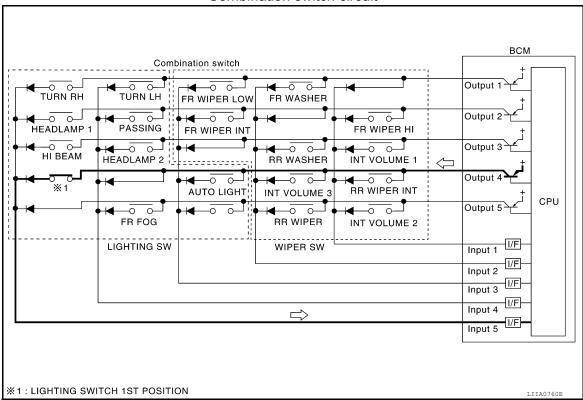
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#### Combination switch circuit



Combination switch INPUT-OUTPUT system list

S S I I S I I I I I I I I I I I I I I I					
System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 1	_	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
INPUT 2	FR WIPER HI	_	FR WIPER INT	PASSING	HEADLAMP 1
INPUT 3	INT VOLUME 1	RR WASHER	_	HEADLAMP 2	HI BEAM
INPUT 4	RR WIPER INT	INT VOLUME 3	AUTO LIGHT	_	TAIL LAMP
INPUT 5	INT VOLUME 2	RR WIPER	_	FR FOG	_

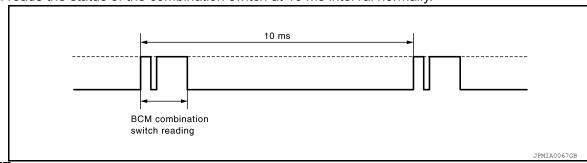
#### NOTE:

Headlamp has a dual system switch.

#### COMBINATION SWITCH READING FUNCTION

#### Description

BCM reads the status of the combination switch at 10 ms interval normally.



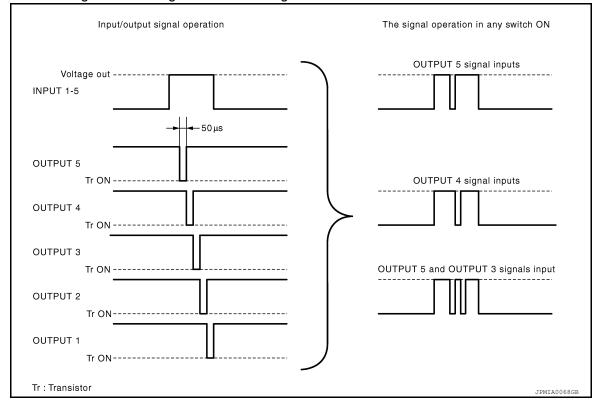
### NOTE:

BCM reads the status of the combination switch at 20 ms interval when BCM is controlled at low power consumption control mode.

- BCM operates as follows and judges the status of the combination switch.
- INPUT 1 5 outputs the voltage waveforms of 5 systems simultaneously.
- It operates the transistor on OUTPUT side in the following order: OUTPUT  $5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$ .

#### < SYSTEM DESCRIPTION >

- The voltage waveform of INPUT corresponding to the formed circuit changes according to the operation of the transistor on OUTPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.

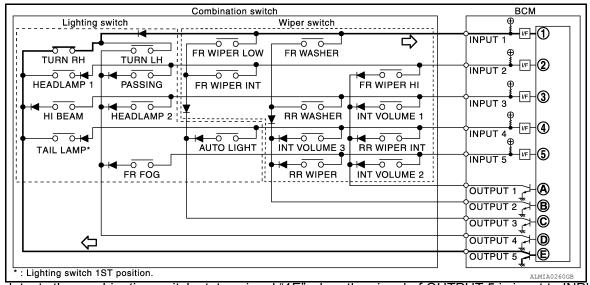


#### Operation Example

In the following operation example, the combination of the status signals of the combination switch is replaced as follows: INPUT 1 - 5 to "1 - 5" and OUTPUT 1 - 5 to "A - E".

Example 1: When a switch (TURN RH switch) is turned ON

The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.

Example 2: When some switches (turn RH switch, front wiper LO switch) are turned ON

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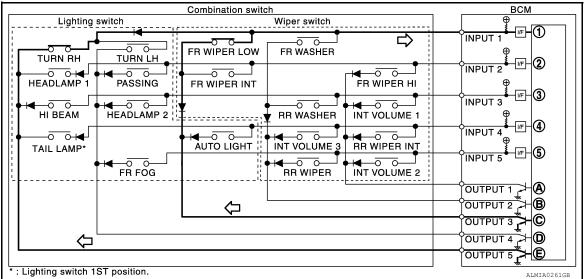
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#### < SYSTEM DESCRIPTION >

• The circuits between INPUT 1 and OUTPUT 5 and between INPUT 1 and OUTPUT 3 are formed when the TURN RH switch and FR WIPER LOW switch are turned ON.



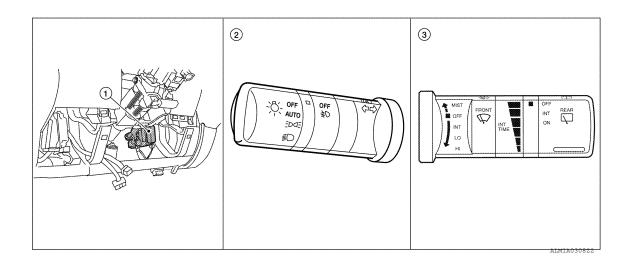
- BCM detects the combination switch status signal "1CE" when the signals of OUTPUT 3 and OUTPUT 5 are input to INPUT 1.
- BCM judges that the TURN RH switch and FR WIPER LOW switch are ON when the signal "1CE" is detected.

WIPER INTERMITTENT DIAL POSITION SETTING (FRONT WIPER INTERMITTENT OPERATION) BCM judges the wiper intermittent dial 1 - 7 by the status of INT VOLUME 1, 2 and 3 switches.

Wiper intermittent	Intermittent	INT VOLUME switch ON/OFF status				
dial position	operation delay interval	INT VOLUME 1 switch	INT VOLUME 2 switch	INT VOLUME 3 switch		
1	Short	ON	ON	ON		
2	<b>↑</b>	ON	ON	OFF		
3		ON	OFF	OFF		
4		OFF	OFF	OFF		
5		OFF	OFF	ON		
6	<b>\</b>	OFF	ON	ON		
7	Long	OFF	ON	OFF		

# Component Parts Location

INFOID:0000000006247642



# < SYSTEM DESCRIPTION >

1. BCM M18, M19, M20 (view with low- 2. er instrument panel LH removed)

Combination switch (lighting and turn signal switch) M28

3. Combination switch (wiper and washer switch) M28

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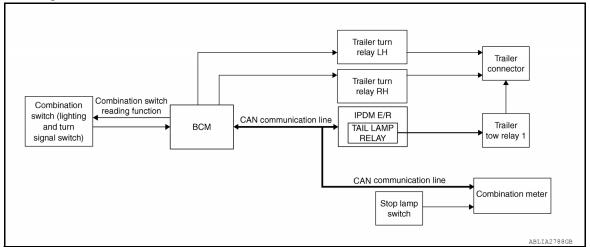
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### TRAILER TOW

### System Diagram

INFOID:0000000006247643



# System Description

INFOID:0000000006247644

#### TRAILER TAIL LAMP OPERATION

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

#### TRAILER TURN SIGNAL LAMP OPERATION

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

#### TRAILER HAZARD LAMP OPERATION

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

#### TRAILER BRAKE LAMP OPERATION

The trailer brake lamps are controlled by the BCM. When the brake pedal is depressed, the combination meter receives a stop lamp switch signal from the stop lamp switch. The combination meter then sends the brake signal to the BCM via the CAN communication lines. The BCM then sends a control signal to both trailer turn relays which sends power to the trailer connector.

# **Component Parts Location**

INFOID:0000000006247645

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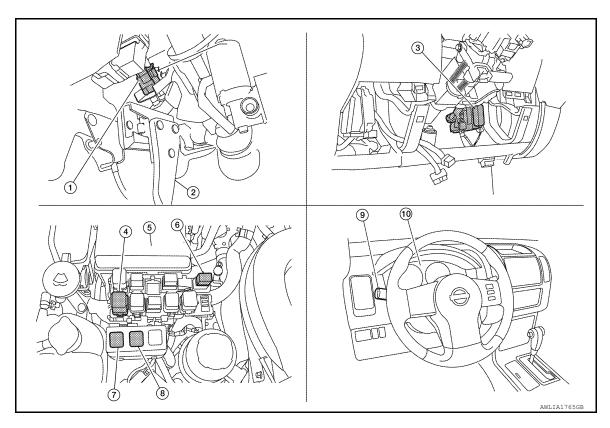
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- 1. Stop lamp switch E38 (view with lower 2. instrument panel LH removed)
- 4. Trailer turn relay LH E163
- 7. Trailer tow relay 2 E140
- 10. Combination meter M24
- 2. Brake pedal
- 5. IPDM E/R E121, E122, E124
- 8. Trailer tow relay 1 E148
- 3. BCM, M18, M19, M20 (view with lower instrument panel LH removed)
- 6. Trailer turn relay RH E164
- 9. Combination switch (lighting and turn signal switch) M28

INFOID:0000000006247646

# **Component Description**

Part name	Description
BCM	<ul> <li>Receives lighting and turn signal requests from combination switch (lighting and turn signal switch).</li> <li>Receives stop lamp signal requests from combination meter via CAN communication.</li> <li>Sends lighting signal request to the IPDM E/R to control the tail lamp relay via CAN communication.</li> <li>Sends turn/hazard/brake control signal to the trailer turn relays.</li> </ul>
IPDM E/R	Activates the tail lamp relay upon request from the BCM via CAN communication.
Combination meter	<ul> <li>Receives stop lamp switch signal from stop lamp switch.</li> <li>Sends stop lamp signal request to the BCM via CAN communication.</li> </ul>
Combination switch (lighting and turn signal switch)	Outputs lighting and turn signal requests to the BCM.

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### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (BCM)

**COMMON ITEM** 

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

INFOID:0000000006823258

### **APPLICATION ITEM**

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

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

### SYSTEM APPLICATION

BCM can perform the following functions.

			Direct Diagnostic Mode					
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×			
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Remote keyless entry system	MULTI REMOTE ENT			×	×	×		
Exterior lamp	HEAD LAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY			×				
Combination switch	COMB SW			×				
BCM	ВСМ	×	×			×	×	×
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			×	×			
TPMS	AIR PRESSURE MONITOR		×	×	×	×		
Panic alarm system	PANIC ALARM				×			

### < SYSTEM DESCRIPTION >

### **HEADLAMP**

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

#### INFOID:0000000006706779

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#### **DATA MONITOR**

Monitor Item [Unit]	Description	
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.	
ACC ON SW [On/Off]	Indicates condition of ignition switch ACC position.	
HI BEAM SW [On/Off]		
HEAD LAMP SW 1 [On/Off]		
HEAD LAMP SW 2 [On/Off]		
LIGHT SW 1ST [On/Off]	Indicates condition of combination switch.	
AUTO LIGHT SW [On/Off]		
PASSING SW [On/Off]		
FR FOG SW [On/Off]		
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	

Indicates condition of front door switch RH.

Indicates voltage signal from optical sensor.

# DOOR SW-RR [On/Off] Indicates condition of rear door switch RH. DOOR SW-RL [On/Off] Indicates condition of rear door switch LH. BACK DOOR SW [On/Off] Indicates condition of back door switch.

TURN SIGNAL R [On/Off]

TURN SIGNAL L [On/Off]

Indicates condition of combination switch.

#### **ACTIVE TEST**

OPTICAL SENSOR [V]

DOOR SW-AS [On/Off]

Test Item	Description
TAIL LAMP	This test is able to check tail lamp operation [Off/On].
HEAD LAMP	This test is able to check head lamp operation [Off/Lo/Hi].
FR FOG LAMP	This test is able to check front fog lamp operation [Off/On].

### **WORK SUPPORT**

Support Item	Setting	Description		
BATTERY SAVER SET	Off	Exterior lamp battery saver function OFF.		
BALLERT SAVER SET	On*	Exterior lamp battery saver function ON.		
CUSTOM A/LIGHT SETTING	MODE4	Less sensitive setting than normal setting (Turns ON later than normal operation).		
	MODE3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2).		
	MODE2	More sensitive setting than normal setting (Turns ON earlier than normal operation).		
	MODE1*	Normal.		

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### < SYSTEM DESCRIPTION >

Support Item	Setting		Description
	MODE8	180 sec	
	MODE7	150 sec	
	MODE6	120 sec	
ILL DELAY SET	MODE5	90 sec	Sets delay timer function operation time
ILL DELAT SET	MODE4	60 sec	(All doors closed).
	MODE3	30 sec	
	MODE2	OFF	
	MODE1*	45 sec	

<sup>\*:</sup> Initial setting

### **FLASHER**

# FLASHER: CONSULT-III Function (BCM - FLASHER)

INFOID:0000000006706780

### **DATA MONITOR**

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Indicates condition of ignition switch ON position.
HAZARD SW [On/Off]	Indicates condition of hazard switch.
TURN SIGNAL R [On/Off]	Indicates condition of turn signal function of combination quitab
TURN SIGNAL L [On/Off]	Indicates condition of turn signal function of combination switch.
BRAKE SW [On/Off]	Indicates condition of brake switch.

### **ACTIVE TEST**

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

# **COMB SW**

# COMB SW: CONSULT-III Function (BCM - COMB SW)

INFOID:0000000006706781

### **DATA MONITOR**

Monitor Item [Unit]	Description
TURN SIGNAL R [On/Off]	Indicates condition of turn signal energtion of combination quitab
TURN SIGNAL L [On/Off]	Indicates condition of turn signal operation of combination switch.
HI BEAM SW [On/Off]	Indicates condition of hi beam operation of combination switch.
HEAD LAMP SW 1 [On/Off]	Indicates condition of headlamp operation of combination switch.
HEAD LAMP SW 2 [On/Off]	mulcates condition of neadlamp operation of combination switch.
LIGHT SW 1ST [On/Off]	Indicates condition of lighting operation of combination switch.
PASSING SW [On/Off]	Indicates condition of passing switch operation of combination switch.
AUTO LIGHT SW [On/Off]	Indicates condition of auto light operation of combination switch.
FR FOG SW [On/Off]	Indicates condition of front fog light operation of combination switch.
FR WIPER HI [On/Off]	
FR WIPER LOW [On/Off]	Indicates condition of front wiper operation of combination switch.
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	Indicates condition of front washer operation of combination switch.
INT VOLUME [1 - 7]	Indicates condition of intermittent wiper operation of combination switch.

### < SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.	А
RR WIPER INT [On/Off]	indicates condition of real wiper operation of combination switch.	
RR WASHER SW [On/Off]	Indicates condition of rear washer operation of combination switch.	В

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#### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (IPDM E/R)

### **Diagnosis Description**

#### INFOID:0000000006706783

#### **AUTO ACTIVE TEST**

#### Description

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

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

#### Operation Procedure

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

#### NOTE:

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

- 2. Turn ignition switch OFF.
- 3. Turn the ignition switch ON and, within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.
- 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
- 5. After a series of the following operations is repeated 3 times, auto active test is completed.

#### NOTE:

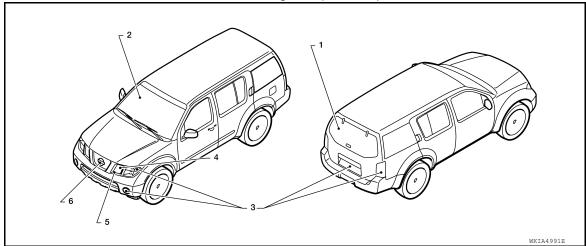
When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF.

#### **CAUTION:**

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-56, "Description"</u> (with Intelligent Key system), <u>DLK-228, "Description"</u> (without Intelligent Key system).
- Do not start the engine.

Inspection in Auto Active Test Mode

When auto active test mode is actuated, the following 7 steps are repeated 3 times.

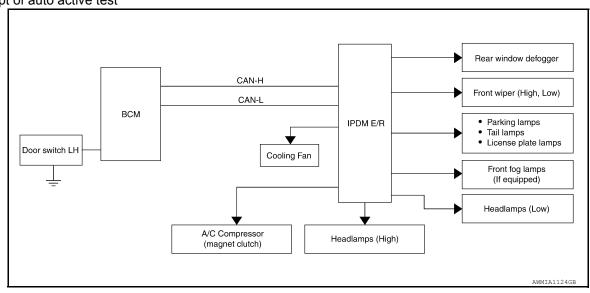


Operation sequence	Inspection Location	Operation	
1	Rear window defogger	10 seconds	
2	Front wipers	LO for 5 seconds → HI for 5 seconds	

### < SYSTEM DESCRIPTION >

Operation sequence	Inspection Location	Operation	
3	Tail, license, front fog and parking lamps	10 seconds	
4	Headlamps	LO for 10 seconds → HI on-off for 5 seconds	
5	A/C compressor (magnetic clutch)	ON ⇔ OFF 5 times	
6	Cooling fan	10 seconds	

Concept of auto active test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause	
Oil pressure low warning indicator does not operate	Perform auto active test.  Does the oil pressure low warning indicator operate?		IPDM E/R signal input circuit     ECM signal input circuit     CAN communication signal between ECM and combination meter	
			CAN communication signal between IPDM E/R, BCM and combination meter	
	Perform auto active test.	YES	IPDM E/R signal input circuit	
Oil pressure gauge does not operate	Does the oil pressure gauge operate?	NO	CAN communication signal between IPDM E/R, BCM and combination meter	
		YES	BCM signal input circuit	
Rear window defogger does not operate	Perform auto active test.  Does the rear window defogger operate?	NO	Harness or connector between A/C and AV switch assembly and AV control unit     CAN communication signal between BCM and IPDM E/R	

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### < SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause	
		YES	BCM signal input system	
Any of the following components do not operate  Front wipers  Tail lamps  License plate lamps  Parking lamps  Front fog lamps (if equipped)  Headlamps (Hi, Lo)	Perform auto active test. Does the applicable system operate?	NO	Lamp or front wiper motor malfunction Lamp or front wiper motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R (integrated relay malfunction)	
A/C compressor does not approte	Perform auto active test.	YES	BCM signal input circuit     CAN communication signal between BCM and ECM     CAN communication signal between ECM and IPDM E/R	
A/C compressor does not operate	Does the A/C compressor operate?	NO	Magnetic clutch malfunction     Harness or connector between IPDM E/R and magnetic clutch     IPDM E/R (integrated relay malfunction)	
		YES	ECM signal input circuit     CAN communication signal between ECM and IPDM E/R	
Cooling fan does not operate	Perform auto active test.  Does the cooling fan operate?		Cooling fan motor malfunction Harness or connector between IPDM E/R and cooling fan IPDM E/R (integrated relay malfunction)	

# CONSULT - III Function (IPDM E/R)

INFOID:0000000006706784

### APPLICATION ITEM

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

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

### SELF DIAGNOSTIC RESULT

Refer to EXL-77, "DTC Index".

### DATA MONITOR

Monitor Item [Unit]	Main Signals	Description
MOTOR FAN REQ [1/2/3/4]	×	Indicates cooling fan speed signal received from ECM on CAN communication line
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN communication line

### < SYSTEM DESCRIPTION >

Monitor Item [Unit]	Main Signals	Description
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communication line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communication line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
ST RLY REQ [On/Off]		Indicates starter request signal received from ECM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay
RR DEF REQ [On/Off]	×	Indicates rear defogger request signal received from BCM on CAN communication line
OIL P SW [Open/Close]		Indicates condition of oil pressure switch
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

### **ACTIVE TEST**

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

### < DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS

# POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000006706787

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

### 1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.	
57	Pottony newer cumply	21 (10A)	
70	Battery power supply	G (50A)	
11	Ignition ACC or ON	4 (10A)	
38	Ignition ON or START	1 (10A)	

#### Is the fuse blown?

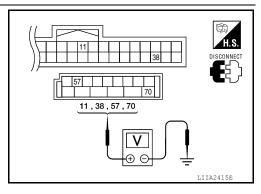
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

# 2. CHECK POWER SUPPLY CIRCUIT

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

Connector	Terminals		Power	Condition	Voltage (V) (Ap-	
Connector	(+)	(-)	source	Condition	prox.)	
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage	
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage	
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage	
IVI2U	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage	



#### Is the measurement value normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

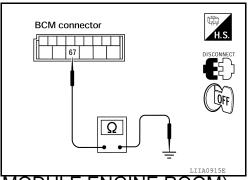
Check continuity between BCM harness connector and ground.

В	СМ		Continuity
Connector Terminal		Ground	Continuity
M20	67		Yes

#### Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM): Diagnosis Procedure INFOID:0000000006706786

Regarding Wiring Diagram information, refer to PCS-22, "Wiring Diagram".

#### 1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name Fuses and fusible link	
1	Battery	A, D
2	Battery	С

**EXL-37** 

#### Is the fuse blown?

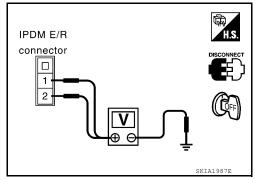
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

# 2. CHECK BATTERY POWER SUPPLY CIRCUIT

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

Terminals			Ignition switch position		
(+)		(-)	(–) OFF	ON	START
Connector	Terminal	( )	011	011	OTAICI
E118	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2	Ground	Battery voltage	Battery voltage	Battery voltage



#### Is the measurement value normal?

YES >> GO TO 3

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NO >> Repair or replace harness.

# 3. CHECK GROUND CIRCUIT

Turn ignition switch OFF.

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#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E122 (A)	38	Yes	Voc
E124 (B)	59		165

# A DISCONNECT OF AMMIAO0242Z

#### Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.

#### < DTC/CIRCUIT DIAGNOSIS >

## **HEADLAMP (HI) CIRCUIT**

Description INFOID:0000000006247654

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

#### Component Function Check

INFOID:0000000006247655

# 1. CHECK HEADLAMP (HI) OPERATION

#### **WWITHOUT CONSULT-III**

Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".

Check that the headlamp switches to the high beam.

#### NOTE:

HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

#### CONSULT-III

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

With the test item operating, check that the headlamp switches to high beam.

: Headlamp switches to the high beam. Ηi

Off : Headlamp OFF

#### Does the headlamp switch to high beam?

YFS >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-39, "Diagnosis Procedure".

#### Diagnosis Procedure

Regarding Wiring Diagram information, refer to EXL-78, "Wiring Diagram" or EXL-82, "Wiring Diagram".

# 1.CHECK HEADLAMP (HI) FUSES

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

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

#### Is the fuse open?

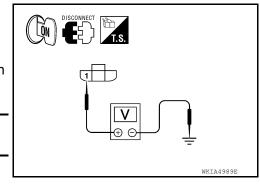
YES >> Replace the fuse after repairing the affected circuit.

NO >> GO TO 2

# 2.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- Disconnect the front headlamp connector. 2.
- Turn the ignition switch ON.
- Turn the high beam headlamps ON.
- With the high beam headlamps ON, check the voltage between the headlamp connector and ground.

Connector Terminal	(+)	(_)	Voltage	
	Connector	Terminal	(-)	voltage



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#### < DTC/CIRCUIT DIAGNOSIS >

LH	E11 (without DTRL)			
LII	E6 (with DTRL)	1	Ground	Battery voltage
RH	E107			

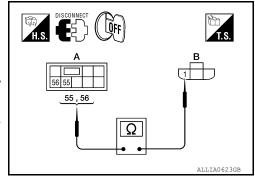
#### Is battery voltage present?

YES >> GO TO 4 >> GO TO 3 NO

# 3.check headlamp (HI) circuit for open

- Turn the ignition switch OFF.
- Disconnect IPDM E/R connector E123.
- Check continuity between the IPDM E/R harness connector (A) and the front headlamp harness connector (B).

	A		В		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
LH		55	E11 (without DTRL)		
LΠ	E123	55	E6 (with DTRL)	1	Yes
RH		56	E107		



#### Does continuity exist?

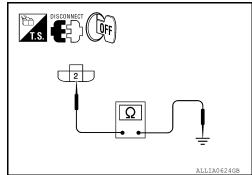
YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair the harnesses or connectors.

#### 4. CHECK FRONT HEADLAMP (HI) GROUND CIRCUIT

Check continuity between the front headlamp harness connector terminal 2 and ground.

Connector		Terminal	_	Continuity
LH	E11 (without DTRL)			
LΠ	E6 (with DTRL)	2	Ground	Yes
RH	E107			



#### Does continuity exist?

YES >> Inspect the headlamp bulb.

NO (Except LH with DTRL)>> Repair the harness.

NO (LH with DTRL)>> GO TO 5.

# 5.CHECK CONTINUITY BETWEEN FRONT HEADLAMP LH (HI) AND DAYTIME LIGHT RELAY 1.

- Disconnect daytime light relay 1 connector.
- Check continuity between front headlamp LH harness connector and daytime light relay 1 harness connector.

Front hea	Front headlamp LH		Daytime light relay 1	
Connector	Terminal	Connector Terminal		Continuity
E6	2	E103	3	Yes

#### Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harness or connector.

#### O.CHECK DAYTIME LIGHT RELAY 1 GROUND CIRCUIT

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

#### < DTC/CIRCUIT DIAGNOSIS >

	1 21/10/100/0			
Daytime li	ght relay 1			
Connector	Terminal	Ground	Continuity	
E103	4		Yes	
oes continuity	exist?			
YES >> GO				
	pair the harness			
	TIME LIGHT R			
			"Component Inspection"	
•	n result normal?			
YES >> Ins	pect the headla place daytime li	mp bulb. aht relav 1.		
-	,	5 ,		

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#### < DTC/CIRCUIT DIAGNOSIS >

## **HEADLAMP (LO) CIRCUIT**

Description INFOID:000000006247657

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

#### Component Function Check

INFOID:00000000006247658

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

#### **WITHOUT CONSULT-III**

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

#### NOTE:

HI/LO is repeated 1 second each when using the IPDM E/R auto active test.

#### (P)CONSULT-III

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

Lo : Headlamp ON Off : Headlamp OFF

#### Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-42, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000006247659

Regarding Wiring Diagram information, refer to EXL-78, "Wiring Diagram" or EXL-82, "Wiring Diagram".

# 1. CHECK HEADLAMP (LO) FUSES

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

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

#### Is the fuse open?

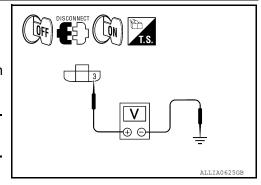
YES >> Replace the fuse after repairing the affected circuit.

NO >> GO TO 2

# 2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front headlamp connector.
- 3. Turn the ignition switch ON.
- 4. Turn the low beam headlamps ON.
- 5. With the low beam headlamps ON, check the voltage between the headlamp connector terminal 3 and ground.

(+)		(_)	Voltage
Connector	Terminal	(-)	voltage



#### < DTC/CIRCUIT DIAGNOSIS >

TH.	E11 (without DTRL)			
LII	E6 (with DTRL)	3	Ground	Battery voltage
RH	E107			

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#### Is battery voltage present?

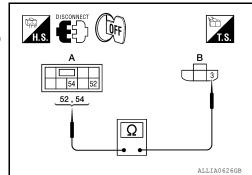
YES >> GO TO 8

NO (Except LH with DTRL)>>CHECK HEADLAMP (LO) CIRCUIT FOR OPEN GO TO 3 NO (LH with DTRL)>>CHECK HEADLAMP (LO) CIRCUIT FOR OPEN GO TO 4

3.check headlamp (lo) circuit for open (except LH with DTRL)

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector E123.
- 3. Check continuity between the IPDM E/R harness connector (A) and the front headlamp harness connector (B).

	А		В		Continuity
Con	nector	Terminal	Connector	Terminal	Continuity
LH	E123	52	E11	3	Yes
RH	L123	54	E107	3	162



#### Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair the harnesses or connectors.

4.CHECK HEADLAMP (LO) CIRCUIT FOR OPEN (LH WITH DTRL)

- Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector E123 and daytime light relay 2 connector.
- Check continuity between the IPDM E/R harness connector and the daytime light relay 2 harness connector.

IPDM E/R		Daytime light relay 2		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E123	52	E104	5	Yes
L123	32	L 104	2	162

4. Check continuity between the daytime light relay 2 harness connector and the front headlamp LH harness connector.

Daytime light relay 2		Front headlamp LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E104	3	E6	3	Yes

#### Does continuity exist?

YES >> GO TO 5

NO >> Repair the harnesses or connectors.

# 5. CHECK DAYTIME LIGHT RELAY 2 CIRCUIT FOR OPEN

1. Check continuity between the daytime light relay 2 harness connector and the front headlamp LH harness connector.

Daytime light relay 2		Front headlamp LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E104	3	E6	3	Yes

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

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#### < DTC/CIRCUIT DIAGNOSIS >

Daytime li	ght relay 2		Continuity
Connector	Terminal	Ground	Continuity
E104	3		No

#### Is the measurement value normal?

YES >> GO TO 6

NO >> Repair the harnesses or connectors.

#### $oldsymbol{6}$ .CHECK DAYTIME LIGHT RELAY 2 GROUND CIRCUIT

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

Daytime li	ght relay 2		Continuity
Connector	Terminal	Ground	Continuity
E104	1		Yes

#### Does continuity exist?

YES >> GO TO 7

NO >> Repair the harness or connector.

#### 7.CHECK DAYTIME LIGHT RELAY 2

Check daytime light relay 2. Refer to EXL-45, "Component Inspection".

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Replace daytime light relay 2.

#### 8.CHECK FRONT HEADLAMP (LO) GROUND CIRCUIT

Check continuity between the front headlamp harness connector terminal 2 and ground.

Connector		Terminal	_	Continuity
LH	E11 (without DTRL)			
LH	E6 (with DTRL)	2	Ground	Yes
RH	E107			

#### Does continuity exist?

>> Inspect the headlamp bulb.

NO (Except LH with DTRL)>> Repair the harness.

NO (LH with DTRL)>> GO TO 9

# 9.CHECK CONTINUITY BETWEEN FRONT HEADLAMP LH (HI) AND DAYTIME LIGHT RELAY 1

- Disconnect daytime light relay 1 connector.
- Check continuity between front headlamp LH harness connector and daytime light relay 1 harness connector.

Front headlamp LH		Daytime light relay 1		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E6	2	E103	3	Yes

#### Does continuity exist?

YES >> GO TO 10

NO >> Repair the harness or connector.

10.CHECK DAYTIME LIGHT RELAY 1 GROUND CIRCUIT

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

#### < DTC/CIRCUIT DIAGNOSIS >

Daytime li	ght relay 1		Continuity
Connector	Terminal	Ground	Continuity
E103	4		Yes

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#### Does continuity exist?

YES >> GO TO 11

NO >> Repair the harness or connector.

11. CHECK DAYTIME LIGHT RELAY 1

Check daytime light relay 1. Refer to EXL-47, "Component Inspection"

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Replace daytime light relay 1.

#### Component Inspection

INFOID:0000000006706801

# 1. CHECK DAYTIME LIGHT RELAY 2

- 1. Turn ignition switch OFF.
- 2. Remove daytime light relay 2.
- 3. Check the continuity between daytime light relay 2 terminals under the following conditions.

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Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
3 and 3	No current supply	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace daytime light relay 2.

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#### DAYTIME LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### DAYTIME LIGHT RELAY CIRCUIT

Description INFOID:000000006823259

The BCM sends a daytime light request to the IPDM E/R via the CAN communication lines. The power flows backward through fuse 45 located in IPDM E/R to daytime light relay 1 and LH high beam lamp to IPDM E/R, through the high beam fuses, through the RH high beam lamp and on to ground. The high beam lamps are wired in series which causes them to illuminate at a reduced intensity.

#### Diagnosis Procedure

INFOID:0000000006823260

Regarding Wiring Diagram information, refer to EXL-82, "Wiring Diagram".

# 1. CHECK DAYTIME LIGHT RELAY 1 FUSE

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

Unit	Location	Fuse No.	Capacity
Daytime light relay 1	IPDM E/R	45	10A

#### Is the fuse open?

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

NO >> GO TO 2

# 2.CHECK IPDM E/R OUTPUT SIGNAL

- 1. Turn the ignition switch OFF.
- Disconnect the daytime light relay 1 connector.
- Turn the ignition switch ON.
- 4. Check the voltage between the daytime light relay 1 harness connector and ground.

(+)		(-)	Voltage	
Connector	Terminal	(-)	voitage	
E103	2	Ground	Pattory voltage	
E103	5	Giouna	Battery voltage	

#### Is battery voltage present?

YES >> GO TO 3

NO >> GO TO 5

# 3.CHECK DAYTIME LIGHT RELAY 1 CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector E122.
- Check continuity between the IPDM E/R harness connector and the daytime light relay 1 harness connector.

IPDM E/R		Daytime light relay 1		Continuity
Connector	Terminal	Connector Terminal		Continuity
E122	44	E103	1	Yes

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

Connector	Terminal	_	Continuity
E103	1	Ground	No

#### Is the measurement value normal?

#### DAYTIME LIGHT RELAY CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 4

NO >> Repair the harnesses or connectors.

#### 4.CHECK DAYTIME LIGHT RELAY 1

Check daytime light relay 1. Refer to EXL-47, "Component Inspection".

#### Is the inspection result normal?

YES >> Check headlamp (HI) circuit. If OK, replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R". If NG, refer to EXL-39, "Diagnosis Procedure".

NO >> Replace daytime light relay1.

#### CHECK DAYTIME LIGHT RELAY CIRCUIT FOR OPEN

- Turn the ignition switch OFF.
- Disconnect IPDM E/R connector E119. 2.
- Check continuity between the IPDM E/R harness connector and the daytime light relay 1 harness connector.

IPDM	IPDM E/R		Daytime light relay 1	
Connector	Terminal	Connector Terminal		Continuity
E119	10	E103	2	Yes
L119	10	L 103	5	165

#### Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair the harnesses or connectors.

#### Component Inspection

CHECK DAYTIME LIGHT RELAY 1

- Turn ignition switch OFF.
- Remove daytime light relay 1. 2.
- Check the continuity between daytime light relay 1 terminals under the following conditions.

Terminals	Condition	Continuity
3 and 5	12V direct current supply between terminals 1 and 2	Yes
J and J	No current supply	No
3 and 4	12V direct current supply between terminals 1 and 2	No
3 anu 4	No current supply	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace daytime light relay 1

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#### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### FRONT FOG LAMP CIRCUIT

Description INFOID:000000006247660

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

#### Component Function Check

INFOID:0000000006247661

#### 1. CHECK FRONT FOG LAMP OPERATION

#### **WITHOUT CONSULT-III**

- Activate IPDM E/R auto active test. Refer to <u>PCS-9</u>, "<u>Diagnosis Description</u>".
- Check that the front fog lamp is turned ON.

#### (P)CONSULT-III

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

Fog : Front fog lamp ON
Off : Front fog lamp OFF

#### Is the front fog lamp turned ON?

YES >> Front fog lamp circuit is normal.

NO >> Refer to EXL-48, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000006247662

Regarding Wiring Diagram information, refer to EXL-97, "Wiring Diagram".

# 1. CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	56	20A

#### Is the fuse open?

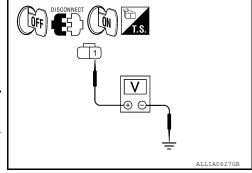
YES >> Replace the fuse after repairing the affected circuit.

NO >> GO TO 2

# 2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

- Turn the ignition switch OFF.
- 2. Disconnect the front fog lamp connector.
- 3. Turn the ignition switch ON.
- 4. Turn the front fog lamps ON.
- 5. Check the voltage between the fog lamp connector and ground.

	(+)		(-)	Voltage
Co	nnector	Terminal	(-)	voltage
LH	E101	1	Ground	Patton, voltago
RH	E102	1	Ground	Battery voltage



#### Is battery voltage present?

YES >> GO TO 4 NO >> GO TO 3

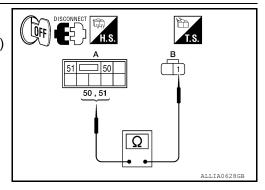
#### FRONT FOG LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# 3.CHECK FRONT FOG LAMP OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector E123.
- 3. Check continuity between the IPDM E/R harness connector (A) and the front fog lamp harness connector (B).

A		В	Continuity		
Conr	nector	Terminal	Connector	Terminal	Continuity
LH	E123	50	E101	1	Yes
RH	L123	51	E102	1	162



#### Does continuity exist?

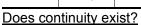
YES >> Replace IDPM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair the harnesses or connectors.

# 4. CHECK FRONT FOG LAMP GROUND CIRCUIT

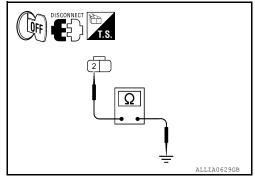
- 1. Disconnect the front fog lamp connector.
- 2. Check continuity between the front fog lamp harness connector terminal and ground.

Conr	nector	Terminal	_	Continuity
LH	E101	2	Ground	Yes
RH	E102	2	Glound	163



YES >> Inspect the fog lamp bulb.

NO >> Repair the harness.



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#### < DTC/CIRCUIT DIAGNOSIS >

#### PARKING LAMP CIRCUIT

Description INFOID:000000006247663

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM via the CAN communication lines. When the tail lamp relay is energized, power flows through fuse 36 and 37, located in the IPDM E/R. Power then flows to the front and rear combination lamps, license plate lamps.

#### Component Function Check

INFOID:0000000006247664

#### 1. CHECK PARKING LAMP OPERATION

#### **WITHOUT CONSULT-III**

- 1. Activate IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the parking lamp is turned ON.

#### **@CONSULT-III**

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

TAIL : Parking lamp ON
Off : Parking lamp OFF

#### Is the parking lamp turned ON?

YES >> Parking lamp circuit is normal.

NO >> Refer to EXL-50, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000006247665

Regarding Wiring Diagram information, refer to EXL-107, "Wiring Diagram".

# 1. CHECK PARKING LAMP FUSES

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

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

#### Is the fuse open?

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

NO >> GO TO 2

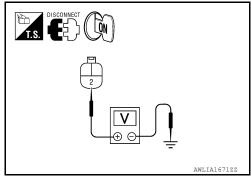
# 2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector, front side marker lamp connector, rear combination lamp connector and license plate lamp connector.
- 3. Turn the ignition switch ON.
- Turn the parking lamps ON.

#### < DTC/CIRCUIT DIAGNOSIS >

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

	(+)	(–) Voltage		Voltage
-	Connector	Terminal	(-)	voltage
LH	E27	2	Ground	Patton, voltago
RH	E111	2	Giouria	Battery voltage



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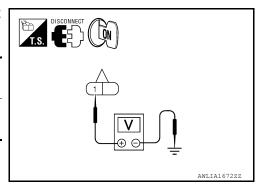
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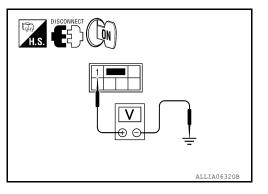
6. With the parking lamps ON, check voltage between the front side marker lamp connector and ground.

	(+)	(-)	Voltage		
Connector		Terminal	(-)	voltage	
LH	E17	1	Ground	Battery voltage	
RH	E108	<b>'</b>	Ground	Battery voltage	



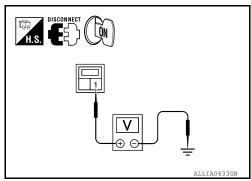
7. With the parking lamps ON, check voltage between the rear combination lamp connector and ground.

	(+)	(–)	Voltage		
Connector		Terminal	(-)	voitage	
LH	B35	1	Ground	Battery voltage	
RH	B105	1	Giouna	Battery voltage	



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

(+)			(-)	Voltage	
Connector		Terminal	(-)	voitage	
LH	D506	1	Cround	Pattory voltage	
RH	D507	1	Ground	Battery voltage	



Are voltage readings as specified?

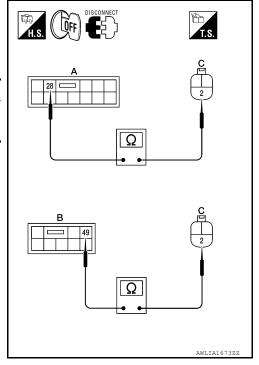
YES >> GO TO 4 NO >> GO TO 3

 ${f 3.}$  CHECK PARKING, LICENSE PLATE AND TAIL LAMP CIRCUIT (OPEN)

#### < DTC/CIRCUIT DIAGNOSIS >

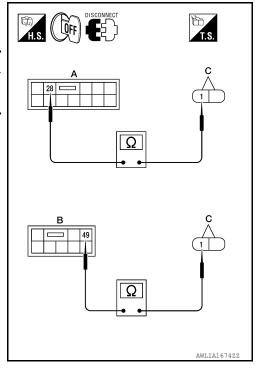
- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between the IPDM E/R harness connector (A)(B) and the front parking lamp harness connector (C).

C	onnector	Terminal	Connector	Terminal	Continuity
LH	A: E121	28	C: E27	2	Yes
RH	B: E123	49	C: E111	2	165



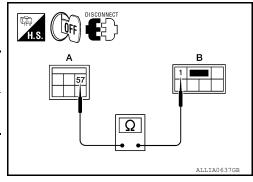
4. Check continuity between the IPDM E/R harness connector (A)(B) and the front side marker lamp harness connector (C).

C	onnector	Terminal	Connector	Terminal	Continuity
LH	A: E121	28	C: E17	1	Yes
RH	B: E123	49	C: E108	<b>'</b>	163



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

	A			В		
Co	onnector	Terminal	Connector	Terminal	Continuity	
LH	E124	57	B35	1	Yes	
RH	L 124	57	B105			



#### < DTC/CIRCUIT DIAGNOSIS >

Check continuity between the IPDM E/R harness connector (A) and license plate lamp connector (B).

	A		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E124	57	D506	1	Yes
⊏12 <del>4</del>	57	D507	<b>'</b>	ies

# H.S. OFF ESONNECT Ω

Are continuity results as specified?

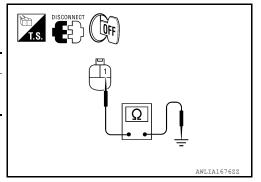
YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair the harnesses or connectors.

# 4. CHECK PARKING, LICENSE AND TAIL LAMP GROUND CIRCUITS

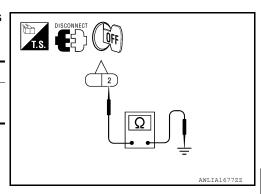
1. Check continuity between the front parking lamp harness connector and ground.

Connector		Terminal	_	Continuity
LH	E27	1	Ground	Yes
RH	E111		Ground	163



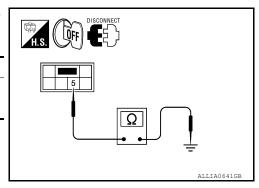
2. Check continuity between the front side marker lamp harness connector and ground.

Connector		Terminal	_	Continuity
LH	E17	2	Ground	Yes
RH	E108	2	Ground	163



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

Connector		Terminal	_	Continuity
LH	B35	5	Ground	Yes
RH	B105	3	Ground	165



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#### < DTC/CIRCUIT DIAGNOSIS >

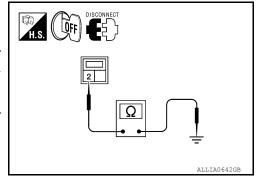
4. Check continuity between the license plate lamp harness connector and ground.

Connector	Terminal	_	Continuity
D506	2	Ground	Yes
D507	2	Giodila	163

#### Are continuity results as specified?

YES >> Inspect the parking lamp bulb.

NO >> Repair the harness.



#### TURN SIGNAL LAMP CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

#### TURN SIGNAL LAMP CIRCUIT

Description INFOID:0000000006247666

The BCM monitors inputs from the combination switch (lighting and turn signal switch) to determine when to activate the turn signals. The BCM outputs voltage direction to the left and right turn signals during turn signal operation or both during hazard warning operation. The BCM sends a turn signal indicator request to the combination meter via the CAN communication lines.

The BCM performs the fast flasher operation (fail-safe) if any bulb or harness of the turn signal lamp circuit is

#### NOTE:

Turn signal lamp blinks at normal speed when using the hazard warning lamp.

#### Component Function Check

# 1.CHECK TURN SIGNAL LAMP

#### (P)CONSULT-III

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

LH : Turn signal lamp LH blinking RH : Turn signal lamp RH blinking Off : The turn signal lamp OFF

#### Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

>> Refer to EXL-55, "Diagnosis Procedure". NO

#### Diagnosis Procedure

Regarding Wiring Diagram information, refer to EXL-101, "Wiring Diagram".

# 1. CHECK TURN SIGNAL LAMP BULB

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

#### Is the bulb OK?

YES >> GO TO 2

NO >> Replace the bulb.

# 2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

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

	(+)		(-)	Voltage
Con	nector	Terminal	( )	vollage
E27	LH			
E111	RH	3	Ground	(V) 15 10 5 0 1 s

**EXL-55** Revision: March 2012 2011 Pathfinder **EXL** 

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#### **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

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

	(+)		(-)	Voltage	
Con	nector	Terminal	( )	Voltage	
B35	LH				
B105	RH	4	Ground	(V) 15 10 5 0 1 s PKID0926E	

#### Is voltage reading as specified?

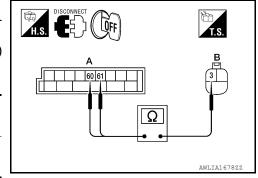
YES >> GO TO 3 NO >> GO TO 5

# 3.check turn signal lamp circuit for open

1. Turn the ignition switch OFF.

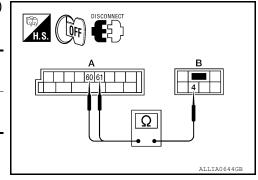
- 2. Disconnect BCM connector M20, front combination lamp connector and rear combination lamp connector.
- 3. Check continuity between the BCM harness connector M20 (A) and the front combination lamps harness connector (B).

	Α		I	3	Continuity
Con	nector	Terminal	Connector	Terminal	Continuity
Front LH	M20	60	E27	3	Yes
Front RH	IVIZU	61	E111	3	163



4. Check continuity between the BCM harness connector M20 (A) and the rear combination lamp harness connector (B).

A		В		Continuity	
Cor	nector	Terminal	Connector	Terminal	Continuity
Rear LH	M20	60	B35	4	Yes
Rear RH	IVIZU	61	B105	4	165



#### Are continuity results as specified?

YES >> GO TO 4

NO >> Repair the harnesses or connectors.

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

Check continuity between the BCM harness connector M20 and ground.

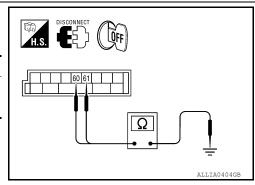
С	onnector	Terminal	_	Continuity
LH	M20	60	Ground	No
RH	IVIZO	61	Ground	NO

#### Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM. Refer to BCS-55, "Removal and Installation".

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

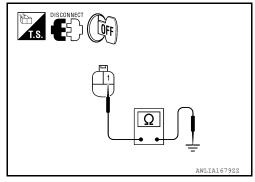


#### **TURN SIGNAL LAMP CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

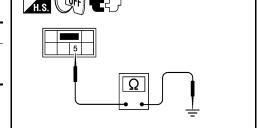
1. Check continuity between the front combination lamp harness connector and ground.

Connector		Terminal	_	Continuity
Front LH	E27	1	Ground	Yes
Front RH	E111		Ground	163



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

Conne	ector	Terminal	_	Continuity
Rear LH	B35	5	Ground	Yes
Rear RH	B105	3	Ground	163



Are continuity results as specified?

YES >> Replace the malfunctioning lamp.

NO >> Repair the harnesses or connectors.

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#### **OPTICAL SENSOR**

Description INFOID:00000000624766S

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

#### Component Function Check

INFOID:0000000006247670

# 1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

#### (P)CONSULT-III

- Turn the ignition switch ON.
- Select "OPTICAL SENSOR" of BCM (HEAD LAMP) DATA MONITOR item.
- 3. Turn the lighting switch to AUTO.
- With the optical sensor illuminating, check the monitor status.

Monitor item	Condition	Voltage
OPTICAL SENSOR	When illuminating	3.1V or more *
OF FIGAL SENSOR	When shutting off light	0.6V or less

<sup>\*:</sup> Illuminates the optical sensor. The value may be less than the standard value if brightness is weak.

#### Is the item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-58, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:0000000006247671

Regarding Wiring Diagram information, refer to EXL-90, "Wiring Diagram".

# 1. CHECK OPTICAL SENSOR GROUND CIRCUIT

- 1. Turn the ignition switch OFF.
- Disconnect BCM connector M18 and optical sensor connector M145.
- 3. Check continuity between BCM harness connector and optical sensor harness connector.

BCM		Optica	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M18	18	M145	3	Yes

4. Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal		Continuity
M18	18	Ground	No

#### Are continuity results as specified?

YES >> GO TO 2

NO >> Repair harness or connector.

#### 2.CHECK OPTICAL SENSOR SIGNAL CIRCUIT

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

BCM		Optical sensor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M20	58	M145	4	Yes

#### **OPTICAL SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

2. Check continuity between BCM harness connector M20 and ground.

В	CM		Continuity
Connector	Terminal	_	Continuity
M20	58	Ground	No

Are the continuity results as specified?

YES >> Replace the optical sensor. Refer to EXL-147, "Removal and Installation".

NO >> Repair harness or connector.

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< ECU DIAGNOSIS INFORMATION >

# **ECU DIAGNOSIS INFORMATION**

# BCM (BODY CONTROL MODULE)

Reference Value

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- · Activate and display TPMS transmitter IDs
- · Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- · Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- · Confirm vehicle Intelligent Key antenna signal strength
- Test remote keyless entry keyfob relative signal strength

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF or ON	Off
ACC ON SW	Ignition switch ACC	On
AIR COND SW	A/C switch OFF	Off
AIR COND SW	A/C switch ON	On
AIR PRESS FL	Front left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS FR	Front right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RL	Rear left tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AIR PRESS RR	Rear right tire air pressure value	kPa, kg/cm <sup>2</sup> , psi
AUTO LIGHT SW	Lighting switch OFF	Off
AUTO LIGHT SW	Lighting switch AUTO	On
BACK DOOD SW	Back door closed	Off
BACK DOOR SW	Back door opened	On
DDAKE OW	Brake pedal released	Off
BRAKE SW	Brake pedal applied	On
BLICKLE SW	Seat belt buckle unfastened	Off
BUCKLE SW	Seat belt buckle fastened	On
DUZZED	Buzzer in combination meter OFF	Off
BUZZER	Buzzer in combination meter ON	On
CDL LOCK CW	Door lock/unlock switch does not operate	Off
CDL LOCK SW	Press door lock/unlock switch to the LOCK side	On
CDL LINI OCK CW	Door lock/unlock switch does not operate	Off
CDL UNLOCK SW	Press door lock/unlock switch to the UNLOCK side	On
DOOR SW-AS	Front door RH closed	Off
DOOR SW-AS	Front door RH opened	On
DOOD OW DD	Front door LH closed	Off
DOOR SW-DR	Front door LH opened	On
DOOR SW-RL	Rear door LH closed	Off
DOOK SW-KL	Rear door LH opened	On
DOOR SW-RR	Rear door RH closed	Off
DOOK 3VV-KK	Rear door RH opened	On

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Monitor Item	Condition	Value/Status
FAN ON SIG	Blower motor fan switch OFF	Off
AN ON SIG	Blower motor fan switch ON	On
FR FOG SW	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On
ED WIDED HI	Front wiper switch OFF	Off
FR WIPER HI	Front wiper switch HI	On
	Front wiper switch OFF	Off
FR WIPER INT	Front wiper switch INT	On
	Any position other than front wiper stop position	Off
FR WIPER STOP	Front wiper stop position	On
14.74.DD 0141	When hazard switch is not pressed	Off
HAZARD SW	When hazard switch is pressed	On
JEAD LAND 014/4	Headlamp switch OFF	Off
HEAD LAMP SW 1	Headlamp switch 1st	On
	Headlamp switch OFF	Off
HEAD LAMP SW 2	Headlamp switch 1st	On
	High beam switch OFF	Off
HI BEAM SW	High beam switch HI	On
	ID registration of front left tire incomplete	YET
D REGST FL1	ID registration of front left tire complete	DONE
	ID registration of front right tire incomplete	YET
D REGST FR1	ID registration of front right tire complete	DONE
	ID registration of rear left tire incomplete	YET
D REGST RL1	ID registration of rear left tire complete	DONE
	ID registration of rear right tire incomplete	YET
D REGST RR1	ID registration of rear right tire complete	DONE
	Ignition switch OFF or ACC	Off
GN ON SW	Ignition switch ON	On
	Ignition switch OFF or ACC	Off
GN SW CAN	Ignition switch ON	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
	LOCK button of Intelligent Key is not pressed	Off
-KEY LOCK <sup>1</sup>	LOCK button of Intelligent Key is pressed	On
	PANIC button of Intelligent Key is not pressed	Off
-KEY PANIC <sup>1</sup>	PANIC button of Intelligent Key is pressed	On
	UNLOCK button of Intelligent Key is not pressed	Off
-KEY PW DWN <sup>1</sup>	UNLOCK button of Intelligent Key is pressed for greater than 3 seconds and driver's window operating in DOWN direction	On
	UNLOCK button of Intelligent Key is not pressed	Off
I-KEY UNLOCK <sup>1</sup>	UNLOCK button of Intelligent Key is pressed	On

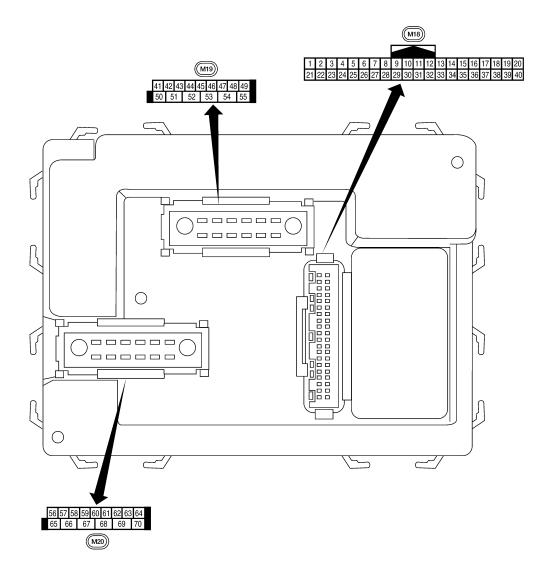
Monitor Item	Condition	Value/Status
KEY CYL LK-SW	Door key cylinder LOCK position	Off
KET CTL LK-SW	Door key cylinder other than LOCK position	On
KEY CYL UN-SW	Door key cylinder UNLOCK position	Off
KET CTL UN-SW	Door key cylinder other than UNLOCK position	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
KET ON SW	Mechanical key is inserted to key cylinder	On
KEM 200 1 00K2	LOCK button of key fob is not pressed	Off
KEYLESS LOCK <sup>2</sup>	LOCK button of key fob is pressed	On
14574 500 DANIO?	PANIC button of key fob is not pressed	Off
KEYLESS PANIC <sup>2</sup>	PANIC button of key fob is pressed	On
	UNLOCK button of key fob is not pressed	Off
KEYLESS UNLOCK <sup>2</sup>	UNLOCK button of key fob is pressed	On
LIQUE OWACE	Lighting switch OFF	Off
LIGHT SW 1ST	Lighting switch 1st	On
OIL PRESS SW	Ignition switch OFF or ACC     Engine running	Off
	Ignition switch ON	On
OPTION CENCOR	Bright outside of the vehicle	Close to 5V
OPTICAL SENSOR	Dark outside of the vehicle	Close to 0V
DA CCINIC CW	Other than lighting switch PASS	Off
PASSING SW	Lighting switch PASS	On
puou ow1	Return to ignition switch to LOCK position	Off
PUSH SW <sup>1</sup>	Press ignition switch	On
REAR DEF SW	Rear window defogger switch OFF	Off
REAR DEF 3W	Rear window defogger switch ON	On
RR WASHER SW	Rear washer switch OFF	Off
KK WASHEK SW	Rear washer switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
KIX WIF LIX IIV I	Rear wiper switch INT	On
RR WIPER ON	Rear wiper switch OFF	Off
KK WIF LIX OIN	Rear wiper switch ON	On
RR WIPER STOP	Rear wiper stop position	Off
KK WIFER STOP	Other than rear wiper stop position	On
TURN SIGNAL L	Turn signal switch OFF	Off
TORN SIGNAL L	Turn signal switch LH	On
TURN SIGNAL R	Turn signal switch OFF	Off
I OINN SIGNAL IN	Turn signal switch RH	On
VEHICLE SPEED	While driving	Equivalent to speedometer reading
WARNING LAMP	Low tire pressure warning lamp in combination meter OFF	Off
VVARINING LAIVIP	Low tire pressure warning lamp in combination meter ON	On

<sup>1:</sup> With Intelligent Key

<sup>2:</sup> With remote keyless entry system

#### < ECU DIAGNOSIS INFORMATION >

Terminal Layout



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Physical Values

			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
	DD	Ignition keyhole illumi-	0	OFF	Door is locked (SW OFF)	Battery voltage
1	BR	nation	Output	OFF	Door is unlocked (SW ON)	0V
2	Р	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 2 0 ++5ms SKIA5292E
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 +-5ms SKIA5291E
5	L	Combination switch input 2				(V)
6	R	Combination switch input 1	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	6 4 2 0 **5ms SKIA5292E
		Rear window defogger			Rear window defogger switch ON	0V
9	Y	switch	Input	ON	Rear window defogger switch OFF	5V
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	LG	Front door switch RH	Input	OFF	ON (open) OFF (closed)	0V Battery voltage
13	L	Rear door switch RH	Input	OFF	ON (open)  OFF (closed)	0V  Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	<u> </u>	5V
18	BR	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	_	OV

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	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
19	V	Remote keyless entry receiver (power sup- ply)	Output	OFF	Ignition switch OFF	(V) 6 4 2 0 +
20	Remote keyless entry		Input		Stand-by (keyfob buttons released)	(V) 6 4 2 0 +50 ms LIIA1894E
20	G	receiver (signal)	Input OFF		When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	(V) 6 4 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	V	BUS	_	_	Ignition switch ON or power window timer operates	(V) 15 10 5 0 200 ms
23	G	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W	Compressor ON sig-	Input	ON	A/C switch OFF	5V
۷1	v v	nal	πραι	ON	A/C switch ON	0V
28	R	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON ON	0V 0V
29	G	Hazard switch	Input	OFF	OFF	5V
		Back door opener			ON (open)	0V
30 <sup>1</sup>	G	switch	Input	OFF	OFF (closed)	Battery voltage
002	SB	Back door opener	lnn::4	٥٢٢	ON (open)	0V
30 <sup>2</sup>	SD	switch	Input	OFF	OFF (closed)	Battery voltage

			Signal		Measuring condition	
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation or condition	Reference value or waveform (Approx.)
32	0	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 ++5ms skia5291E
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 + 5ms SKIA5292E
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms
35	BR	Combination switch output 2				
36	LG	Combination switch output 1	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	(V) 6 4 2 0 **5ms
37 <sup>1</sup>	В	Key switch and key	Input	OFF	Key inserted	Battery voltage
		lock solenoid			Key removed	0V
37 <sup>2</sup>	В	Key switch and igni- tion knob switch	Input	OFF	Intelligent Key inserted	Battery voltage  0V
38	W/R	Ignition switch (ON)	Input	ON	Intelligent Key removed	Battery voltage
39	L	CAN-H	pat	_		
40	Р	CAN-L		_	<u> </u>	_
42	LG	Glass hatch ajar switch	Input	ON	Glass hatch open Glass hatch closed	0V Battery voltage
43	Р	Back door latch switch	Input	OFF	ON (open) OFF (closed)	0V Battery voltage

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	Wire		Signal		Measuring condition	Reference value or waveform
Terminal	color	Signal name	input/ output	Ignition switch	Operation or condition	(Approx.)
					Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
44	0	Rear wiper auto stop switch	Input	ON	Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	GR	Front door switch LH	Input	OFF	ON (open)	0V
71	GIX	TIOTE GOOF SWILLITE	iriput	OI F	OFF (closed)	Battery voltage
48	Р	Rear door switch LH	Input	OFF	ON (open)	0V
40		Near door switch Lff	iiiput	OFF	OFF (closed)	Battery voltage
49	L	Cargo lamp	Output	OFF	Any door open (ON)	0V
78	_	Cargo rarrip	Output	OI F	All doors closed (OFF)	Battery voltage
51	0	Trailer turn signal (right)	Output	ON	Turn right ON	15 10 5 5 500 ms
52	LG	Trailer turn signal (left)	Output	ON	Turn left ON	(V) 15 10 5 0 500 ms
					055	SKIA3009J
53	L	Back door latch actua- tor	Output	OFF	OFF	0
					ON	Battery voltage
55	W	Rear wiper output cir- cuit 1	Output	ON	OFF ON	0 Pattony voltage
					15 minutes after ignition	Battery voltage
56	R/Y	Battery saver output	Output	OFF	switch is turned OFF	0V
				ON	_	Battery voltage
57	R/Y	Battery power supply	Input	OFF	_	Battery voltage
58	W	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
30	• •	- Palodi 0011001	put	5.1	When optical sensor is not illuminated	0.6V or less
EO	CD	Front door lock as-	O: 14m: -1	OFF	OFF (neutral)	0V
59 GR sembly LH actuator		(unlock)	Output C	OFF	ON (unlock)	Battery voltage

#### < ECU DIAGNOSIS INFORMATION >

	\\/:ro		Signal		Measuring con	dition	Deference value or weveform
Terminal	Wire color	Signal name	input/ output	Ignition switch	Operation	or condition	Reference value or waveform (Approx.)
60	LG	Turn signal (left)	Output	ON	Turn left ON		(V) 15 10 500 ms SKIA3009J
61	G	Turn signal (right)	Output	ON	Turn right ON		(V) 15 10 500 ms SKIA3009J
63	BR	Interior room/map	Output	OFF	Any door	ON (open)	0V
	D. C	lamp	Catpat	011	switch	OFF (closed)	Battery voltage
65	V	All door lock actuators	Output	OFF	OFF (neutral)		0V
		(lock)	•		ON (lock)		Battery voltage
		Front door lock actua- tor RH, rear door lock			OFF (neutral)		0V
66	L	actuators LH/RH and glass hatch lock actu- ator (unlock)	Output	OFF	ON (unlock)		Battery voltage
67	В	Ground	Input	ON		_	0V
					Ignition switch	ON	Battery voltage
					Within 45 section switch OF		Battery voltage
68	68 O Power window power supply (RAP) Output -	_	More than 45 s	seconds after ig- FF	0V		
			оре			or LH or RH is window timer	0V
69	L	Power window power supply	Output	_		_	Battery voltage
70	W	Battery power supply	Input	OFF	_		Battery voltage

<sup>1:</sup> With remote keyless entry system

Fail Safe

#### Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

# DTC Inspection Priority Chart

INFOID:0000000006706793

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

<sup>2:</sup> With Intelligent Key system

#### < ECU DIAGNOSIS INFORMATION >

Priority	DTC	
1	U1000: CAN COMM CIRCUIT	
2	<ul> <li>B2190: NATS ANTENNA AMP</li> <li>B2191: DIFFERENCE OF KEY</li> <li>B2192: ID DISCORD BCM-ECM</li> <li>B2193: CHAIN OF BCM-ECM</li> <li>B2013: STRG COMM 1</li> <li>B2552: INTELLIGENT KEY</li> <li>B2590: NATS MALFUNCTION</li> </ul>	
3	C1729: VHCL SPEED SIG ERR     C1735: IGNITION SIGNAL	
	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1712: [CHECKSUM ERR] FL</li> <li>C1744: [CUECKSUM ERR] FR</li> </ul>	
4	<ul> <li>C1714: [CHECKSUM ERR] RR</li> <li>C1715: [CHECKSUM ERR] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RL</li> <li>C1720: [CODE ERR] FL</li> </ul>	
	<ul> <li>C1721: [CODE ERR] FR</li> <li>C1722: [CODE ERR] RR</li> <li>C1723: [CODE ERR] RL</li> <li>C1724: [BATT VOLT LOW] FL</li> </ul>	
	<ul> <li>C1725: [BATT VOLT LOW] FR</li> <li>C1726: [BATT VOLT LOW] RR</li> <li>C1727: [BATT VOLT LOW] RL</li> </ul>	

DTC Index

#### NOTE:

Details of time display

CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.

1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1
 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter
 remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch
 OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. Further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	BCS-29
B2013: STRG COMM 1	_	_	_	SEC-30
B2190: NATS ANTENNA AMP	_	_	_	SEC-33 (with I-Key) SEC-131 (without I- Key)
B2191: DIFFERENCE OF KEY	_	_	_	SEC-36 (with I-Key) SEC-134 (without I-Key)

Revision: March 2012 EXL-69 2011 Pathfinder

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CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2192: ID DISCORD BCM-ECM	_	_	_	SEC-37 (with I-Key) SEC-135 (without I- Key)
B2193: CHAIN OF BCM-ECM	_	_	_	SEC-39 (with I-Key) SEC-137 (without I- Key)
B2552: INTELLIGENT KEY	_	_	_	<u>SEC-41</u>
B2590: NATS MALFUNCTION	_	_	_	<u>SEC-42</u>
C1708: [NO DATA] FL	_	_	_	<u>WT-14</u>
C1709: [NO DATA] FR	_	_	_	<u>WT-14</u>
C1710: [NO DATA] RR	_	_	_	<u>WT-14</u>
C1711: [NO DATA] RL	_	_	_	<u>WT-14</u>
C1712: [CHECKSUM ERR] FL	_	_	_	<u>WT-16</u>
C1713: [CHECKSUM ERR] FR	_	_	_	<u>WT-16</u>
C1714: [CHECKSUM ERR] RR	_	_	_	<u>WT-16</u>
C1715: [CHECKSUM ERR] RL	_	_	_	<u>WT-16</u>
C1716: [PRESSDATA ERR] FL	_	_	_	<u>WT-18</u>
C1717: [PRESSDATA ERR] FR	_	_	_	<u>WT-18</u>
C1718: [PRESSDATA ERR] RR	_	_	_	<u>WT-18</u>
C1719: [PRESSDATA ERR] RL	_	_	_	<u>WT-18</u>
C1720: [CODE ERR] FL	_	_	_	<u>WT-16</u>
C1721: [CODE ERR] FR	_	_	_	<u>WT-16</u>
C1722: [CODE ERR] RR	_	_	_	<u>WT-16</u>
C1723: [CODE ERR] RL	_	_	_	<u>WT-16</u>
C1724: [BATT VOLT LOW] FL	_	_	_	<u>WT-16</u>
C1725: [BATT VOLT LOW] FR	_	_	_	<u>WT-16</u>
C1726: [BATT VOLT LOW] RR	_	_	_	<u>WT-16</u>
C1727: [BATT VOLT LOW] RL	_	_	_	<u>WT-16</u>
C1729: VHCL SPEED SIG ERR	_	_	_	<u>WT-20</u>
C1735: IGNITION SWITCH	_	_	_	_

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

< ECU DIAGNOSIS INFORMATION >

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

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Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Con	Condition			
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1, 2, 3, 4		
AC COMP DEO	A/C switch OFF		Off		
AC COMP REQ	A/C switch ON		On		
TAIL & CL D DEO	Lighting switch OFF		Off		
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or AU	ΓΟ (Light is illuminated)	On		
HL LO REQ	Lighting switch OFF		Off		
TIL LO REQ	Lighting switch 2ND HI or AUTO (Li	ght is illuminated)	On		
HI HI DEO	Lighting switch OFF		Off		
HL HI REQ	Lighting switch HI		On		
		Front fog lamp switch OFF	Off		
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch ON     Daytime light activated (Canada only)	On		
		Front wiper switch OFF	Stop		
50 WID D50		Front wiper switch INT	1LOW		
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low		
		Front wiper switch HI	Hi		
		Front wiper stop position	STOP P		
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P		
		Front wiper operates normally	Off		
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe operation	BLOCK		
ST RLY REQ	Ignition switch OFF or ACC		Off		
SI KLI KEQ	Ignition switch START		On		
ICN DLV	Ignition switch OFF or ACC		Off		
IGN RLY	Ignition switch ON		On		
RR DEF REQ	Rear defogger switch OFF		Off		
KK DEF KEQ	Rear defogger switch ON		On		
OIL D SW	Ignition switch OFF, ACC or engine	running	Open		
OIL P SW	Ignition switch ON	Close			
DTDI DEO	Daytime light system requested OF	F with CONSULT-III.	Off		
DTRL REQ	Daytime light system requested ON	with CONSULT-III.	On		
	Not operated		Off		
THFT HRN REQ	Panic alarm is activated     Horn is activated with VEHICLE S TEM	SECURITY (THEFT WARNING) SYS-	On		

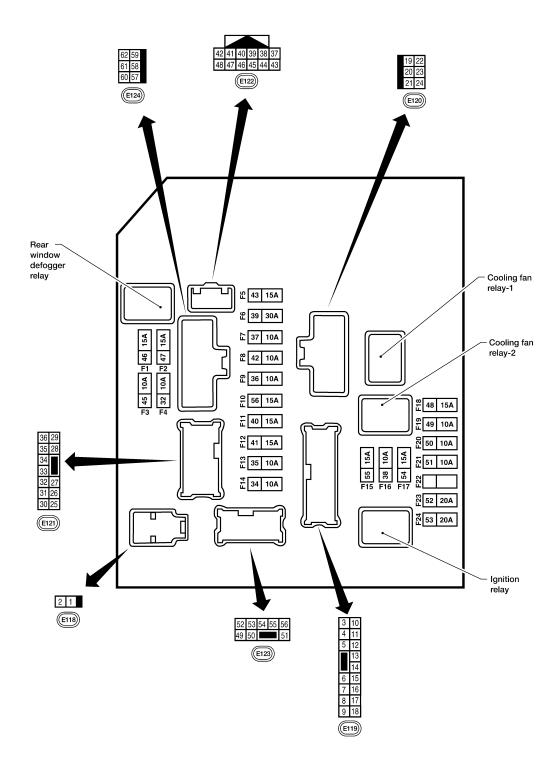
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HORN CHIRP	Not operated	Off
	Door locking with keyfob or Intelligent Key (if equipped) (horn chirp mode)	On

Terminal Layout



#### NOTE:

Numbers preceded by an "F" represent the fuse numbers imprinted on the IPDM E/R. The other numbers represent the fuse numbers as they appear in the wiring diagrams.

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< ECU DIAGNOSIS INFORMATION >

**Physical Values** INFOID:0000000006706797

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### PHYSICAL VALUES

					Measuring condition		- [
Terminal	Wire color	Signal name	Signal input/ output	Igni- tion switch	Operation or condition	Reference value (Approx.)	(
1	W	Battery power supply	Input	OFF	_	Battery voltage	_
2	R	Battery power supply	Input	OFF	_	Battery voltage	[
3	G	ECM relay	Output	_	Ignition switch ON or START Ignition switch OFF or ACC	Battery voltage 0V	=
4	Р	ECM relay	Output	_	Ignition switch ON or START Ignition switch OFF or ACC	Battery voltage	- [ -
6	V	Throttle control motor relay	Output	_	Ignition switch ON or START  Ignition switch OFF or ACC	Battery voltage	-
7	BR	ECM relay control	Input	_	Ignition switch ON or START	0V	- (
8	W/R	Fuse 54	Output	_	Ignition switch OFF or ACC Ignition switch ON or START	Battery voltage Battery voltage	-
10	R/B	Fuse 45	Output	ON	Ignition switch OFF or ACC  Daytime light system active	0V 0V	- 1
10	K/D	ruse 45	Output	ON	Daytime light system inactive	Battery voltage	_
11	Υ	A/C compressor	Output	ON or START	A/C switch ON or defrost A/C switch	Battery voltage	=
			Output		A/C switch OFF or defrost A/C switch	0V	_
12	W/G	Ignition switch sup-	Input		OFF or ACC	0V	_
12	W	plied power	mpat		ON or START	Battery voltage	-
13	R	Fuel pump relay	Output		Ignition switch ON or START	Battery voltage	_
10	11	r der pamp relay	Odipat		Ignition switch OFF or ACC	0V	
14	W/G	Fuse 49	Output	_	Ignition switch ON or START Ignition switch OFF or ACC	Battery voltage 0V	E
15	W/R	Fuse 50 (ABS)	Output	_	Ignition switch ON or START Ignition switch OFF or ACC	Battery voltage 0V	-
16	W/G	Fuse 51	Output	_	Ignition switch ON or START Ignition switch OFF or ACC	Battery voltage	-
17	W/G	Fuse 55	Output	_	Ignition switch ON or START Ignition switch OFF or ACC	Battery voltage	=
19	W	Starter motor	Outout	START	Ignillion Switch OFF OF ACC		-
20	BR	Cooling fan motor (low)	Output	ON or START	_	Battery voltage  Battery voltage	_
21	GR	Ignition switch supplied power	Input	_	OFF or ACC START	0V Battery voltage	- -
22	G		Output	OFF			=
		Battery power supply  Door mirror defogger	Output	OFF	When rear defogger switch is ON	Battery voltage Battery voltage	=
23	LG	output signal	Output	_	When raker defogger switch is OFF	0V	-

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< ECU DIAGNOSIS INFORMATION >

		IS IN CINIMATION						
	Wire		Signal		Measuring con	dition	Reference value	
Terminal	color	Signal name	input/ output	lgni- tion switch	Operation	or condition	(Approx.)	
24	Р	Cooling fan motor	Output		Conditions correct for cooling fan operation		Battery voltage	
24	Г	(high)	Output	_	Conditions not cooling fan ope		0V	
27	W	Fuse 38	Output		Ignition switch	ON or START	Battery voltage	
	***	1 430 30	Output		Ignition switch	OFF or ACC	0V	
20	П	LH front parking and	Outout	OFF	Lighting	OFF	0V	
28	R	front side marker lamp	Output	OFF	switch 1st po- sition	ON	Battery voltage	
					Lighting	OFF	0V	
29	G	Trailer tow relay	Output	ON	switch 1st po- sition	ON	Battery voltage	
30	R/B	Fuse 53	Output		Ignition switch	ON or START	Battery voltage	
30	R/D	ruse 55	Output	_	Ignition switch	OFF or ACC	0V	
32	GR	Wiper low speed sig-	Output	ON or	Wiper switch OFF  LO or INT		Battery voltage	
	017	nal	Output	START			0V	
35	L	Wiper high speed sig-	Output	ON or	Wiper switch OFF, LO, INT		Battery voltage	
		nal		START	•	HI	0V	
					Ignition switch	ON	(V) 6 4 2 0 2 2ms JPMIA0001GB 6.3 V	
37	Y	Power generation command signal	Output	_	40% is set on "Active test," "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 1 2 2ms 1 3.8 V	
					40% is set on ' "ALTERNATOF "ENGINE"		(V) 6 4 2 0 → 2ms JPMIA0003GB	
38	В	Ground	Input	_	-	_	0V	
39	L	CAN-H		ON	_		_	
40	Р	CAN-L	_	ON	-	_	_	
42	GR	Oil pressure switch	Input	_	Engine running		Battery voltage	
		, p 2303.0 3			Engine stoppe	d	0V	

< ECU DIAGNOSIS INFORMATION >

			Signal		Measuring condition  Operation or condition			
Terminal	Wire color	Signal name	input/ output	Igni- tion switch			Reference value (Approx.)	
43	G	Wiper auto stop signal	Input	ON or START	Wiper switch OFF, LO, INT		Battery voltage	
4.4	П	Daytime light relay	lant	ON	Daytime light s	system active	0V	
44	R	control	Input	ON	Daytime light s	system inactive	Battery voltage	
45	LG	Horn relay control	Input	ON		ks are operated r Intelligent Key DFF → ON)*	Battery voltage → 0V	
46	V	Fuel pump relay con-	Input		Ignition switch	ON or START	0V	
40	v	trol	mpat		Ignition switch	OFF or ACC	Battery voltage	
47	0	Throttle control motor	Input		Ignition switch	ON or START	0V	
77	O	relay control	input		Ignition switch	OFF or ACC	Battery voltage	
		Starter relay (range		ON or	Selector lever	in "P" or "N"	0V	
48	R	switch)	Input	START	Selector lever tion	any other posi-	Battery voltage	
		Front RH parking and			Lighting	OFF	0V	
49	GR	front side marker lamp	Output	OFF	switch 1st po- sition	ON	Battery voltage	
					Lighting	OFF	0V	
50	W	Front fog lamp (LH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
					Lighting	OFF	0V	
51	٧	Front fog lamp (RH)	Output	ON or START	switch must be in the 2nd position (LOW beam is ON) and the front fog lamp switch	ON	Battery voltage	
52	Р	LH low beam head- lamp	Output	_	Lighting switch	in 2nd position	Battery voltage	
54	R	RH low beam head- lamp	Output	_	Lighting switch	in 2nd position	Battery voltage	
55	G	LH high beam head- lamp	Output	_	Lighting switch and placed in I position	in 2nd position HIGH or PASS	Battery voltage	
56	L	RH high beam head- lamp	Output	_	Lighting switch in 2nd position and placed in HIGH or PASS position		Battery voltage	
		Parking, license, and	<b>.</b>	21.	Lighting	OFF	0V	
57	GR	tail lamp	Output	ON	switch 1st po- sition	ON	Battery voltage	
59	В	Ground	Input	_	_	_	0V	
		Rear window defog-	<del>-</del>	ON or	Rear defogger	switch ON	Battery voltage	
60	GR	ger relay	Output	START	Rear defogger	switch OFF	0V	
61	R/B	Fuse 32	Output	OFF	-	_	Battery voltage	

### < ECU DIAGNOSIS INFORMATION >

\*: When horn reminder is ON

Fail Safe

### CAN COMMUNICATION CONTROL

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

If No CAN Communication Is Available With ECM

Control part	Fail-safe in operation				
Cooling fan	Turns ON the cooling fan relay when the ignition switch is turned ON     Turns OFF the cooling fan relay when the ignition switch is turned OFF				

### If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp (LH/RH) high relays OFF</li> </ul>
<ul><li>Parking lamps</li><li>License plate lamps</li><li>Tail lamps</li></ul>	Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	<ul> <li>The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed.</li> <li>The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.</li> </ul>
Rear window defogger	Rear window defogger relay OFF
A/C compressor	A/C relay OFF
Front fog lamps (if equipped)	Front fog lamp relay OFF

### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Ignition switch	Ignition relay	Tail lamp relay		
ON	ON	_		
OFF	OFF	_		

### NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

### FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 second activation and 20 second stop five times.

Ignition switch	Front wiper switch	Auto stop signal		
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.		
	ON	The signal does not change for 10 seconds.		

### NOTE:

This operation status can be confirmed on the IPDM E/R "DATA MONITOR" that displays "Block" for the item "WIP PROT" while the wiper is stopped.

### < ECU DIAGNOSIS INFORMATION >

### STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index

CONSULT-III display	Fail-safe	TIME	NOTE	Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-13

### NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now
- 1 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like  $0 \to 1 \to 2 \cdots 38 \to 39$  after returning to the normal condition whenever IGN OFF  $\to$  ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

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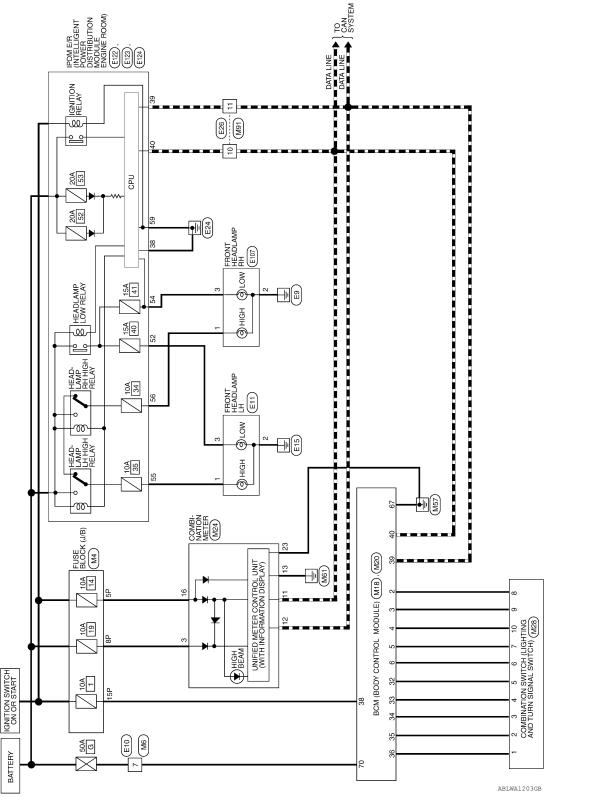
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### WIRING DIAGRAM

### **HEADLAMP**

HEADLAMP

Wiring Diagram



### HEADLAMP CONNECTORS

Connector No.	M4
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE

Connector No. M6
Connector Name WIRE TO WIRE

Connector Color WHITE





Signal Nam	I	-	-
Color of Wire	M/G	R/Υ	W/R
Terminal No.	5P	8P	15P

Signal Name

Color of Wire W

Terminal No.

0	BCM (BODY CONTROL MODULE)	BLACK	56 57 56 59 60 61 52 63 64    65  667  68  69  70	Signal Name	GND (POWER)	BAT (F/L)
M20			565758	Color of Wire	ω	8
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	29	02

_												
	Signal Name	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
	Color of Wire	>	_	Œ	0	GR	ŋ	BR	ГG	W/R	٦	Д
	Terminal No.	4	വ	9	32	33	34	35	36	38	68	40

Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE			Ĕ	7			_	
tor Color WHITE				7				
3 4 5 6 7 8 9 10 11	10 11 12 13 14 15 16	3 14	15	19	17	18	19	8
21 22 23 24 25 26 27 28 29 30 31 32 33 34 35	32 3	3 34		36 37 38	37		88	40
								П

	ll 은	ଝା					
	9 10 11 12 13 14 15 16 17 18 19	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39					
	17	37					
	9	98		9	D D		
	15	35		}	= 0	2	4
	14	34		3	2	$\vdash$	15
	55	33		2	oigilai Nariie	INPUT 5	INPUT 4
7	12	32		8	5	=	=
V	F	31		ľ			
Λ	9	30					
$  \rangle$	6	හි		_			
	8	82		Color of	æ		_
	7	27		흥	Wire	Ь	SB
	9	26		ŏ			
	2	25		_	<u>.</u>		
	4	24		4	_		
	3	೫		2.	<u>0</u>	0	က
	2	22		{	Ξ		
	-	2		٢	erriiiai No.		
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	_	_	_				
Signal Name	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3
Color of Wire	GR	0	ш	٦	Ь	SB	>
Terminal No.	4	5	9	2	8	6	10

Connector No.	M28
Connector Name	Connector Name COMBINATION SWITCH
Connector Color	WHITE
管	12 13   10 - 9 8 7
SI	411 1 2 3 4 5 6
5	



Signal Name

Terminal No.

Signal Name

Color of Wire R/Y

Terminal No.

= 12 13 16

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BATTERY

ГG B 8

INPUT 3 INPUT 2 INPUT 1

0 0

Connector No.	M24	4									_	
Connector Name   COMBINATION METER	8	MB.	<u>Z</u>	٦	ಠ	z	Ē	描				
Connector Color WHITE	≱	I≝I	l l									
僵												
O F												
H.O.	L				ſ							
	Ī		ĺ	/	7							
20 19 18 17 16 15 14 13 12 11 10	4 13	12	Ξ		6	- 00	9 /	5	4	က	2	-
40 39 38 37 36 35 3	34 33	32	31 30 29	30	67	28 2	27 26 25 24	3 25	24	23	23 22 21	21
			H	H	H	I	$\ $	$\ $			1	1

	E11	FRONT HEAD (WITHOUT DA SYSTEM)	,,,,,,,,
	Connector No.	Connector Name (WITHOUT DA SYSTEM)	
[			

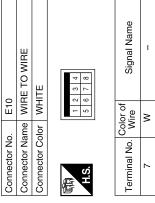


Signal Name

Color of Wire Q В Д

Terminal No.

0 0



Connector No.	_	M91	l _							
Connector Name   WIRE TO WIRE	>	≝	삝		>	ا≝ا	삤			
Connector Color WHITE	^	Η	Ε	111						
	_	9	2	4	Ш	١п	က	7	-	
	16	15	7	13	12	Ξ	16 15 14 13 12 11 10	6	8	
	l	l	l	l	l	l	l	l	ı	

7 6 5 4	Signal Name	1	ı
7 6 1	Color of Wire	Ь	٦
配 H.S.	Terminal No. Wire	10	11

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POWER GND **RUN START** 

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GROUND

M/G GR

CAN-H CAN-L

Connector No.	). E122	2
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	ПЕ
「南 H.S.	42 41 48 47	41 40 39 38 37 47 46 45 44 43
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	Γ	CAN-H
40	Ь	CAN-L

41 40 39 38 37 47 46 45 44 43	Signal Name	GND (SIGNAL)	CAN-H	CAN-L
42 41	Color of Wire	В	٦	۵
H.S.	Terminal No.	38	39	40

70	FRONT HEADLAMP RH	BLACK	3 2 1	Signal Name	-	-	-
. E107				Color of Wire	7	В	Œ
Connector No.	Connector Name	Connector Color	喃 H.S.	Terminal No.	1	2	3

	WIRE TO WIRE	WHITE	3	Signal Name	ı	I
). E26			1 8 8	Color of Wre	۵	٦
Connector No.	Connector Name	Connector Color	原南 H.S.	Terminal No.	10	11

Connector No.	). E124	4
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BLACK	olor BLA	CK
咸南 H.S.	25(28)	59 58 57
Terminal No.	Color of Wire	Signal Name
59	В	GND (POWER)

		1					
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	BROWN	5 54 53 52	Signal Name	H/LAMP LO LH	H/LAMP LO RH	H/LAMP HI LH	H/LAMP HI RH
		56	Color of Wire	Д	æ	В	_
Connector Name	Connector Color	H.S.	Terminal No.	52	54	22	56

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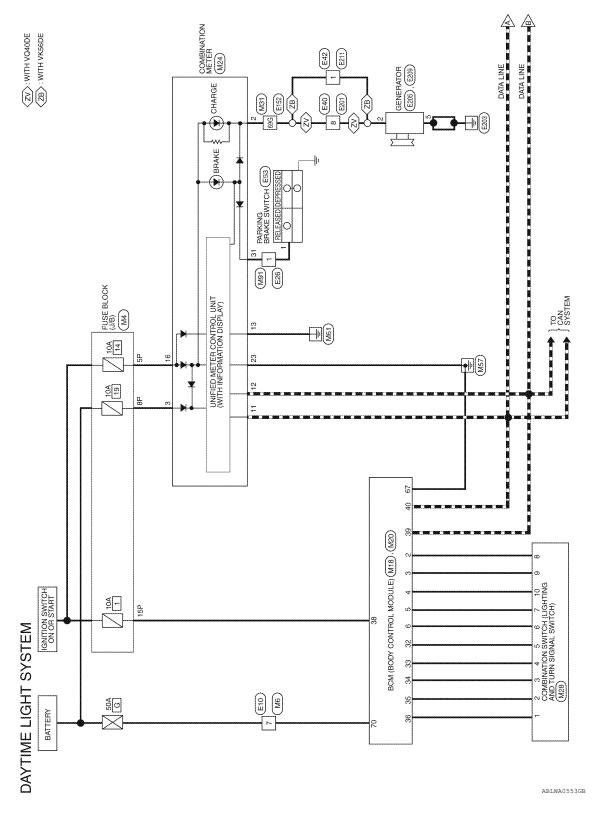
EXL

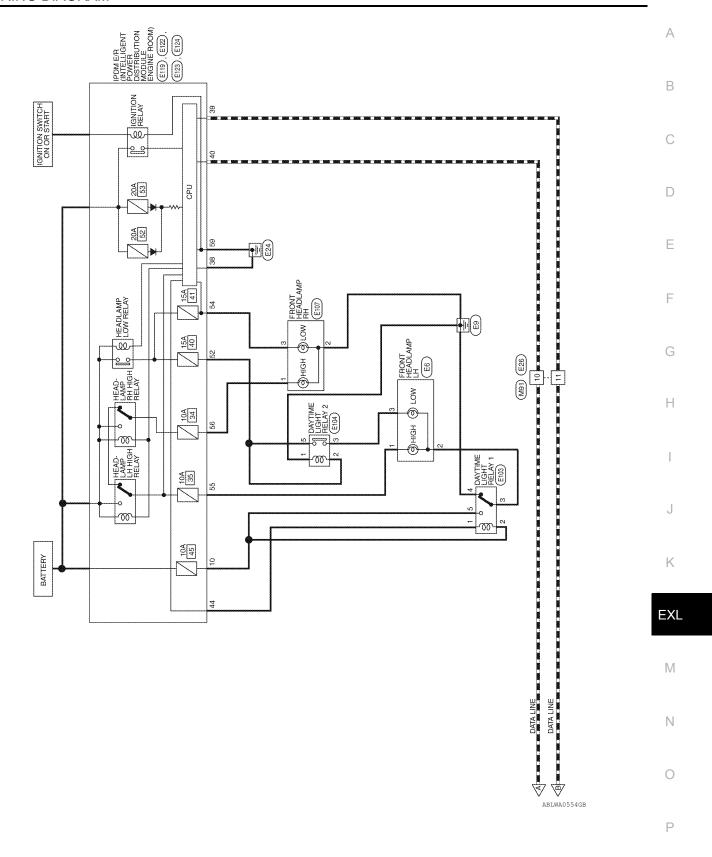
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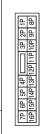
Wiring Diagram

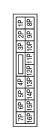




## DAYTIME LIGHT SYSTEM CONNECTORS

Connector Name FUSE BLOCK (J/B) Connector Color WHITE	Connector No.	M4
Connector Color WHITE	Connector Name	FUSE BLOCK (J/B)
	Connector Color	WHITE







Signal Name	I	ı	1
Color of Wire	M/G	R/Υ	W/R
Terminal No.	5P	8P	15P

Connector Name WIRE TO WIRE Connector Color WHITE	WIRE TO WIRE WHITE
H.S.	4 ®   &   C



Signal Name	1
Color of Wire	M
Terminal No.	2

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



Signal Nam	BWOY) GND	(F/L)
Color of Wire	В	Μ
Terminal No.	29	70

Signal Name	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	Ж	0	GR	g	BR	ГG	W/R	Т	Ь
Terminal No.	9	32	33	34	32	36	38	39	40

ctor No. MIT8	ctor Name BCM (BODY CONTROL MODULE)	Connector Color WHITE		3 24 25 28 27 28 29 30 31 32 33 34 35 38 37 38 39 30 40	عن بدادن		P INPUT 5	SB INPUT 4	V INPUT 3	
Connector No.	Connector Name	Connector Colc	原 H.S.	5 25		Terminal No.	2	ဇ	4	

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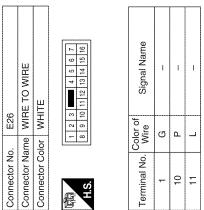
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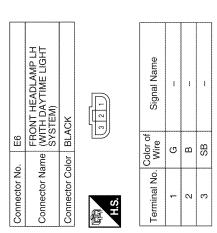
Connector Color   WHITE	Connector No. Connector Name	M24 COMBINATION METER		Connector No.	o. M28	Connector Name COMBINATION SWITCH	Terminal No.		Color of Wire	Signal Name
Terminal No.   Term				Connector C	olor WHI		6		SB	OUTPUT 4
			7				10	0	>	OUTPUT 3
Terminal No. Wire   Signal Name				唇 S.H.	12 13	2 3 4 8				
Terminal No. Octor of Signal Name	15 14	2								
Name	35 34	25 24	1 83	Terminal No.		Signal Name				
TERY   INPUT 3	Col Ki≱	Signal Nam		-	P	INPUT 1				
START   S	-	CHARGE (ALT)	  -	2	BR	INPUT 2				
START	·   å	OTTED		ဇ	U	INPUT 3				
National No.   Nati	2 0		<u> </u>	4	GR	INPUT 4				
START   S	-			2	0	INPUT 5				
Figure   F	,   <u>c</u>			9	œ	OUTPUT 1				
Terminal No. Wire Signal Name Oonnector No. M91  Connector Of WHITE  1 G 10 P 11 L 11 L	Š		T	7	_	OUTPUT 2				
Connector No.   M91   Connector Color   WHITE   To 86   16   16   16   16   16   16   16	- L		<u> </u>	8	۵	OUTPUT 5				
Terminal No.   Wire   Signal Name   Connector No.   M91	۵									
Terminal No.   Color of Signal Name   Connector No.   M91   Connector Name   WIRE TO   Connector Name   WIRE TO   Connector Color   WHITE   Connector Color   Color of										
Connector Name   WIRE TO	0.	M31		Terminal No.	Color of	Signal Name	Connect	tor No.		
WHITE   696   P	ame	WIRE TO WIRE			w Wile		Connect	tor Nam		O WIRE
Terminal No. Oolor of   10   10   10   10   10   10   10   1		WHITE		969	Д.	1	Connect	tor Color		
Terminal No. Wire	1									
Terminal No. Wire 1 G G I 1 G P I 1 L L I I L L I L L I L L I L L L I L L L I L L L L I L		46 36 26 96 86 76					赋 H.S.		7 6 5 4 16 15 14 13	12 1
356 22C 31C 10 P P 10 P P 10 P P P P P P P P P P P	216	20G 19G 18G 17G 16G 15G 14G 13G 12C 30G 29G 28G 27G 26G 25G 24G 23G 22C	9110				Termina	al No.	olor of Wire	Signal Name
350 520 510 P	41G	40G 39G 38G 37G 36G 35G 34G 33G 32G	3316						5	ı
SSG 626G SSG 626G G G	_ [	30G 43G 48G 47G 48G 43G 44G 43G 42G					10		<u>a</u>	1
75G 74G 73G 77G 77G 77G 77G 77G 77G 77G 77G 77	610	60G 59G 58G 57G 56G 55G 54G 53G 52C 70G 69G 68G 67G 66G 65G 64G 63G 620	516				=			1
800 790 770 780 780 770 780		756 746 736 726 716								
		80G 79G 77G 76G								

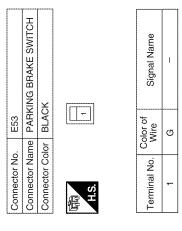
### < WIRING DIAGRAM >



Signal Name	I	ı	
Color of Wire	ŋ	۵	
Terminal No. Wire	,	10	-

(	WIRE TO WIRE	ITE	2 3 4 6 7 8 8	Signal Name	ı
. E10	me WII	lor WHITE	- L	Color of Wire	Μ
Connector No.	Connector Name	Connector Color	H.S.	Terminal No. Wire	2





Connector No.	i. E42	
Connector Name WIRE TO WIRE	ıme WIRE	TO WIRE
Connector Color   BLACK	lor BLAC	ス
所S.H		
Terminal No.	Color of Wire	Signal Name
	a.	I

Cla soto caro	r	
Corrector No.	. E40	
Connector Name WIRE TO WIRE	ime WIRE	TO WIRE
Connector Color	olor GRAY	
H.S.	- C 0	0 r v v v v v v v v v v v v v v v v v v
Terminal No.	Color of Wire	Signal Name
8	О.	ŧ
_		

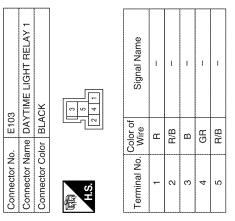
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### < WIRING DIAGRAM >

		111111111111111111111111111111111111111
	Connector No.	E10/
4T RELAY 2	Connector Name	Connector Name FRONT HEADLAMP RH
	Connector Color BLACK	Connector Color BLACK
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,

3 2 1	Signal Name	ı	ı	tone
	Color of Wire	ب	മ	Œ
H.S.	erminal No. Wire	-	2	3

	Connector Name DAYTIME LIGHT RELAY 2	Щ	8	- - X	Signal Name	ı	ı	¥.	1
7071	me DAY	lor BLUE			Color of Wire	В	Ø	SB	۵
24 2040	Connector Nar	Connector Color		H.S.	Terminal No.	-	2	3	S



Connector No.	). E123	3
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color		BROWN
H.S.	56	SS 62 53 52 53 649
Terminal No.	Color of Wire	Signal Name
52	۵	H/LAMP LO LH
54	Ж	H/LAMP LO RH
55	Ø	H/LAMP HI LH
56		H/LAMP HI BH

Connector No.	). E122	2
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	TE
嘶响 H.S.	42 41	40 39 38 37
Terminal No.	Color of Wire	Signal Name
38	В	GND (SIGNAL)
39	٦	CAN-H
40	d	CAN-L
44	œ	DTRL RLY CONT

Connector No.	E119	o
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color WHITE	lor WHI	Щ
献 H.S.	81	9 8 7 6 6 5 4 3
Terminal No.	Color of Wire	Signal Name
10	R/B	DTRL RLY SUPPLY

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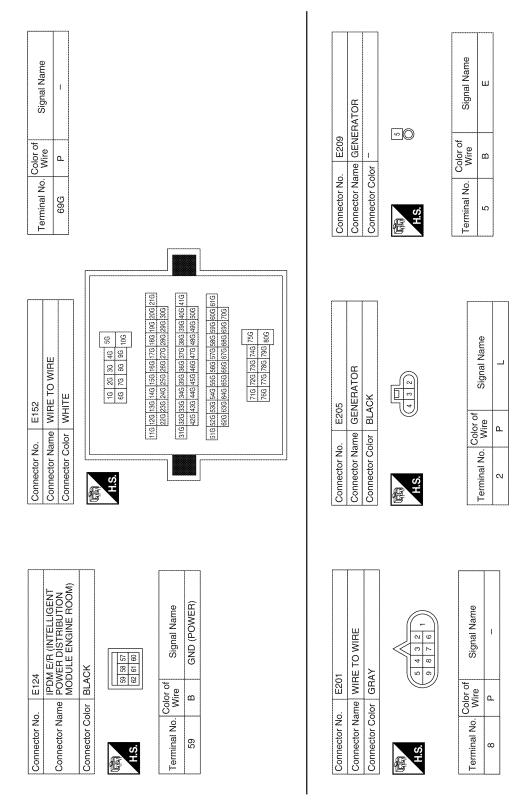
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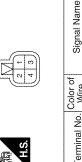
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H011	E	WIRE TO WIRE	BLACK	
Old votocaco	COLINECTO NO.	Connector Name WIRE TO WIRE	Connector Color	



Signal Name	Į.
Color of Wire	Ф
Terminal No.	Т Р

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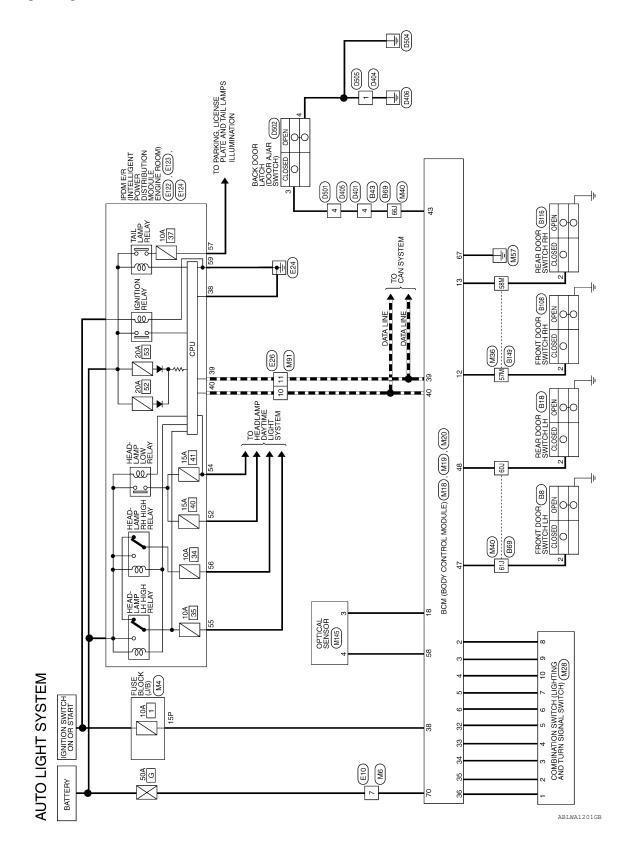
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Wiring Diagram



## AUTO LIGHT SYSTEM CONNECTORS

Connector No. M6
Connector Name WIRE TO WIRE

Connector Color WHITE

Connector No.	M4	
Connector Na	me FUS	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	lor WHI	TE
副 H.S.	7P 6P 5P 4P [	7P (6P (5P (4P (CCC)) (3P (2P (1P (CC))) (3P (3P (4P (CC))) (3P (3P (4P (CC))) (3P (3P (4P (CC))) (3P (3P (4P (CC))) (3P (4P (4P (CC))) (3P (4P (CC))) (3P (4P (4P (CC))) (3P (4P (CC))) (
Terminal No.	Color of Wire	Signal Name
15P	W/R	ı

Signal Name

Terminal No. Wire

≥

	6	Connector Name BCM (BODY CONTROL MODULE)	ΠE	41 42 43 44 45 46 47 46 49 50 51 52 53 54 55	Signal Name	BACK DOOR SW	DOOR SW (DR)	DOOR SW (RL)
	. M19	me BC	lor WHITE	50 51	Color of Wire	Ь	GR	۵
	Connector No.	Connector Na	Connector Color	崎 H.S.	Terminal No.	43	47	48
Ī								

Terminal No.	Color of Wire	Signal Name
4	>	INPUT 3
5	٦	INPUT 2
9	æ	INPUT 1
12	LG	DOOR SW (AS)
13	٦	DOOR SW (RR)
18	BR	KEYLESS & AUTO LIGHT SENSOR GND
32	0	OUTPUT 5
33	GR	OUTPUT 4
34	Ö	OUTPUT 3
35	BR	OUTPUT 2
36	LG	OUTPUT 1
38	W/R	IGN SW
39	Γ	CAN-H
40	Д	CAN-L

			19 20 39 40				
M (BODY CONTROL DULE)	IITE		10     11     12     13     14     15     16     17     18       30     31     32     33     34     35     36     37     38		Signal Name	INPUT 5	INPUT 4
			7 8 27 28		Color of Wire	۵	SB
Connector Na	Connector Co	H.S.	1 2 3 4 5 21 22 23 24 25		Terminal No.	2	က
	Connector Name BCM (BODY CONTROL MODULE)			MODULE) WHITE  WHITE    WHITE	MODULE) WHITE WHITE    WHITE	WHITE   WHIT	BCM (BODY CONTROL MODULE)   WHITE

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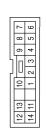
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Revision: March 2012 **EXL-91** 2011 Pathfinder

Signal Name	OUTPUT 4	OUTPUT 3
Color of Wire	SB	>
Terminal No.	6	10









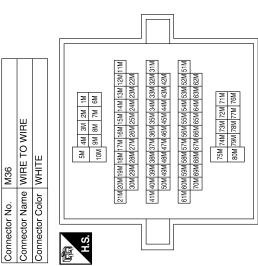
Connector No.	Connector No. M20 Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK
	56 57 58 59 60 61 62 63 64 65 66 67 68 69 70



Signal Name	AUTO LIGHT SENSOR INPUT	GND (POWER)	BAT (F/L)
Color of Wire	W	В	M
Terminal No.	58	29	20

INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5		Signal Name	-
ГG	BR	ŋ	GR	0	œ	7	Ь		Color of Wire	FG
-	2	3	4	5	9	7	8		erminal No.	27M

Signal Nam	_	-
Color of Wire	FG	Г
Terminal No.	87M	28M



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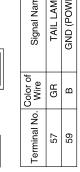
Connector No. M91	Connector Color WHITE		7 6 5 4 5 1	Minal No. Co	Connector No.   E26	9 <u>-</u>	H.S.	Terminal No. Color of Signal Name  10 P - 11 L - 1	A B C D
Signal Name	ı	ı	ı			WIRE TO WIRE WHITE	8 Z Z	Signal Name	F G H
Terminal No. Wire	60J P	61J GR	66J P		Connector No.   E10	e   5	H.S.	Terminal No. Wire 7 W	I
				66 1133 1223 1732 1737 1732 1737 1732 1732					K
M40 WIDE TO WIDE	WHITE			21   20   15   41   31   21   14   15   15	M145	OPTICAL SENSOR BLACK	0 - 0 4	Signal Name	M
Connector No.	Connector Color			(S) (E) (E)	Connector No.	9 5	赋利 H.S.	Terminal No. Wire 3 P A W	N O
					I			ABLIA0409GB	Р

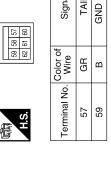
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### < WIRING DIAGRAM >

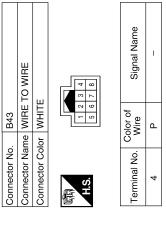














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Terminal No. Wire 38 B 39 L 40 P	Signal Name	GND (SIGNAL)	CAN-H	CAN-L	
Terminal No. 38 39 40	Color of Wire	В	_	Ь	
	Terminal No.	38	39	40	

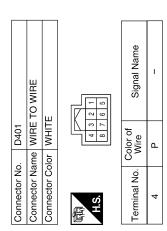
	FRONT DOOR SWITCH LH	WHITE		Signal Name
. B8				Color of Wire
Connector No.	Connector Name	Connector Color	原 说。	Terminal No.

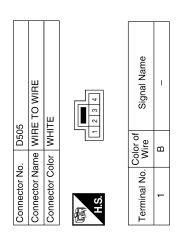
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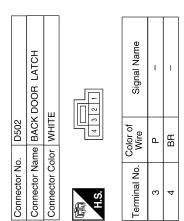
Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE  Connector Color of Signal Name  2 LG -  Signal Name  57M LG -  58M L -  58M L -  -	A B C D
1-6	F
Color of   Signal Name	G H I
Connector No.  Connector Name Connector No.  H.S.  SIMM SIMM SIMM SIMM SIMM SIMM SIMM	J K
B69   WIRE TO WIRE   WHITE   Signal Name   Signal Name   Signal Name   Wire   Wire	EXL
Connector No.   B69	N
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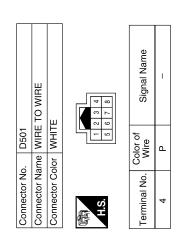
_	_		1		
	TO WIRE	щ	3 2 1	Signal Name	1
. D405	me WIRE	lor WHIT	₩ 8	Color of Wire	Ъ
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	赋利 H.S.	Terminal No.	4

בובי סובי	ברואי O. ח
lor WH	
5	1
4	3 2 1
IJ	
Color of	Omold Jonesia
Wire	Signal Ivarne
В	ı
	Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.  Terminal No. Color of Signal I  B





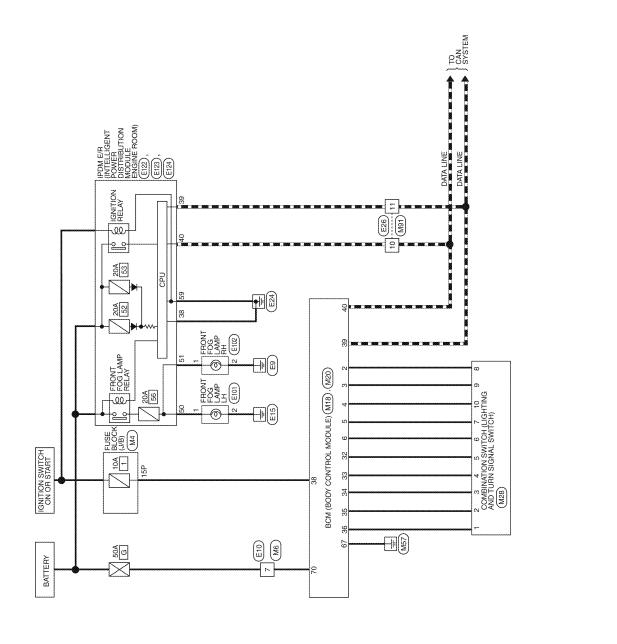




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### FRONT FOG LAMP SYSTEM

Wiring Diagram



FRONT FOG LAMP

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### FRONT FOG LAMP CONNECTORS

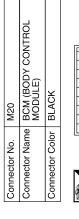
Connector No.	M4
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE
(元) H.S.	7P 6P 5P 4P   3P 2P 1P   10P 3P 8P   18P   10P 3P 18P   10P 3P 8P   10P 3P 8P 8P   10P 3P 8P

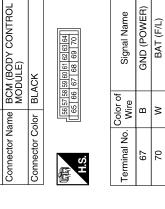
	RE TO W	HE	3 6 5 1	Sign	
. M6	me WII	lor WF	4 8	Color of Wire	Μ
Connector No.	Connector Name WIRE TO W	Connector Color WHITE	南 H.S.	Terminal No.	2
	OCK (J/B)		3P 2P 1P P 1P P 1P P 8P 8P	Signal Name	1

nal Name

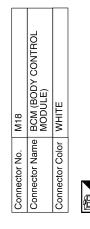
Color of Wire W/R

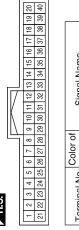
Terminal No. 15P





Signal Name	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	>	Т	В	0	GR	ŋ	BR	ГВ	W/R	_	۵
Terminal No.	4	5	9	32	33	34	35	36	38	39	40





Signal Name	INPUT 5	INPUT 4	
Color of Wire	Ь	SB	
Terminal No. Wire	5	8	

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### FRONT FOG LAMP SYSTEM

### < WIRING DIAGRAM >

Connector No.	). M91	
Connector Name WIRE TO WIRE	ıme WIR	E TO WIRE
Connector Color	olor WHITE	IE
原南 H.S.	7 6 5 4 16 15 14 13	14 13 12 11 10 9 8
Terminal No.	Color of Wire	Signal Name
10	Ь	-
1	7	1

Signal Name	OUTPUT 4	OUTPUT 3	
Color of Wire	SB	۸	
Terminal No.	6	10	

	COMBINATION SWITCH	ТЕ	10 9 8 7	1 2 3 4 5 6	Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5
. M28		lor WHITE	12 13	14 11	Color of Wire	ГG	BR	9	GR	0	æ	٦	۵
Connector No.	Connector Name	Connector Color	恒	H.S.	Terminal No.	1	2	3	4	5	9	2	8

1	E101 FRONT FOG LAMP LH BLACK		Signal Name	_	ı
_			Color of Wire	Μ	В
=	Connector No. Connector Name Connector Color	南 H.S.	Terminal No.	1	2

			[6]	ame		
	WIRE TO WIRE	Д	3	Signal Name	ı	I
. E26		lor WHITE	8 0 1 10 10 10 10 10 10 10 10 10 10 10 10	Color of Wire	۵	_
Connector No.	Connector Name	Connector Color	原 H.S.	Terminal No.	10	11

	WIRE TO WIRE	ITE	6 7 3 8 8 4	Signal Name	_	
- E10		lor WHITE	- LO	Color of Wire	Μ	
Connector No.	Connector Name	Connector Color	所 H.S.	Terminal No.	7	

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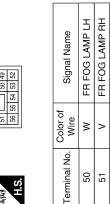
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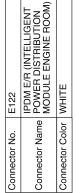
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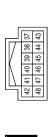
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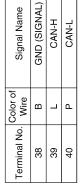
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Connector No.	E123
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color BROWN	BROWN
	51 50 40

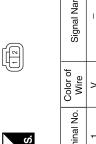


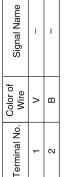


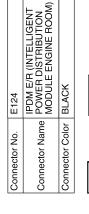


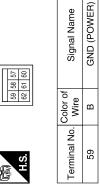












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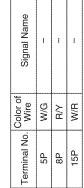
### TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM Α Wiring Diagram INFOID:0000000006534919 В HAZARD SWITCH (M55) С D Е M31 F [83] REAR COMBINATION LAMP RH TURN SIGNAL M36 B149 Н BCM (BODY CONTROL MODULE) (M18), (M20) COMBINATION METER (M24) E26 [M94] E15 J TURN SIGNAL AND HAZARD WARNING LAMPS TURN TURN REAR COMBINATION LAMP LH (B35) Κ FUSE (J/B) (J/B) (WITH INFORMATION DISPLAY) 10A TURN EXL M40 B69 10A M COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) (M28) Ν IGNITION SWITCH ON OR START 10A 0 Me Fig BATTERY Р 35

# TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

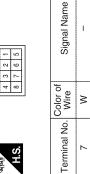
M4	Connector Name   FUSE BLOCK (J/B)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

		Ē.	В	
		3P 2P	99	
		3P	10P	
		П	11P	
		Ш	12P	
Ш		4P	13P	
WHITE		SP	14P	
≥		6P 5P 4P	15P	
٥٢		77	16P	
ĕ	'			3
or Color				



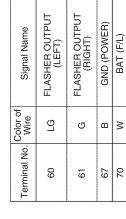


Connector No.	M6
Connector Name	Connector Name WIRE TO WIRE
Connector Color	WHITE



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





Signal Name	INPUT 1	HAZARD SW	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	Œ	ŋ	0	GR	ŋ	BR	LG	W/R	٦	۵.
 Terminal No.	9	29	32	33	34	35	36	38	39	40

	ုဒ	ü	Connector No.	ŏ	ž	نہ ا		M18	œ												
	රි	ū	Connector Name   BCM (BODY CONTROL   MODULE)	ŏ	Z <sub>e</sub>	Ĕ	d)	88	BCM (BOD MODULE)	ě	200	ž	8	Z	ŭ	占					
	ကိ	E C	Connector Color WHITE	Ö	Ö	Š	-	₹	<u></u>	ш											
	信工	H.S.	46						11\	11	IV	117	<b></b>								
	-	2	6	4	2	9	1	1 ∞	6	10	Ξ	10 11 12 13 14 15 16 17 18 19	1 5	4	15	16	17	18		8	,
	21	22	22 23 24 25 26 27 28 29 30 31 32 33	24	25	56	27	28	53	8	31	32	33	34 35	35	36 37 38	37		33	8	
1																					-

	,	,	,	
Signal Name	INPUT 5	INPUT 4	INPUT 3	INPUT 2
Color of Wire	۵	SB	>	Ţ
Terminal No. Wire	2	ဗ	4	5

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### < WIRING DIAGRAM >

10 V OUTPUT 3																					
	10 2 3 4 5 6 7	Signal Name	INPUT 1	INPUT 2	INPUT 3	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	Signal Name											
Connector Color WHITE	H.S.	Color of Wire			3 G			7 L	В	Color of Wire	53G										
		28 27 26 25 24 23 22 21	N Complete C	Signal Name	BATTERY CAN-I	CAN-H	GROUND	RUN START	POWER GND				56 46 36 26 16	000	21G   20G   19G   18G   17G   16G   15G   14G   13G   12G   14G   13G   12G   14G   12G   12G   25G   25G	416 406 396 386 376 386 386 336 336 330 316	50G 49G 48G 47G 46G 45G 44G 43G 42G	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G 70G 69G 69G 67G 66G 65G 64G 63G 62G	75G 74G 73G 72G 71G 80G 79G 77G 76G		
Connector Color WHITE	H.S.	20 19 18 17 16 15 14 13 12 11 10 9 40 39 38 37 36 35 34 33 32 31 30 29	Torming! No.	reminal No. Wire	3 R/Y		13 GR	16 W/G	23 B	Connector No. M31	Connector Name WIRE TO WIRE	Connector Color   WHILE	o;	3	216 206 196 186	416 406 396 386	50G 49G 48G	61G 60G 59G 58G 70G 69G 68G	756		

Connector No. M55 Connector Name HAZARD SWITCH Connector Color WHITE  Terminal No. Color of Signal Name  1 B - 2 G -		Connector No.	Terminal No. Color of Wire Signal Name
Connector No. M40  Connector Color WHITE  Connector Color WHITE  Su 4u 3u 2u 1u  1u 9u 8u 1u 1u  1u 9u 8u 1u 1u  1u 1u 1u 1u 1u 1u  3u 2u 1u  1u 1u 1u 1u 1u 1u  3u 2u 1u  1u 1u 1u 1u 1u 1u  3u 2u 1u  1u 1u 1u 1u 1u 1u  3u 1u 1u  3u 1u 1u 1u	Terminal No. Wire Signal Name 59J G –	Connector No. E10 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. Wire Signal Name 7 W –
Connector No.   M36	Terminal No. Wire Signal Name 59M G -	Connector No. M91  Connector Name WIRE TO WIRE  Connector Color WHITE     7 6 5 4       3 2 1	Terminal No. Color of Signal Name  2 LG -

< WIRING DIAGRAM >

						Connector No. B35  Connector Name REAR COMBINATION LAMP  Connector Color WHITE  H.S.	Color of Signal Name Wire G - B B		
						Connector No. B35 Connector Name REAR C LH Connector Color WHITE	Terminal No. 1		
							Her Her		
COMBINATION	LAMP RH			Signal Name	1 1	Signal Name			
				Color of Wire	G GR	Color of Wire			
Connector No.		Connector Color	H.S.	Terminal No.	- a e	Terminal No. 53G			
COMBINATION	LAMP LH			Signal Name	1 1	E152 WIRE TO WIRE WHITE  16 26 36 46 56 66 76 86 96 106	11.6  126  136  146  156  146  176  186  1892 2006  216    2202 2302 2402 2402 2702 2802 2802 2802 2402   2402 2402 2402 2402   2402 2402	71G 72G 73G 74G 75G 77G 77G 77G 78G 80G	
ne FRONT	LAMPL		[- - - -	Color of Wire	LG R	07 WHITE 10 80 80 80 80 80 80 80 80 80 80 80 80 80	116 126 136 14 226 236 24 316 326 336 34 426 436 44 516 526 536 54 626 636 646	11/2	
Connector No.		Connector Color	H.S.	Terminal No.	- 2 8	Connector No. Connector Color Connector Color			
								ABLIA1891GB	

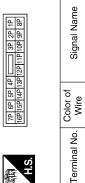
Connector Name REAR COMBINATION LAMP RH Connector Color WHITE  Terminal No. Wire Signal Name  4 G 5 B	
Terminal No. Wire Signal Name 59J G –	Terminal No. Wire Signal Name 59M G -
Connector No.   B69	Connector No.   B149

### PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM Α Wiring Diagram INFOID:0000000006534920 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E12) , (E122) (E123) . В С (F26) D LICENSE PLATE LAMP JRH D507 D451 D550 IGNITION Е PP PP ىلە D451 D550 20A 52 F 20A M31 M36 B149 TAIL LAMP RELAY TAIL/SIDE ( REAR COMBINATION LAMP LH (B35) 10A -w Н TAIL/SIDE MARKER (B40) E34 J TURN PARKING, LICENSE PLATE AND TAIL LAMPS K 10A EXL (M20) BCM (BODY CONTROL MODULE) (M18), M TURN COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) (M28) Ν FRONT SIDE MARKER LAMP RH E108 BLOCK (J/B) IGNITION SWITCH ON OR START 10A 0 Me E10 BATTERY Р

## PARKING, LICENSE PLATE AND TAIL LAMPS CONNECTORS

	M4	Connector Name   FUSE BLOCK (J/B)	WHITE
•	Connector No.	Connector Name	Connector Color WHITE

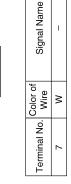
No.         M/4           Name         FUSE BLOCK (J/B)           Color         WHITE	7P   6P   5P   4P
---	-------------------



W/R

15P

Connector No.	M6
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color	WHITE



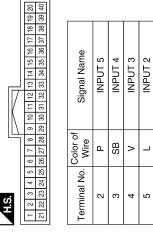


Connector Name   BCM (BODY CC MODULE)	BLACK	150 50 50 50 61
Connector Name	Connector Color BLACK	•



Signal Name	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	IGN SW	CAN-H	CAN-L
Color of Wire	В	0	GR	В	BR	LG	W/R	Т	Ь
Terminal No.	9	32	33	34	35	36	38	39	40

	ODY CONTROL E)		
M18	BCM (BOD MODULE)	WHITE	
Connector No.	Connector Name BCM (BODY CONTROL MODULE)	Connector Color WHITE	



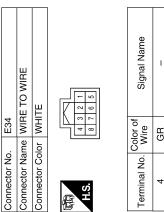
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# < WIRING DIAGRAM >

Connector No.	2		Connector No.	or No. M31				Connector No.	No. M36				
Connector Name	ame COMBI	Connector Name COMBINATION SWITCH	Connector Name		WIRE IO WIRE			Connector Name	Connector Name   WIRE 10 WIRE	I O WIRE			
		<u> </u>		_						,		_	
H.S.	12 13	100 2 3 4 5 6 7	是 H.S.		5G 4G 3G 2G 10G 9G 8G 7G	26 16 76 66		(中)		5M 4M 3M 2M 1M 10M 9M 8M 7M 6M	M 1M 6M		
Terminal No.	Color of Wire	Signal Name		21G 20G 19G	20G 19G 18G 17G 16G 15G 14G 13G 12G	21G 20G 19G 18G 17G 16G 15G 14G 13G 12G 11G			21M 20M 19M 1	20M 19M 18M 17M 16M 15M 14M 13M 12M 30M 29M 28M 27M 28M 25M 22M 22M	21M 20M 19M 18M 17M 16M 15M 14M 13M 12M 11M 30M 29M 25M 25M 25M 23M 23M 23M		
-	re	INPUT 1		Negloon	الحومالان مالحومالات	0440450							
2	BR	INPUT 2		41G 40G 39C	38G 37G 36G 350	41G 40G 39G 38G 37G 36G 35G 34G 33G 32G 31G			41M 40M 39M 6	40M 39M 38M 37M 36M 35M 34M 33M 32M 50M 49M 48M 47M 46M 45M 44M 43M 42M	41M 40M 39M 38M 37M 36M 35M 34M 33M 32M 31M 50M 49M 49M 47M 46M 45M 44M 43M 42M		
ო	σ	INPUT 3											$\neg$
4	GR	INPUT 4		61G 60G 590	3 58G 57G 56G 550	61G 60G 59G 58G 57G 56G 55G 54G 53G 52G 51G			61M 60M 59M 5	60M 59M 58M 57M 56M 55M 54M 53M 52M 70M 69M 63M 67M 63M 67M 68M 65M 65M 67M 67M 67M 67M 67M 67M 67M 67M 67M 67	61M 60M 59M 58M 57M 56M 55M 54M 53M 52M 51M 70M 60M 68M 67M 66M 65M 64M 63M 63M		
2	0	INPUT 5		ned boy	2000 000 000 000	020 020 040			Simon in a		OTHIN COLIN		
9	В	OUTPUT 1			75G 74G 73G 72G 71G	26 716				75M 74M 73M 72M 71M	2M 71M		
7	l L	OUTPUT 2			80G 79G 78G 77G 76G	76 766				80M 79M 78M 77M 76M	7M 76M		
8	Ь	OUTPUT 5			]		<u>_</u>						
6	SB	OUTPUT 4					]						
10	>	OUTPUT 3	Terminal No.	Color of Wire		Signal Name		Terminal No.	Color of Wire	Signal	Signal Name		
Connector No.	o. M91			Connector No.	No. E10				Connector No.	lo. E17			
Connector Name WIRE TO WIRE Connector Color WHITE	ame WIRE T	E TO WIRE		Connector Name		WIRE TO WIRE WHITE			Connector Name		FRONT SIDE MARKER LAMP LH	IKER	
		!	7		_				Connector Color	olor GRAY	,		, ,
可到 H.S.	7 6 5 16 15 14	7 6 5 4 6 7 1 10 9 9 8 10 10 10 10 10 10 10 10 10 10 10 10 10		H.S.	- 6	5 6 7 8			所.				
Terminal No.	Color of Wire	Signal Name		Terminal No.	Color of Wire	Signal Name	Ле		Terminal No.	Color of Wire	Signal Name	me	
10	Ь	_		7	M	1			-	æ	ı		1
11	_	1						_	2	В	1		1 1
(	١		ŀ									F	
)	V	XL VI	<	J	l	G H		F	D E			3	

# < WIRING DIAGRAM >



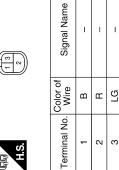
Terminal No. Wire Signal N			
Wire		5	
Wire		5	
Wire			000
WIRe			
GB GB			5
4		ם ב	)
4 GB			
4 GB			
4 GR			
- 5	000	0	
-	±	ב	

1		ii.	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
GR		E121	민
			ame
4		Connector No.	Connector Na



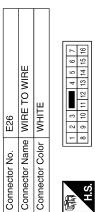
Connector Color BROWN

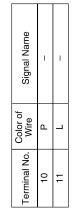
Connector No.	E27
Connector Name	Connector Name   FRONT COMBINATION   LAMP LH
Connector Color GRAY	GRAY



Connector No.	E111
Connector Name	Connector Name FRONT COMBINATION
	LAMP RH
Connector Color GRAY	GRAY

Signal Name	1	I	_
Color of Wire	В	GR	G
Terminal No.	ı	2	3





	SIDE MARKER H		
E108	FRONT SI LAMP RH	GRAY	
Connector No.	Connector Name FRONT SIDE MARKER LAMP RH	Connector Color GRAY	

Signal Name	ı	1	
Color of Wire	ш	В	
Terminal No.	1	2	

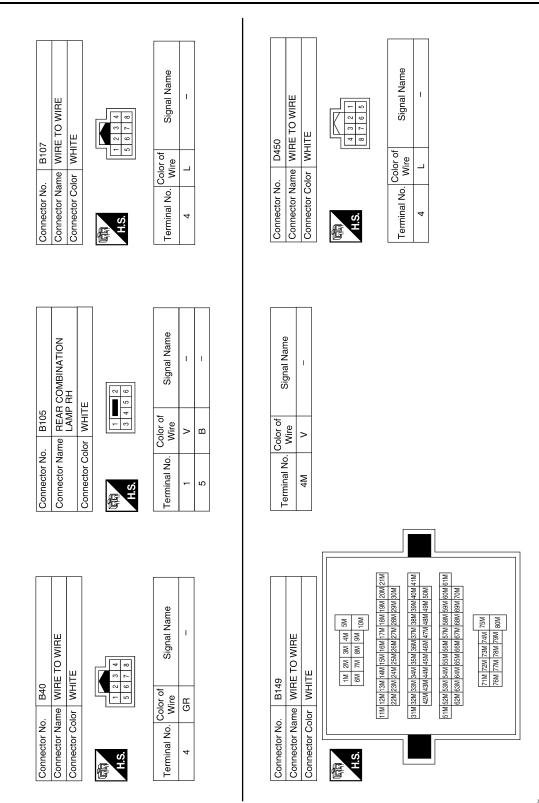
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# < WIRING DIAGRAM >

Connector Name MODULE ENGINE ROOM)  Connector Color BLACK  Solution Street Stre	or No. Color of Signal Name  GR TAIL LAMP  B GND (POWER)  or Name REAR COMBINATION LAMP LH  or Color WHITE  1 No. Color of Signal Name  GR  B	
Connector Name Connector Color	Connector No.  Connector Name Connector Color H.S.  Terminal No. Co	
POWER DISTRIBUTION POWER DISTRIBUTION BROWN    ST   ST   ST   ST   ST   ST   ST   S	Signal Name Signal Name	
<del></del>	Color of Wire GR Using Wire V V V	
Connector Name	Terminal No. C	
Conne	Tem	
POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE	48   4   48   44   43   44   43   44   43   44   43   44   43   44   43   44   43   44   43   44   43   44   43   44	
	Or of fire BB	
.   E   Q	Connector No.  Connector No.  Connector No.  Connector No.  Connector No.  A.S.  A.S.  F. F.  F.	
Connector Na Connector Col	Connector No. Connector No. Connector Na. Connector Na. Connector Connector Na. A.S.	
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Revision: March 2012 **EXL-111** 2011 Pathfinder

#### < WIRING DIAGRAM >



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# < WIRING DIAGRAM >

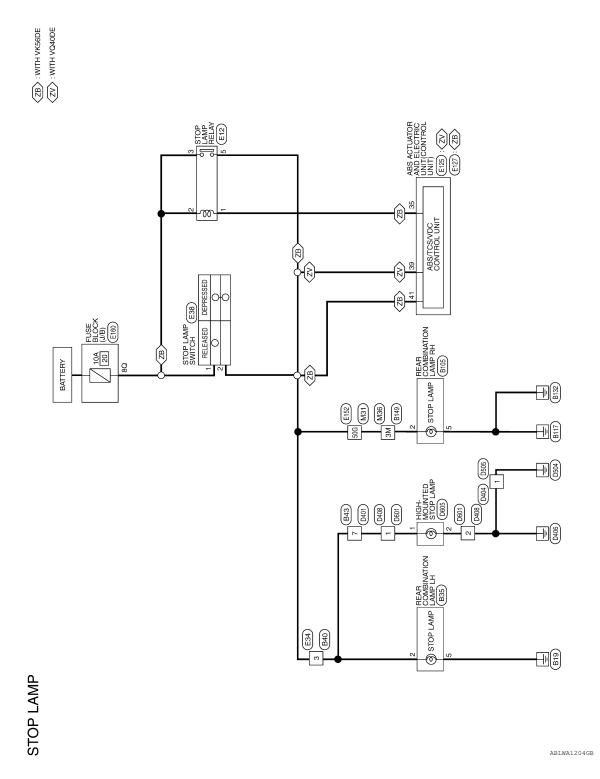
		А
Connector Name LICENSE PLATE LAMP RH Connector Color BROWN  LAS.  A.S.  Color of Signal Name  1 L  2 B		В
ior BROWN  Color of Wire  B  B  B  B  B  B  B  B  B  B  B  B  B		С
Connector No. Connector Color Connector Color H.S. Terminal No. Color Terminal No. 2		D
Conne Conne Termin 1		Е
		F
Connector No. D506  Connector Color BROWN  H.S. Erminal No. Wire Signal Name  1 L -  2 B -  2 B -		G
D506 LICENSE PI BROWN or of Carlot S fire S BBBOWN BBBOWN BBBOWN BBBBOWN BBBBOWN BBBBOWN BBBBOWN BBBBOWN BBBBOWN BBBBOWN BBBBBOWN BBBBOWN BBBWOWN BBWW BBWW		Н
Connector Name LICE Connector Color BRC  H.S  Terminal No. Wire  1 L  2 B		I
Connector No. Connector Colc Connector Colc H.S. 1 2		J
		К
WIRE	WIRE Signal Name	EXL
		M
Connector No. D451 Connector Color WHITE Connector Color of R 1 3 3 4 1 1	Connector No. D556 Connector Name WIRI Connector Color WHII Terminal No. Color of Wire 1 B 4 L	N
Connector No. Connector Cold Connector Cold H.S.  Terminal No.  1 4	Connector Nor Connector Narr Connector Colc	0

Revision: March 2012 **EXL-113** 2011 Pathfinder

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# STOP LAMP

Wiring Diagram

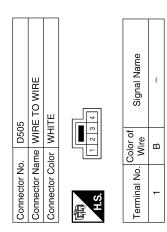


			А
IP RELAY Signal Name			В
I E E E E E			С
			D
Connector No. Connector Cold Connector Cold H.S.  Terminal No.  2 3 3 5			Е
			F
M36	Signal Name	E38 STOP LAMP SWITCH WHITE    1   1   2     1   3     1	G
WIFE TO WHITE SM 4 SM 5	Color of Wire	1	Н
Connector No. M36  Connector Name WIRE TO WIRE  Connector Color WHITE  SM 4M 3M 7 10M 15M 15M 15M 15M 15M 15M 15M 15M 15M 15	Terminal No. Co	Connector No. Connector Color Connector Color H.S. 1 Co	J
12G 11G 22G 32G 31G 42G 51G 62G 51G 62			K
	Signal Name	WIRE Signal Name	EXL
## LAMP CONNECTO    Connector No.   M31	Color of Wire L		M
Connector No. Connector Name Connector Color H.S.  #156	Terminal No. W. W. 50G	Connector No. E34 Connector Name WIRE T Connector Color WHITE H.S. A ST	Ν
Connector No.   W31	Termii 5(		0
· O		I ABLIA1678GB	Р

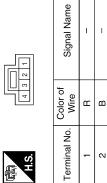
Terminal No. Wire Signal Name 35 V BRK OUT (OFF) 41 SB STOP LAMP SW		Connector No. E160 Connector Name FUSE BLOCK (J/B) Connector Color WHITE  Terminal No. Wire Signal Name  8Q R/B -
Connector No. E127  Connector Name ELECTRIC UNIT (CONTROL UNIT) (WITH VK56DE)  Connector Color BLACK  H.S.	1	Terminal No. Color of Signal Name S0G L – –
Connector No. E125 Connector Name ELECTRIC UNIT (CONTROL UNIT) (WITH VQ40DE) Connector Color BLACK H.S.	1   2   3   4   5   6   7   8   9   10   11   12   13   14   15   16   17   18   19   10   11   12   13   14   15   16   17   18   19   10   11   12   13   14   15   16   18   18   18   18   18   18   18	Connector No. E152 Connector Name WIRE TO WIRE Connector Color WHITE  Connector Color WHITE  TIG 126 136 146 156 166 176 186 186 206 216  226 236 246 56  116 126 136 146 156 166 176 186 186 206 216  226 236 246 266 26 26 26 36  316 326 336 346 356 366 366 366 366 366 366 366 366 376 386 376 386 386 376 386 386 376 386 376 386 386 376 386 386 376 386 386 376 386 386 376 386 386 376 386 386 376 386 386 376 386 386 386 376 386 386 376 386 386 376 386 386 386 376 386 386 386 386 386 386 386 386 386 38

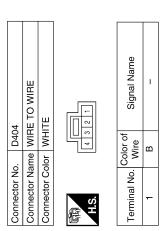
Connector No. B43 Connector Color WHTE  Terminal No. Wire Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector No. D401 Connector Color WHITE  Connector Color WHITE  Terminal No. Wire Signal Name  7 R Signal Name 7 R Signal Name	A B C D
Connector No. B40  Connector Name WIRE TO WIRE  Sometion No. Wire Single In Signal Name  3 Y Signal Name  Connector Name WIRE TO WIRE  Connector Name Sand Sand Sand Sand Sand Sand Sand Sand	F G H I
Connector No. B35 Connector Name REAR COMBINATION LAMP LH Connector Color of Signal Name 2	M N
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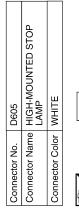
Revision: March 2012 **EXL-117** 2011 Pathfinder

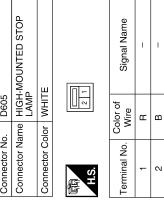




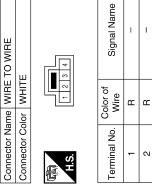








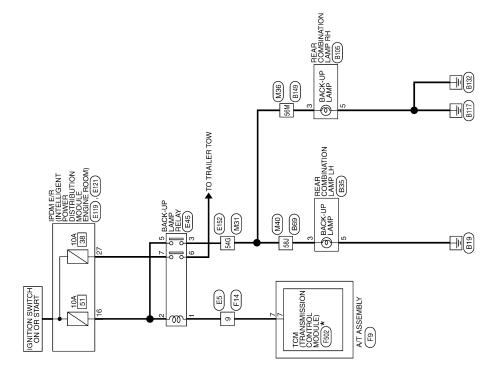
Connector No.	D601
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
崎 H.S.	1 2 3 4



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# **BACK-UP LAMP**

Wiring Diagram



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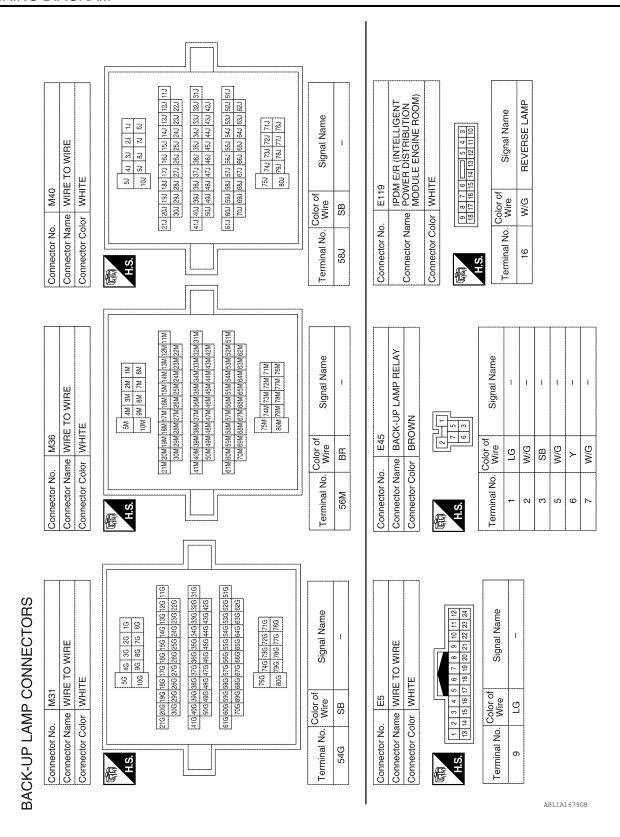
\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION

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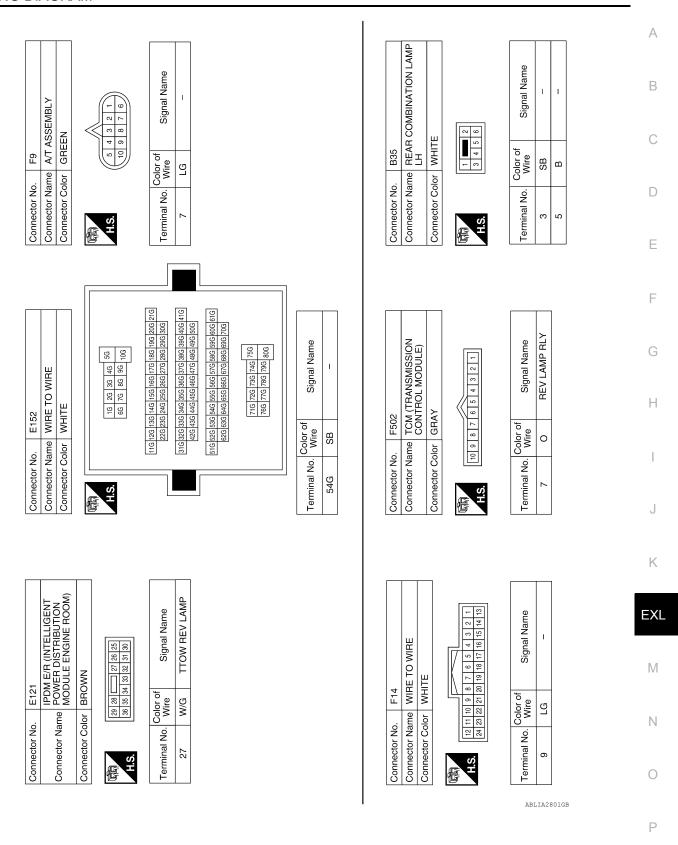
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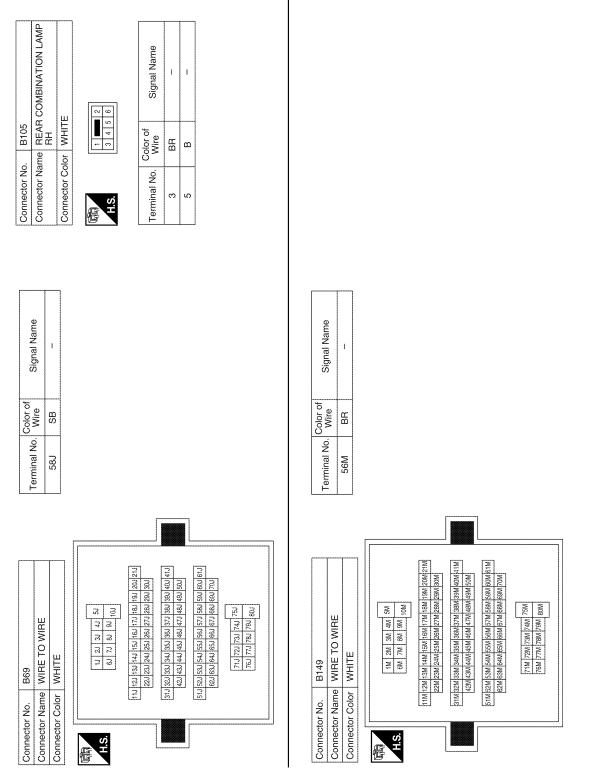
**BACK-UP LAMP** 



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



Revision: March 2012 EXL-121 2011 Pathfinder

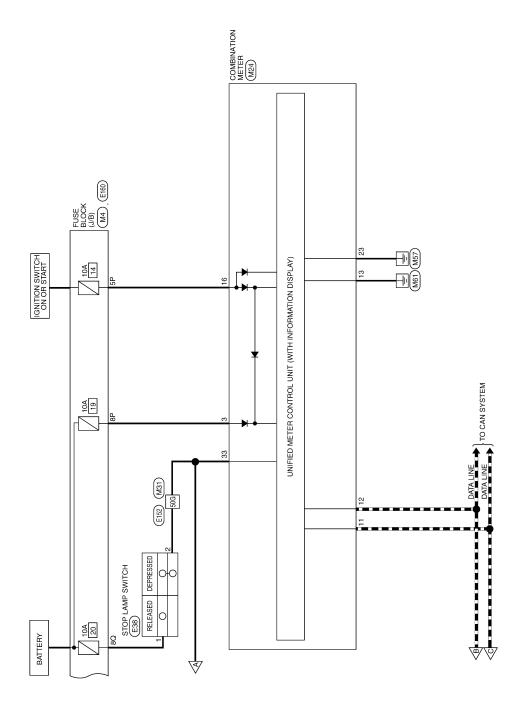


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#### < WIRING DIAGRAM > TRAILER TOW Α Wiring Diagram INFOID:0000000006534923 (T4) : TRAILER TOW 4 PIN (T7) : TRAILER TOW 7 PIN В TO BACK-UP LAMP ELECTRIC BRAKE (PRE-WIRING) (M76): < T7 TRAILER TURN BELAY 2 (£163) M31 E152 C [S] [S] TRAILER C124 C50 49G D 15A 60 Е TRAILER RECEPTACLE (C129) - Q 30A M (551) 4 F (551 [2] TRAILER TOW RELAY 2 E140): < T7 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E122), (E122), (E124) [H] [D] C52 C150 TRAILER TURN RELAY RH E164 10A Н 10A 32 TAIL LAMP RELAY 10A J -w RELAY RELAY Κ 32G M31 CPU M20 EXL 20A 52 (M91) (M19) 20A 53 BCM (BODY CONTROL MODULE) (M18), M 2 3 4 5 6 7 10 COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWITCH) (M28) FUSE BLOCK (J/B) (M4) Ν IGNITION SWITCH ON OR START 40F TRAILER TOW 0 Me 50A BATTERY - Line (1)

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# TRAILER TOW CONNECTORS

Connector Name WIRE TO WIRE

Connector No.

Connector Color WHITE

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Connector No.	M4	
Connector Na	ıme FU	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	lor WF	==
山南 H.S.	7P 6P 5P 4P 16P 15P 14P 13P 1	7P 6P 5P 4P (
Terminal No.	Color of Wire	Signal Name
5P	M/G	140
8P	₽V	ı

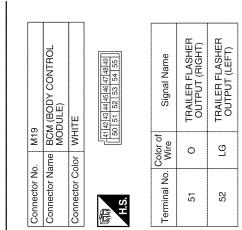
W/R

15P

Signal Name

Color of Wire ≥

Terminal No.



Signal Name	INPUT 3	INPUT 2	INPUT 1	OUTPUT 5	OUTPUT 4	OUTPUT 3	OUTPUT 2	OUTPUT 1	MS NDI	H-NYO	CAN-L
Color of Wire	>	J	Œ	0	GR	ŋ	ВВ	re	W/R	Ţ	Д
Terminal No.	4	ಬ	9	32	33	34	35	36	38	39	40

	BCM (BODY CONTROL MODULE)	ļIJ	V	10 11 12 13 14 15 16 17 18 19 20	29 30 31 32 33 34 35 36 37 38 39 40	Signal Name	INPUT 5	INPUT 4
M18		or WHITE		6 7 8 9	27 28	Color of Wire	۵.	SB
Connector No.	Connector Name	Connector Color	(中)	1 2 3 4 5 6	21 22 23 24 25 26	Terminal No.	8	က

/	12	8	Š			
	10 11	31	٥٫			
	2	8				
١	6	53			ļ	
٦	ω	28	D 0			
1	7	27	ĕ.≅	Q.	SB	
1	9	22 23 24 25 26 27	Color of Wire			
1	22	52				
1	4	24	_ <u>_</u>			
1	3	23	<u> </u>	2	8	
1	7	22	E			
1	_	21	Terminal No.			
L			 	L	L	•

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**EXL-125** Revision: March 2012 2011 Pathfinder Α

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COMBINATION METER   Connector Name	COMBINATION SWI	1 1 2 3 4 5 6	Signal Name	INPUT 1	INPUT 2	INPOL 3	INPUT 5	OUTPUT 1	OUTPUT 2	OUTPUT 5	OUTPUT 4	OUTPUT 3	9	ELECTRIC BRAKE (PRE-WIRING)	WHITE		2 6	3 4 5		Signal Name	ı	ı	I	ı	ſ
Connector Name   COMBINATION METER	Connector Name CC	12 11		l LG	HB G	5 E	0	<u>«</u>	_	۵	SB	>			_						a	EG EG	BB	<u>~</u>	0
Connector Name   COMBINATION METER	Connector Na Connector Co	H.S.	Terminal No.	-	01 0	ა 4	· rv	9	7	8	6	10	Connector No	Connector N	Connector Co		恒	H.S.		Terminal No.	-	2	က	4	2
	Connector Name COMBINATION METER Connector Color WHITE	[	17     16     15     14     13     12     11     10     9     8     7     6     5     4     3     2       37     36     36     36     38     33     31     30     29     28     27     26     25     24     23     22	jo no lo	Wire	R/Y	۵.	J (	GR	.5/M	æ (	ອ ອ	Color of	0	BB	0	l LG	>	7						
	ODY CONTROL E)		20 1			BAT (F/L)											46 36 26 16	96 86 76 66		17G 16G 15G 14G 13G 12G 11G	376 366 356 346 336 326 316	476 466 456 446 436 426	57G 56G 55G 54G 53G 52G 51G	67G 66G 65G 64G 63G 62G	

# **TRAILER TOW**

# < WIRING DIAGRAM >

Connector No.   E26  Connector Name   WIRE TO WIRE  Connector Color   WHITE	Terminal No. Wire Signal Name  10 P –  11 L –	Connector No. E121  Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)  Connector Color BROWN  Terminal No. Wire Signal Name  27 W/G TTOW REV LAMP  29 G TRAILER RLY CONT	
Connector No.   E10	Terminal No. Wire Signal Name 7 W –	Connector No. E41  Connector Name WIRE TO WIRE  Connector Color BLACK  H.S.  To lic 10 20 20 20 10 10 10 10 10 10 10 10 10 10 10 10 10	
Connector No. M91  Connector Name WIRE TO WIRE  Connector Color WHITE  To 5 4	Terminal No. Wire Signal Name  10 P - 11 L - 11	Connector No. E38 Connector Name STOP LAMP SWITCH Connector Color WHITE  Terminal No. Wire Signal Name  1 R/B - 2 Y - 2 Y -	E

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Connector No. Connector Name		E122 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE	Connector No. Connector Name Connector Color		E124 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) BLACK		Connector No. Connector Color		E140 TRAILER TOW RELAY 2 BROWN	
南 H.S.	4 4	41 40 39 38 37 47 46 45 44 43	画 H.S.	29 65 82	09   19   29   25   81   87		H.S.	2 2 9		
						<u>'</u>	Terminal No.	Color of Wire	Signal Name	
Terminal No.	Color of	Signal Name	Terminal No.	Color of Wire	Signal Name		-	M/G	1	
	<u> </u>	GND (SIGNAL)	57	GB GB	TAIL LAMP		2	В	ı	
3 08	) _		5 65	<u> </u>	GND (POWER)		က	GR	_	
39	۵ د	H-NAO	8 6	, g	TRAII RIVSIIDDIV		2	>	ı	
04	<u>Γ</u>	CAN-L	5	a/u	I DAIL DLI SUFFLI		9	>	_	
							7	>	1	
Connector No.		E148 TRAII FR TOW BEI AY 1	Connector Name		E152 WIRE TO WIRE		Terminal No.	Color of Wire	Signal Name	
Connector Color			Connector Color	_			1G	0	ı	
				-			2G	BB	1	
E		3					31G	0	1	
S	- <u>7</u> L		ΗS		16 26 36 46 56		32G	re	ı	
	2				6G 7G 8G 9G 10G		49G	>	ı	
				-			50G	_	I	
Terminal No.	Color of Wire	Signal Name		11G 12G 13G 22G 23G	11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G 22G 23G 24G 25G 26G 27G 28G 29G 30G					
-	ŋ	ı		316 326 336	316 326 336 346 356 366 376 386 396 406 416					
2	В	ı		42G 43G	42G 43G 44G 45G 46G 47G 48G 49G 50G					
ဇ	R/B	_		516 526 536	516 526 536 546 556 566 576 586 596 606 616					
2	щ	ı		62G 63G	62G 63G 64G 65G 66G 67G 68G 69G 70G					
					71G 72G 73G 74G 75G 76G 77G 78G 79G 80G					

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# **TRAILER TOW**

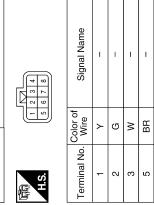
Connector No. E164 Connector Name TRAILER TURN Connector Color of EXA  Terminal No. Wire  2 B 3 G 3 G 5 L  Connector No. C50 Connector No. C50 Connector Name WIRE TO WIRE Connector Color of GRAY  Terminal No. Wire Signa  3 A 5 A 5 A 7 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8 A 8	A B C 5 8 8 D E
Connector No. E164 Connector Name TRAI Connector Color of Terminal No. Wire  1 0 0 2 B 3 G 3 G 5 L  Connector No. C50 Connector No. C50 Connector No. C50 Terminal No. Wire H.S.	D
	F
Connector No.   E163 Connector Name   TRAILER TURN RELAY LH Connector Color   BLUE  2   B   2   B   3   V   5   L   5   L   19C   V   20C   B   20C   B   20C   B   21C   R   22C   BR   23C   BR   24C   BR	G H
Color of Wire B B B B B B B B B B B B B B B B B B B	
Connector No.   E163	J
	K
Connector No. E160  Connector Name FUSE BLOCK (J/B)  Connector Color WHITE  Signal Name  8Q R/B  Connector No. C1  Connector No. C1  Connector Name WIRE TO WIRE  Connector Name WIRE TO WIRE  Connector Color BLACK  H.S. Ric 20 100 120 30	M 300 530 290 292 C 540
Connector No. E160 Connector Name FUSE E Connector Color WHITE  SQ Nire  RQ R/B  Connector No. C1  Connector Name WIRE  Connector Name WIRE  Connector Color of BLACY  H.S.  AMOSTO FISE  A	N
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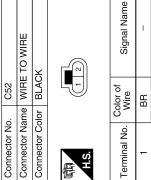
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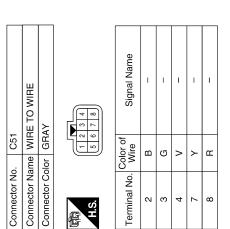
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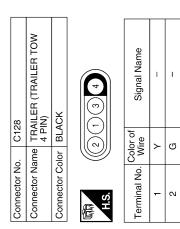
C124	WIRE TO WIRE	GRAY	1 2 3 4 5 6 7 8
Connector No. C124	Connector Name WIRE TO WIRE	Connector Color GRAY	原 H.S.







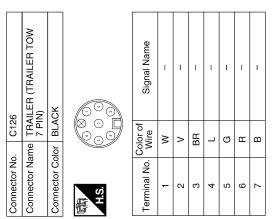
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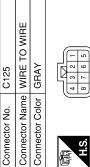


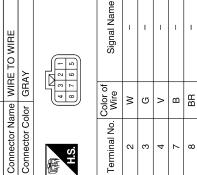
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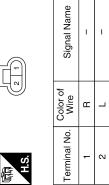
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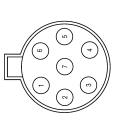
C150	Connector Name   WIRE TO WIRE	BLACK	
Connector No.	Sonnector Name	Connector Color BLACK	

Connector Name TRAILER RECEPTACLE

Connector No. C129

Connector Color BLACK







Signal Name	STOP/TURN LH	GROUND	ELECTRIC BRAKE	STOP/TURN RH	BATTERY	RUNNING LAMPS	BACK-UP LAMPS
Color of Wire	1	1	1	1	-	1	1
Terminal No.	-	2	8	4	5	9	7

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# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

# EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

#### **CAUTION:**

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

Symp	otom	Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	Fuse     Harness between IPDM E/R and the front headlamp     Front headlamp     (High beam relay)     IPDM E/R	Headlamp (HI) circuit Refer to <u>EXL-39</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO N Refer to EXL-135.	OT SWITCH TO HIGH BEAM"
High beam indicator lamp (Headlamp switches to the		Combination meter     BCM	Combination meter.     Data monitor "HI-BEAM IND"     BCM (HEAD LAMP)     Active test "HEADLAMP"
	One side	Daytime light relay 2     Harness between IPDM, daytime light relay 2 and front combination lamp LH.     Front combination lamp (Low beam)	Headlamp (LO) circuit Refer to <u>EXL-45</u> .
Headlamp does not switch to the low beam.	Both sides	Combination switch (lighting and turn signal switch) Harness between the combination switch (lighting and turn signal switch) and BCM BCM	Combination switch (lighting and turn signal switch) Refer to BCS-7.
		High beam request signal BCM IPDM E/R	IPDM E/R Data monitor "HL HI REQ"
		IPDM E/R	_
Headlamp does not turn ON.	One side	Fuse     Bulb     Harness between IPDM E/R and the front headlamp     Front headlamp     IPDM E/R	Headlamp (LO) circuit Refer to <u>EXL-42</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-137, "Description".	
Headlamp doos not turn	When the ignition switch is turned ON	BCM     Combination switch (lighting and turn signal swith)	Combination switch (lighting and turn signal switch) Refer to BCS-7.
Headlamp does not turn OFF.	The ignition switch is turned OFF (After activating the battery saver).	IPDM E/R	_

# **EXTERIOR LIGHTING SYSTEM SYMPTOMS**

# < SYMPTOM DIAGNOSIS >

Symp	otom	Possible cause	Inspection item
Headlamp is not turned ON/OFF with the lighting switch AUTO.		Combination switch (lighting and turn signal switch) Harness between the combination switch (lighting and turn signal switch) and BCM BCM	Combination switch (lighting and turn signal switch) Refer to BCS-7.
		<ul><li>Optical sensor</li><li>Harness between the optical sensor and BCM</li><li>BCM</li></ul>	Optical sensor Refer to <u>EXL-58</u> .
Daytime light system does	not activate.	<ul> <li>Either high beam bulb</li> <li>Parking brake switch</li> <li>Combination switch (lighting and turn signal switch)</li> <li>BCM</li> <li>IPDM E/R</li> <li>Daytime light relay</li> <li>Harness between IPDM E/R and daytime light relay.</li> </ul>	Daytime light system description. Refer to EXL-9, "System Description".
I IND SIDE		Front fog lamp circuit Refer to <u>EXL-48</u> .	
		"BOTH SIDE FRONT FOG LAMPS	S ARE NOT TURNED ON"
Parking lamp is not turned ON.	One side	Fuse     Parking lamp bulb     Harness between IPDM E/R and the front/rear combination lamp     Front/rear combination lamp     IPDM E/R	Parking lamp circuit Refer to <u>EXL-50</u> .
	Both sides	Symptom diagnosis "PARKING, LICENSE PLATE AND ON" Refer to EXL-138.	TAIL LAMPS ARE NOT TURNED
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	Harness between BCM and each turn signal lamp     Turn signal lamp bulb     Door mirror (if equipped with turn signals in the door mirrors)	Turn signal lamp circuit Refer to <u>EXL-55</u> .
	One side	Combination meter	_
Turn signal indicator lamp	Both sides (Always)	<ul> <li>Turn signal indicator lamp signal</li> <li>Combination meter</li> <li>BCM</li> </ul>	Combination meter.     Data monitor "TURN IND"     BCM (FLASHER)     Active test "FLASHER"
does not blink.	Both sides (Does blink when activating the hazard warning lamp with the ignition switch OFF)	<ul> <li>The combination meter power supply and the ground circuit</li> <li>Combination meter</li> </ul>	Combination meter Power supply and the ground circuit Refer to MWI-31.

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# **NORMAL OPERATING CONDITION**

#### < SYMPTOM DIAGNOSIS >

# NORMAL OPERATING CONDITION

Description INFOID:0000000006247695

# **AUTO LIGHT SYSTEM**

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

# BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description INFOID:0000000006748316

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

# Diagnosis Procedure

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

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-7, "System Description"</u>. Is the combination switch (lighting and turn signal switch) normal?

is the combination switch (lighting and turn sign

YES >> GO TO 2

NO >> Repair or replace the malfunctioning part.

# 2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

#### ©CONSULT-III DATA MONITOR

- 1. Select "HL HI REQ" 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
HL HI REQ	(2ND)	Except for HI or PASS	OFF

#### Is the monitor item status normal?

YES >> GO TO 3

NO >> Replace BCM. Refer to BCS-55, "Removal and Installation".

# 3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-39, "Description".

#### Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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# DAYTIME LIGHT SYSTEM INOPERATIVE

#### < SYMPTOM DIAGNOSIS >

# DAYTIME LIGHT SYSTEM INOPERATIVE

Description INFOID:000000006823262

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

# Diagnosis Procedure

INFOID:0000000006823263

#### NOTE:

Before performing the diagnosis, check that the following is normal.

- · High beam lamp function
- · Parking brake warning lamp
- Engine operation status

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

Check the combination switch (lighting and turn signal switch). Refer to BCS-35, "Description".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

# 2.CHECK DAYTIME LIGHT REQUEST SIGNAL INPUT

#### (P)CONSULT-III DATA MONITOR

- 1. Parking brake switch is released.
- 2. Start engine.
- Select "DTRL REQ" of IPDM E/R DATA MONITOR item.
- 4. While operating the combination switch (lighting and turn signal switch), check the monitor status.

Monitor item	Condition		Monitor status	
	combination switch (lighting and turn	1ST or OFF	ON	
DTRL REQ	signal switch)	Except for 1ST or OFF	OFF	

#### Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-55. "Removal and Installation".

# 3.DAYTIME LIGHT RELAY CIRCUIT INSPECTION

Check the daytime light relay circuit. Refer to EXL-46, "Diagnosis Procedure".

#### Is the daytime light relay circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

# **BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON**

#### < SYMPTOM DIAGNOSIS >

# BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:0000000006247698

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

# Diagnosis Procedure

INFOID:0000000006247699

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# 1. CHECK COMBINATION SWITCH (LIGHTING AND TURN SIGNAL SWTICH)

Check the combination switch (lighting and turn signal switch). Refer to BCS-7, "System Description".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning part.

# 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

#### ©CONSULT-III DATA MONITOR

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

Monitor item	Condition		Monitor status
HL LO REQ	Lighting switch	2ND	ON
TIE EO NEQ	Lighting Switch	OFF	OFF

#### Is the monitor item status normal?

YES >> GO TO 3

NO >> Replace BCM. Refer to <u>BCS-55</u>, "Removal and Installation".

# 3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-42, "Description".

#### Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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

< SYMPTOM DIAGNOSIS >

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

**Description** 

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

# Diagnosis Procedure

INFOID:0000000006247701

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

Check the combination switch (lighting and turn signal switch). Refer to <u>BCS-7</u>, "System Description". Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

# (P)CONSULT-III DATA MONITOR

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

Monitor item	Condition		Monitor status
TAIL&CLR REQ	Lighting switch	1ST	ON
IAILACLININLQ	Lighting switch	OFF	OFF

#### Is the monitor item status normal?

YES >> GO TO 3

NO >> Replace BCM. Refer to BCS-55, "Removal and Installation".

# 3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-50, "Description".

#### Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

# BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:0000000006247702

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

Diagnosis Procedure

INFOID:0000000006247703

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

Check the combination switch (lighting and turn signal switch). Refer to BCS-7, "System Description".

Is the combination switch (lighting and turn signal switch) normal?

YES >> GO TO 2

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

#### (P)CONSULT-III DATA MONITOR

- 1. Select "FR FOG 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
FR FOG REQ	Front fog lamp switch	ON	ON
	(Lighting switch 2ND)	OFF	OFF

#### Is the monitor item status normal?

YES >> GO TO 3

NO >> Replace BCM. Refer to BCS-55, "Removal and Installation".

# 3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-48, "Description".

#### Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation of IPDM E/R".

NO >> Repair or replace the malfunctioning part.

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#### **PRECAUTIONS**

#### < 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. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

#### **WARNING:**

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

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

#### **WARNING:**

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

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000006247705

#### NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYS-TEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the "LOCK" position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.

For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.

If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

#### **OPERATION PROCEDURE**

Connect both battery cables.

#### NOTF:

Supply power using jumper cables if battery is discharged.

- 2. Use the Intelligent Key or mechanical key to turn the ignition switch to the "ACC" position. At this time, the steering lock will be released.
- Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
- 4. Perform the necessary repair operation.

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#### **PRECAUTIONS**

#### < PRECAUTION >

- 5. When the repair work is completed, return the ignition switch to the "LOCK" position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
- 6. Perform a self-diagnosis check of all control units using CONSULT-III.

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 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, and wring the water out of the cloth to wipe the dirty area.
  - Then rub with a soft and 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, and wring the water out of the cloth to wipe the detergent off. Then rub with a soft and dry cloth.
- Do not use organic solvent such as thinner, benzene, alcohol, or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

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Revision: March 2012 EXL-141 2011 Pathfinder

# **ADJUSTMENT AND INSPECTION**

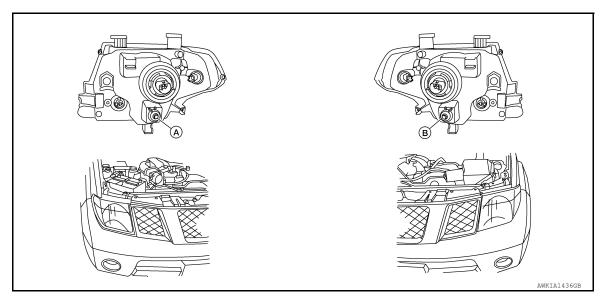
< REMOVAL AND INSTALLATION >

# REMOVAL AND INSTALLATION

# ADJUSTMENT AND INSPECTION HEADLAMP

**HEADLAMP**: Aiming Adjustment

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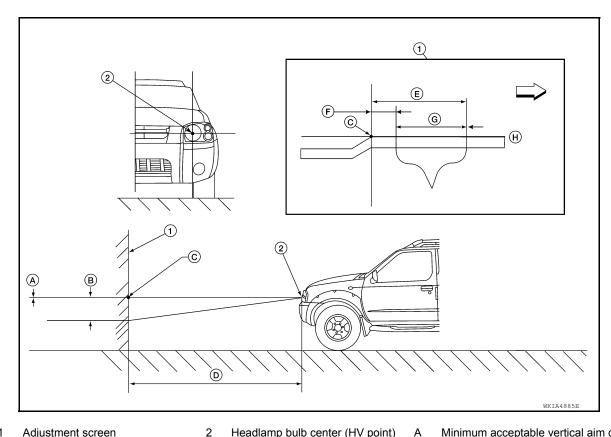
A. Headlamp RH adjustment screw

B. Headlamp LH adjustment screw

#### NOTE:

- For headlamp aiming details, refer to the regulations in your area.
- If vehicle front body has been repaired and/or the front combination lamp has been replaced, check headlamp aiming.
- Before performing aiming adjustment, check the following:
- Confirm headlamp aiming switch is set to "0" (zero) position.
- Ensure all tires are inflated to correct pressure.
- Place vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position). Coolant and engine oil filled to correct level, and fuel tank full.
- Confirm spare tire, jack and tools are properly stowed.
- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.
- Use adjusting screw to perform aiming adjustment

#### LOW BEAM AND HIGH BEAM



- Adjustment screen
- Maximum acceptable vertical aim dimension (see aiming chart)
- Maximum aim evaluation distance F from vertical center on aiming screen 399mm (3° R).
- Horizontal aiming evaluation line.
- Headlamp bulb center (HV point)
- С H-V point
  - Minimum aim evaluation distance from vertical center on aiming screen 133 mm (1°R)
- <□ Right

- Minimum acceptable vertical aim dimension (see aiming chart)
- Distance of headlamp aiming screen D from vehicle 7.62 m (25 ft.)
- G Aim evaluation area

Aiming Chart

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

#### NOTE:

- By regulation, no means for horizontal aim adjustment is provided from the factory; only vertical aim is adjustable.
- Basic illuminating area for evaluation and/or adjustment should be within range shown on aiming chart.
- Use adjustment screw to perform aiming adjustment.
  - Cover the opposite lamp and ensure fog lamps, if equipped, are turned off. **CAUTION:**

Do not tighten adjustment screw beyond specified torque or damage may occur.

Adjustment torque 1.67 N.m (17 kg-cm, 14.8 in-lb)

Adjust beam pattern until cut-off line (top edge of illumination area) is positioned at the specified height off ground. Measure cut-off line within distance J on H-line. See aiming chart.

#### FRONT FOG LAMP

# FRONT FOG LAMP: Aiming Adjustment

The fog lamp is a semi-sealed beam type which uses a replaceable halogen bulb. Before performing aiming adjustment, make sure of the following.

Keep all tires inflated to correct pressure.

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#### ADJUSTMENT AND INSPECTION

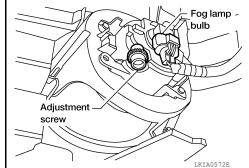
#### < REMOVAL AND INSTALLATION >

- · 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.

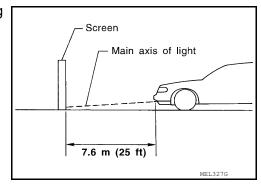
Adjust aiming in the vertical direction by turning the adjustment screw.

#### NOTE:

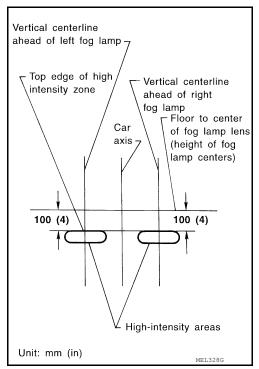
Use a Phillips screwdriver to adjust. Turn screw clockwise to raise pattern and counterclockwise to lower pattern.



1. Set the distance between the screen and the center of the fog lamp lens as shown.



- 2. Turn front fog lamps ON.
- Remove front portion of fender protector(s) for adjustment screw access. Refer to <u>EXT-25</u>. "Removal and Installation of Front Fender Protector"
- 4. Adjust front fog lamps using adjustment screw so that the top edge of the high intensity zone is 100 mm (4 in) below the height of the fog lamp centers as shown.
  - When performing adjustment, if necessary, cover the headlamps and opposite fog lamp.



# UNIT REMOVAL AND INSTALLATION

#### **HEADLAMP**

Bulb Replacement

#### **CAUTION:**

Leaving bulb removed from the headlamp housing for a long period of time can deteriorate the performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing a bulb.

**HEADLAMP** 

Removal

#### NOTE:

Reach through engine room for bulb replacement access.

- 1. Turn front headlamp switch OFF.
- Disconnect the electrical connector.
- 3. Rotate the headlamp bulb retaining ring counterclockwise and remove.
- Pull the headlamp bulb straight out from the front combination lamp.

#### **CAUTION:**

Grasp only the plastic base when handling the bulb. Never touch the glass envelope.

Installation

Installation is in the reverse order of removal.

#### **CAUTION:**

After installing bulb, be sure to install the bulb socket and plastic cap securely to ensure watertight-

FRONT TURN SIGNAL/PARKING LAMP

Removal

#### NOTE:

Reach through engine room for bulb replacement access.

- Turn the bulb socket counterclockwise to unlock it.
- 2. Pull the bulb to remove it from the socket.

Installation

Installation is in the reverse order of removal.

#### **CAUTION:**

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

FRONT SIDE MARKER LAMP

Removal

#### NOTE:

Reach through engine room for bulb replacement access.

- Turn the bulb socket counterclockwise to unlock it.
- Pull the bulb to remove it from the socket.

Installation

Installation is in the reverse order of removal.

#### **CAUTION:**

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

Removal and Installation

#### FRONT COMBINATION LAMP

Removal

Revision: March 2012

 Remove front portion of front fender protector. Refer to <u>EXT-25</u>, "Removal and Installation of Front Fender Protector".

**EXL-145** 

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2011 Pathfinder

#### **HEADLAMP**

#### < UNIT REMOVAL AND INSTALLATION >

- 2. Remove the front bumper. Refer to EXT-15, "Removal and Installation".
- 3. Remove the front combination lamp bolts.
- 4. Disconnect the front combination lamp connector and remove front combination lamp.

#### Installation

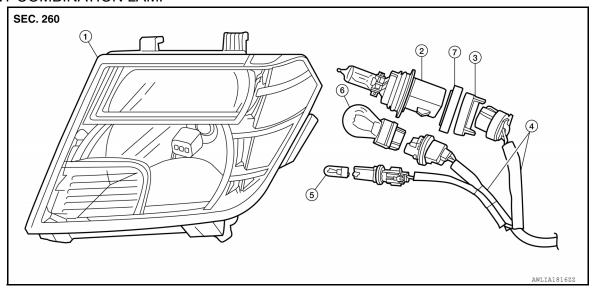
Installation is in the reverse order of removal.

# Front combination lamp bolts : 6.0 Nm (0.61 kg-m, 53 in-lb)

# Disassembly and Assembly

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#### FRONT COMBINATION LAMP



- 1. Front combination lamp
- 4. Wiring harness assembly
- 7. Headlamp bulb sealing ring
- 2. Headlamp bulb
- 5. Front side marker lamp bulb
- 3. Headlamp bulb retaining ring
- 6. Front turn signal/parking lamp bulb

#### DISASSEMBLY

#### **CAUTION:**

Leaving bulb removed from the headlamp housing for a long period of time can deteriorate the performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing a bulb.

1. Rotate headlamp bulb retaining ring counterclockwise and remove.

#### **CAUTION:**

Grasp only the plastic base when handling headlamp bulb. Never touch the glass envelope.

- 2. Turn front turn signal/parking lamp bulb socket counterclockwise to unlock and remove socket.
- 3. Turn front side marker lamp bulb socket counterclockwise to unlock and remove socket.

#### **ASSEMBLY**

Installation is in the reverse order of removal.

#### **CAUTION:**

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

# **OPTICAL SENSOR**

# < UNIT REMOVAL AND INSTALLATION >

# **OPTICAL SENSOR**

# Removal and Installation

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# **REMOVAL**

- 1. Remove the optical sensor and bezel from the center of the instrument panel.
- 2. Disconnect the optical sensor connector.
- 3. Remove the optical sensor from the bezel.

#### **INSTALLATION**

Installation is in the reverse order of removal.

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#### FRONT FOG LAMP

# **Bulb Replacement**

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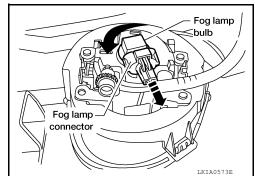
- 1. Partially remove the front portion of the fender protector. Refer to <u>EXT-25</u>, "Removal and Installation of <u>Front Fender Protector"</u>.
- Disconnect fog lamp connector.
- 3. Turn the bulb counterclockwise to remove it.

#### 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 of bulb directly by hand. Keep grease and other oily substances away from it.
- Do not leave bulb out of fog lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of fog lamp. When replacing bulb, be sure to replace it with new one.



#### Removal and Installation

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#### FRONT FOG LAMP

#### NOTE:

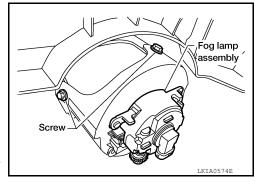
The fog lamp is a semi-sealed beam type which uses a replaceable.

#### Removal

- Partially remove the front portion of the front fender protector. Refer to <u>EXT-25</u>, "<u>Removal and Installation of Front Fender Protector</u>"
- Disconnect fog lamp connector.
- 3. Remove fog lamp screws and pull fog lamp rearward out of front bumper.

#### **CAUTION:**

- Do not leave fog lamp assembly without bulb for a long period of time. Dust, moisture, smoke, etc. entering the fog lamp body may affect the performance. Remove the bulb from the fog lamp assembly just before replacement bulb is installed.
- Grasp only the plastic base when handling the bulb. Never touch the glass envelope. Touching the glass could significantly affect the bulb life and/or fog lamp performance.



#### Installation

Installation is in the reverse order of removal.

#### NOTE:

After installation, perform front fog lamp aiming adjustment. Refer to <u>EXL-143</u>, <u>"FRONT FOG LAMP : Aiming Adjustment"</u>.

# **LIGHTING & TURN SIGNAL SWITCH**

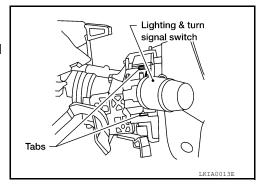
# < UNIT REMOVAL AND INSTALLATION >

# **LIGHTING & TURN SIGNAL SWITCH**

# Removal and Installation

#### **REMOVAL**

- 1. Remove instrument lower panel LH. Refer to IP-11, "Exploded View".
- 2. Remove steering column cover.
- 3. Disconnect the lighting and turn signal switch connector.
- 4. While pressing tabs, pull lighting and turn signal switch toward driver door and release from the steering column.



#### **INSTALLATION**

Installation is in the reverse order of removal.

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# **HAZARD SWITCH**

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# **HAZARD SWITCH**

# Removal and Installation

#### INFOID:0000000006247715

# **REMOVAL**

- 1. Remove cluster lid C. Refer to IP-11, "Exploded View".
- 2. Remove the screws and remove the hazard switch.

#### **INSTALLATION**

Installation is in the reverse order of removal.

# **HIGH-MOUNTED STOP LAMP**

# < UNIT REMOVAL AND INSTALLATION >

# HIGH-MOUNTED STOP LAMP

# High-Mounted Stop Lamp

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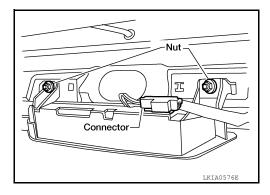
#### **BULB REPLACEMENT**

The high-mounted stop lamp bulbs are not serviceable.

#### REMOVAL AND INSTALLATION

#### Removal

- 1. Remove back door finisher and window garnish. Refer to INT-27, "Removal and Installation".
- 2. Disconnect high-mounted stop lamp connector.
- 3. Remove nuts and remove high-mounted stop lamp.



#### Installation

Installation is in the reverse order of removal.

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# LICENSE PLATE LAMP

#### < UNIT REMOVAL AND INSTALLATION >

# LICENSE PLATE LAMP

# **Bulb Replacement**

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#### LICENSE PLATE LAMP

#### Removal

- 1. Remove back door finisher. Refer to EXT-23, "Removal and Installation".
- 2. Turn bulb socket counterclockwise and remove bulb socket.
- 3. Remove license plate lamp bulb.

#### Installation

Installation is in the reverse order of removal.

#### Removal and Installation

INFOID:0000000006247718

#### LICENSE PLATE LAMP

#### Removal

- 1. Remove license lamp finisher. Refer to EXT-23, "Removal and Installation".
- Disconnect license plate lamp harness connector.
- 3. Remove license plate lamp screw and remove license plate lamp.

#### Installation

Installation is in the reverse order of removal.

# **REAR COMBINATION LAMP**

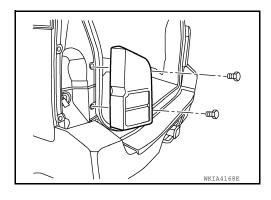
#### < UNIT REMOVAL AND INSTALLATION >

# **REAR COMBINATION LAMP**

# Bulb Replacement

#### **REMOVAL**

- 1. Remove rear combination lamp bolts.
- 2. Pull rear combination lamp to remove from the vehicle.
- 3. Turn bulb socket counterclockwise and unlock it.
- 4. Remove bulb.



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### Removal and Installation

#### **REMOVAL**

- 1. Remove rear combination lamp bolts.
- 2. Pull rear combination lamp to remove from the vehicle.
- 3. Disconnect rear combination lamp connector.

#### **INSTALLATION**

Installation is in the reverse order of removal.

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# **BULB SPECIFICATIONS**

< SERVICE DATA AND SPECIFICATIONS (SDS)

# SERVICE DATA AND SPECIFICATIONS (SDS)

# **BULB SPECIFICATIONS**

Headlamp INFOID:0000000006247721

Item	Wattage (W)*
Low/High	55/65

<sup>\*:</sup> Always check with the Parts Department for the latest parts information.

Exterior Lamp

Item		Wattage (W)*
Front combination lamp	Turn signal lamp/parking lamp	28/8
Front combination lamp	Side marker	3.8
	Stop/Tail lamp	27/8
Rear combination lamp	Turn signal lamp	27
	Back-up lamp	18
Front fog lamp		55
License plate lamp		5
High-mounted stop lamp		*

<sup>\*:</sup> Always check with the Parts Department for the latest parts information.