SECTION EXE

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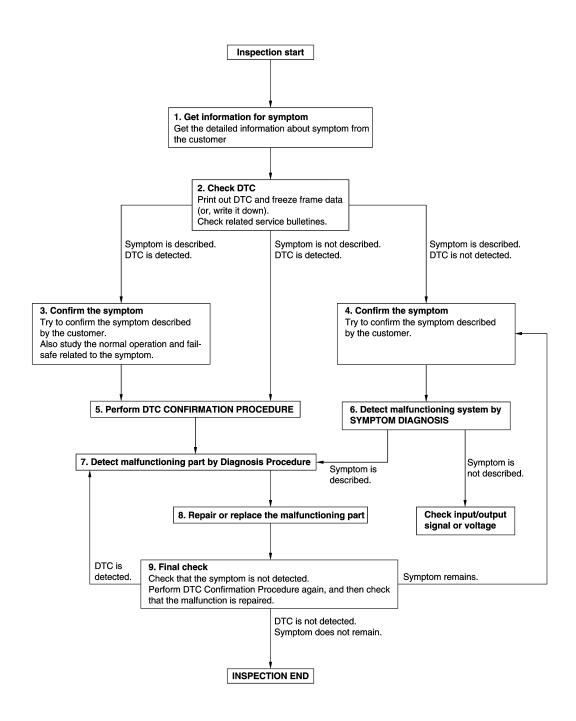
< BASIC INSPECTION >

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000009945097

OVERALL SEQUENCE



DETAILED FLOW

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM
1. Get detailed information from the customer about the symptom (the condition and the environment when
the incident/malfunction occurs).2. Check operation condition of the function that is malfunctioning.
>> GO TO 2.
2.CHECK DTC
 Check DTC. Perform the following procedure if DTC is detected. Record DTC and freeze frame data (Print them out using CONSULT.)
 Erase DTC. Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information.
Are any symptoms described and any DTC detected?
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.
3.CONFIRM THE SYMPTOM
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.
>> GO TO 5.
4.CONFIRM THE SYMPTOM
Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.
>> GO TO 6.
5. PERFORM DTC CONFIRMATION PROCEDURE
Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to DTC INSPECTION PRIORITY CHART, and determine trouble diagnostic order.
NOTE:
 Freeze frame data is useful if the DTC is not detected. Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR- MATION PROCEDURE.
Is DTC detected?
YES >> GO TO 7. NO >> Check according to <u>GI-40, "Intermittent Incident"</u> .
6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS
Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.
Is the symptom described?
 YES >> GO TO 7. NO >> Monitor input data from related sensors or check voltage of related module terminals using CON- SULT.
7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-40, "Intermittent Incident"</u>.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9.FINAL CHECK

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

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

Is DTC detected and does symptom remain?

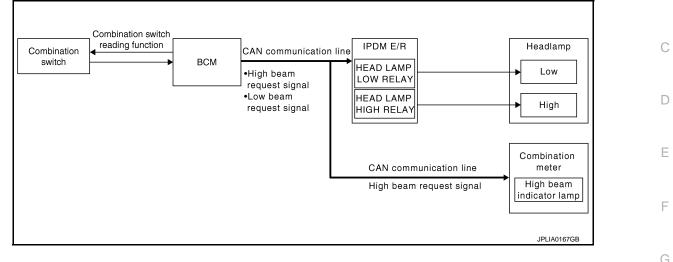
- YES-1 >> DTC is detected: GO TO 7.
- YES-2 >> Symptom remains: GO TO 4.

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

< SYSTEM DESCRIPTION > SYSTEM DESCRIPTION

HEADLAMP SYSTEM





System Description

OUTLINE Headlamp is controlled by combination switch reading function and headlamp control function of BCM, and relay control function of IPDM E/R.	Η
 HEADLAMP (LO) OPERATION BCM detects the combination switch condition with the combination switch reading function. BCM transmits the low beam request signal to IPDM E/R with CAN communication according to the head-lamp (LO) ON condition. 	 J
 Headlamp (LO) ON condition Lighting switch 2ND Lighting switch AUTO, and the auto light function ON judgment (With auto light system) IPDM E/R turns the integrated headlamp low relay ON, and turns the headlamp ON according to the low beam request signal. 	K
 HEADLAMP (HI) OPERATION BCM transmits the high beam request signal to IPDM E/R and the combination meter with CAN communication according to the headlamp (HI) ON condition. 	EXI
Headlamp (HI) ON condition - Lighting switch 2ND or AUTO (auto light function ON judgment) - Lighting switch PASS	Μ
 Combination meter turns the high beam indicator lamp ON according to the high beam request signal. IPDM E/R turns the integrated headlamp high relay ON, and turns the headlamp ON according to the high beam request signal. 	Ν
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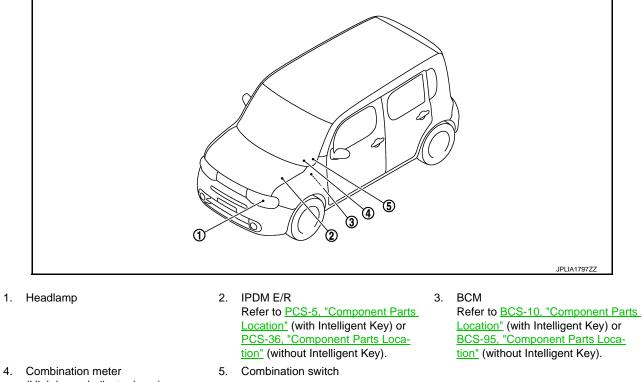
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HEADLAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000009945100



(High beam indicator lamp)

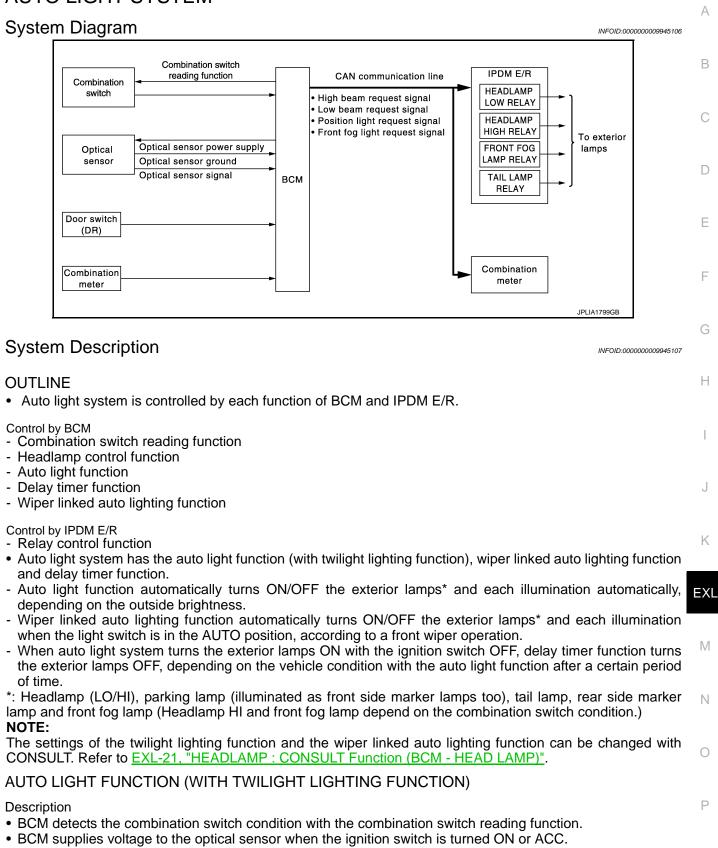
Component Description

INFOID:000000009945101

Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges that the headlamp is turned ON according to the vehicle condition. Requests the headlamp relay (HI/LO) ON to IPDM E/R (with CAN communication). Requests the high beam indicator lamp ON to the combination meter (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> (with Intelligent Key) or <u>BCS-96, "System Dia-</u> <u>gram"</u> (without Intelligent Key).
Combination meter (High beam indicator lamp)	Turns the high beam indicator lamp ON according to the request from BCM (with CAN communication).

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION > AUTO LIGHT SYSTEM



- Optical sensor converts outside brightness (lux) to voltage and transmits the optical sensor signal to BCM.
- BCM detects outside brightness from the optical sensor signal and judges ON/OFF condition of the exterior lamp and each illumination, depending on the outside brightness condition (standard or twilight).
- BCM transmits each request signal to IPDM E/R via CAN communication, according to ON/OFF condition by the auto light function.

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

NOTE:

As to ON/OFF timing, the sensitivity depends on settings. The settings can be changed with CONSULT. Refer to EXL-21, "HEADLAMP : CONSULT Function (BCM - HEAD LAMP)".

WIPER LINKED AUTO LIGHTING FUNCTION

BCM turns the exterior lamp ON when detecting 4 operations of the front wiper work the light switch in AUTO position.

NOTE:

BCM turns OFF the headlamps 3 seconds after the front wiper switch is turned from HI \Rightarrow OFF.

DELAY TIMER FUNCTION

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

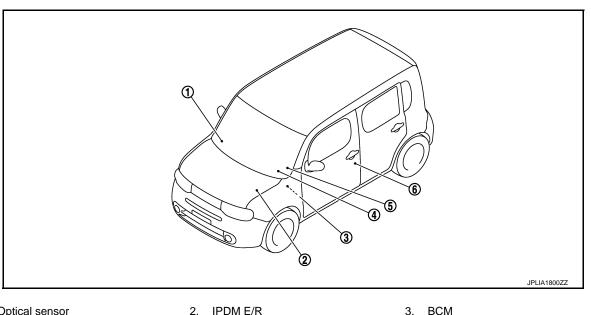
- Turns the exterior lamp OFF 5 minutes after detecting that any door opens (Door switch ON).
- Turns the exterior lamp OFF with the ignition switch ACC or the light switch OFF.
- *: The preset time is 45 seconds. The timer operating time can be set by CONSULT. Refer to EXL-21. "HEAD-LAMP : CONSULT Function (BCM - HEAD LAMP)".

NOTE:

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

Component Parts Location

INFOID:000000009945108



Optical sensor

2. IPDM E/R Refer to PCS-5, "Component Parts Location" (with Intelligent Key) or PCS-36, "Component Parts Location" (without Intelligent Key).

5. Combination switch

4. Combination meter

Refer to BCS-10, "Component Parts

Location" (with Intelligent Key) or

BCS-95, "Component Parts Location" (without Intelligent Key).

6. Door switch

AUTO LIGHT SYSTEM

< SYSTEM DESCRIPTION >

Component Description

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Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges the outside brightness from the optical sensor signal. Judges the OFF timing according to the vehicle condition. Judges the ON/OFF status of the exterior lamp and each illumination according to the outside brightness and the vehicle condition. Requests ON/OFF of each relay to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay, and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> (with Intelligent Key) or <u>BCS-96, "System Diagram"</u> (without Intelligent Key).
Optical sensor	Refer to EXL-53, "Description".

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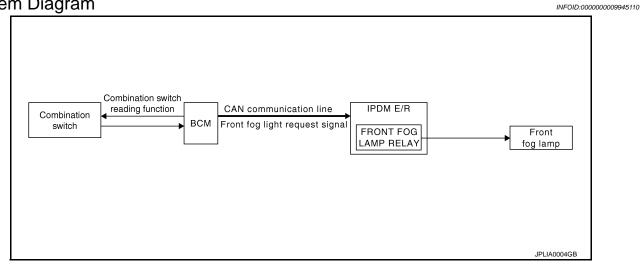
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FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

FRONT FOG LAMP SYSTEM

System Diagram



System Description

INFOID:000000009945111

OUTLINE

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

FRONT FOG LAMP OPERATION

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

Front fog lamp ON condition

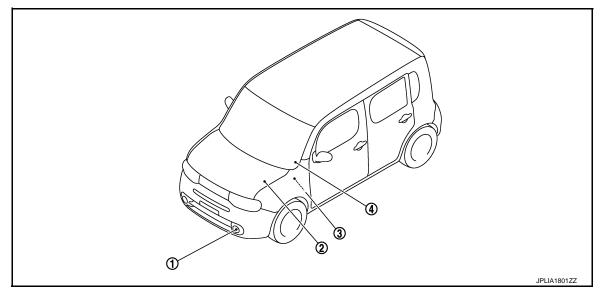
- Front fog lamp switch ON and any of the followings. (except for the high beam ON)
- Lighting switch 2ND
- Lighting switch AUTO and the ignition switch ON
- NOTE:

Headlamp, front fog lamp, parking lamp, licence plate lamp, side marker lamp and tail lamp are turned ON.

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

Component Parts Location

INFOID:000000009945112



FRONT FOG LAMP SYSTEM

< SYSTEM DESCRIPTION >

1. Front fog lamp

2. IPDM E/R Refer to <u>PCS-5, "Component Parts</u> Location". 3. BCM Refer to <u>BCS-10, "Component Parts</u> <u>Location"</u>.

4. Combination switch

Component Description

INFOID:000000009945113

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Part	Description
BCM	 Detects each switch condition by the combination switch reading function. Judges the front fog lamp ON/OFF status according to the vehicle condition. Requests the front fog lamp relay ON to IPDM E/R (with CAN communication).
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to BCS-11, "System Diagram".

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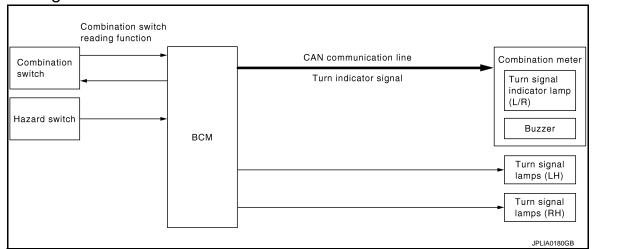
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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

System Diagram



System Description

INFOID:000000009945115

INFOID:000000009945114

OUTLINE

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

TURN SIGNAL LAMP OPERATION

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

HAZARD WARNING LAMP OPERATION

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

TURN SIGNAL INDICATOR LAMP AND TURN SIGNAL OPERATION

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

HIGH FLASHER OPERATION

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

NOTE:

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

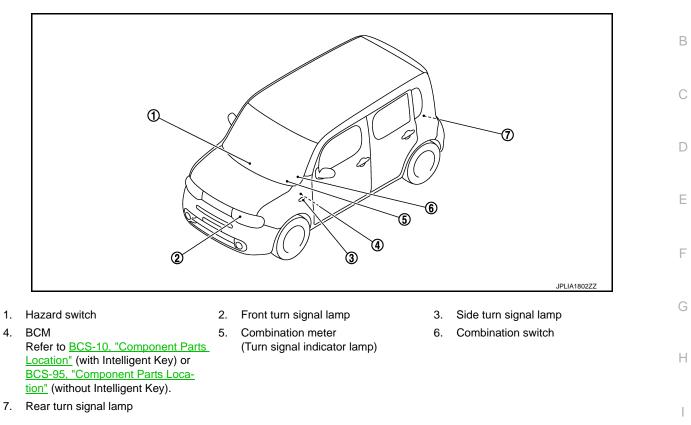
TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000009945116

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Component Description

INFOID:000000009945117

Part	Description
ВСМ	 Detects each switch condition by the combination switch reading function. Judges the blinks of the turn signal lamp and the hazard warning lamp from each switch status. The applicable turn signal lamp blinks. Requests the turn signal indicator lamp blink to the combination meter (with CAN communication).
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> (with Intelligent Key) or <u>BCS-96, "System Dia-</u> <u>gram"</u> (without Intelligent Key).
Hazard switch	Inputs the hazard switch ON/OFF signal to BCM.
Combination meter (Turn signal indicator lamp & buzzer)	Blinks the turn signal indicator lamp and outputs the turn signal operating sound with integrated buzzer according to the request from BCM (with CAN communication).

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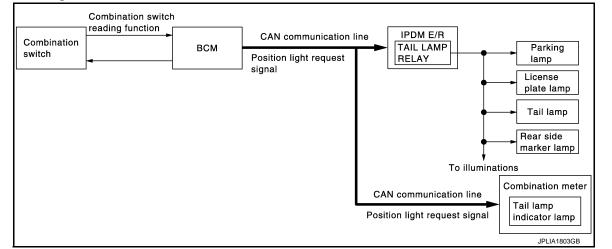
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PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS SYSTEM < SYSTEM DESCRIPTION >

PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS SYSTEM

System Diagram





System Description

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OUTLINE

Parking^{*}, license plate, tail and rear side marker lamps are controlled by combination switch reading function and headlamp control function of BCM, and relay control function of IPDM E/R. *: Illuminated as front side marker lamps too.

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

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

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

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

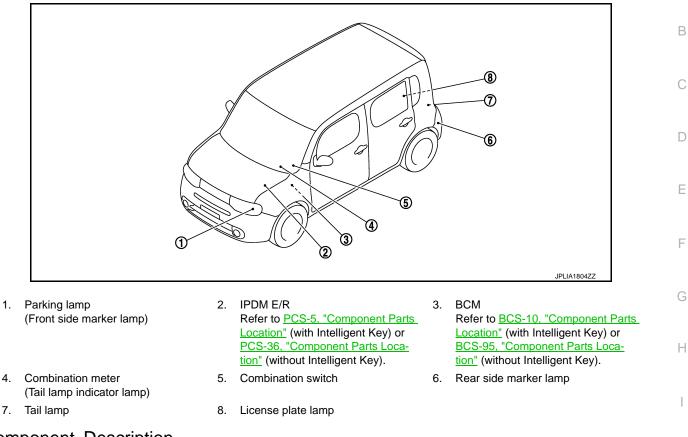
PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

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Component	Description

Part	Description	
	 Detects each switch condition by the combination switch reading function. Judges the ON/OFF status of the parking, license plate, tail and rear side marker lamps according to the vehicle condition. 	k
BCM	 Requests the tail lamp relay ON to IPDM E/R (with CAN communication). Requests the tail lamp indicator lamp ON to the combination meter (with CAN communication). 	Ε>
IPDM E/R	Controls the integrated relay and supplies voltage to the load according to the request from BCM (with CAN communication).	N
Combination switch (Lighting & turn signal switch)	Refer to <u>BCS-11, "System Diagram"</u> (with Intelligent Key) or <u>BCS-96, "System Dia-gram"</u> (without Intelligent Key).	
Combination meter (Tail lamp indicator lamp)	Turns the tail lamp indicator lamp ON according to the request from BCM (with CAN communication).	Ν

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EXTERIOR LAMP BATTERY SAVER SYSTEM

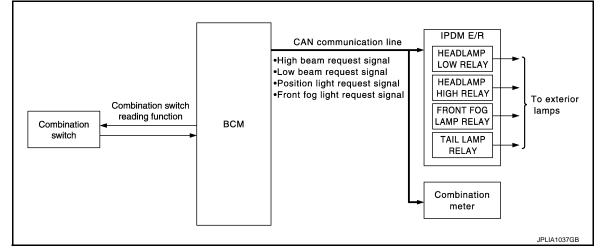
< SYSTEM DESCRIPTION >

EXTERIOR LAMP BATTERY SAVER SYSTEM

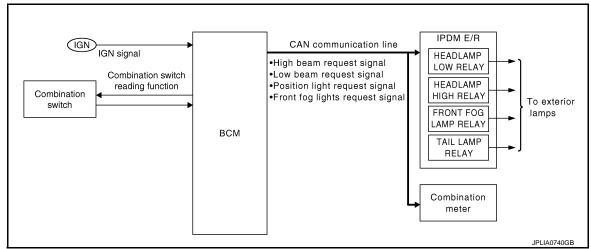
System Diagram

INFOID:000000009945122

WITH INTELLIGENT KEY



WITHOUT INTELLIGENT KEY



System Description

INFOID:000000009945123

OUTLINE

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

Control by BCM

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

Control by IPDM E/R

- Relay control function
- BCM turns the exterior lamp* OFF after a period of time to prevent the battery from over-discharge when the ignition switch is turned OFF with the exterior lamp ON.

*: Headlamp (LO/HI), parking (front side marker) lamp, tail lamp, license plate lamp, rear side marker lamp and front fog lamp

EXTERIOR LAMP BATTERY SAVER ACTIVATION

BCM activates the timer and turns the exterior lamp OFF 45 seconds after the ignition switch is turned from $ON \rightarrow OFF$ with the exterior lamps ON.

NOTE:

EXTERIOR LAMP BATTERY SAVER SYSTEM

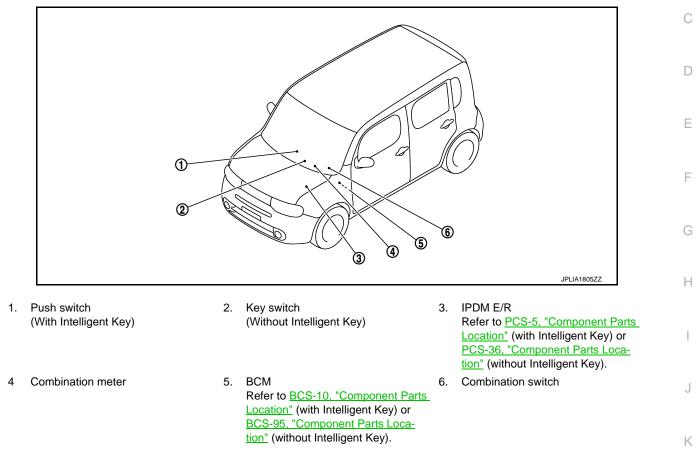
< SYSTEM DESCRIPTION >

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

Component Parts Location

INFOID:000000009945124

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Component Description

EXL Part Description · Detects each switch condition by the combination switch reading function. Μ · Activates the battery saver to turn the exterior lamps OFF according to the vehicle BCM condition. Requests each relay OFF to IPDM E/R (with CAN communication). Controls the integrated relay according to the request from BCM (with CAN communi-Ν **IPDM E/R** cation). Combination switch Refer to BCS-11, "System Diagram" (with Intelligent Key) or BCS-96, "System Diagram" (without Intelligent Key). (Lighting & turn signal switch)

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INFOID:000000009945125

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM) < SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010249349

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	
Data Monitor	The BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	Read and save the vehicle specification.Write the vehicle specification when replacing BCM.	

SYSTEM APPLICATION

BCM can perform the following functions for each system. **NOTE:**

It can perform the diagnosis modes except the following for all sub system selection items.

System	Sub avetom coloction item	Diagnosis mode		
System	Sub system selection item	Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Automatic air conditioner	AIR CONDITONER		×	
Intelligent Key systemEngine start system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU	×	×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Back door	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×

FREEZE FRAME DATA (FFD)

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

< SYSTEM DESCRIPTION >

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

NOTE:

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

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

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

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

WORK SUPPORT

INFOID:000000009945127

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< SYSTEM DESCRIPTION >

Service item	Setting item	Setting		
	MODE 1*	Normal		
	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)		
CUSTOM A/LIGHT SETTING	MODE 3	More sensitive setting than MODE 2 (Turns ON earlier than MODE 2.)		
MODE		Without twilight ON custom a than normal operation.)	& less sensitive setting than normal setting (Turns ON later	
BATTERY SAVER SET	On*	With the exterior lamp batter	ry saver function	
DATTERT SAVER SET	Off	Without the exterior lamp ba	ttery saver function	
	MODE 1*	45 sec.		
	MODE 2	Without the function		
	MODE 3	30 sec.		
ILL DELAY SET	MODE 4	60 sec.	Sets delay timer function timer operation time.	
ILL DELAT SET	MODE 5	90 sec.	(All doors closed)	
	MODE 6	120 sec.		
	MODE 7	150 sec.		
	MODE 8	180 sec.		
	MODE 1*	With twilight ON custom & w	ith wiper INT, LO and HI	
	MODE 2	With twilight ON custom & with wiper LO and HI		
AUTO LIGHT LOGIC SET	MODE 3	With twilight ON custom & without		
	MODE 4	Without twilight ON custom & with wiper INT, LO and HI		
	MODE 5	Without twilight ON custom & with wiper LO and HI		
	MODE 6	Without twilight ON custom & without		

*: Factory setting

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch	
ENGINE STATE [Stop/Stall/Crank/Run]	Indicates [Stop/Stall/Crank/Run] condition of engine states	
VEH SPEED 1 [km/h]	Display the vehicle speed signal received from combination meter by numerical value [Km/h]	

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description	-
TURN SIGNAL R [On/Off]		-
TURN SIGNAL L [On/Off]		
TAIL LAMP SW [On/Off]		
HI BEAM SW [On/Off]		
HEAD LAMP SW1 [On/Off]	Each switch status that BCM judges from the combination switch reading function	
HEAD LAMP SW2 [On/Off]		
PASSING SW [On/Off]		
AUTO LIGHT SW [On/Off]		
FR FOG SW* [On/Off]		
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)	
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)	
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH	_
DOOR SW- RL [On/Off]	Indicated [On/Off] condition of rear door switch LH	_
DOOR SW-BK [On/Off]	Indicated [On/Off] condition of back door switch	_
OPTI SEN (DTCT) [V]	The value of outside brightness voltage input from the optical sensor	-
OPTI SEN (FILT) [V]	The value of outside brightness voltage filtered by BCM	-
OPTICAL SENSOR [On/Off]	NOTE: This item is displayed, but cannot be monitored	

*: For models without front fog lamp, this item is displayed, but cannot be monitored.

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN commu- nication to turn the tail lamp ON.
	Off	Stops the tail lamp request signal transmission.
HEAD LAMP	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).
	Lo	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).
	Off	Stops the high & low beam request signal transmission.
FR FOG LAMP	On	Transmits the front fog lights request signal to IPDM E/R with CAN commu- nication to turn the front fog lamp ON.
	Off	Stops the front fog lights request signal transmission.

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< SYSTEM DESCRIPTION >

Test item	Operation	Description
ILL DIM SIGNAL	On	NOTE:
ILL DIM SIGNAL	Off	The item is displayed, but cannot be tested

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

INFOID:000000009945128

WORK SUPPORT

Service item	Setting item	Setting	
	Lock Only	With locking only	
HAZARD ANSWER	Unlk Only	With unlocking only	Sets the hazard warning lamp answer back function when the door is lock/unlock with the request switch or the key
BACK	Lock/Unlk*	With locking/unlocking	fob.
	Off	Without the function	

*: Factory setting

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description			
REQ SW -DR [On/Off]	Indicated [On/Off] condition of door request switch (driver side)			
REQ SW -AS [On/Off]	Indicated [On/Off] condition of door request switch (passenger side)			
PUSH SW [On/Off]	Indicates [On/Off] condition of push-button ignition switch			
TURN SIGNAL R [On/Off]	Each switch status that BCM detects from the combination switch reading function			
TURN SIGNAL L [On/Off]				
HAZARD SW [On/Off]	The switch status input from the hazard switch			
RKE-LOCK [On/Off]	Indicates [On/Off] condition of LOCK signal from Intelligent Key			
RKE-UNLOCK [On/Off]	Indicates [On/Off] condition of UNLOCK signal from Intelligent Key			
RKE-PANIC [On/Off]	Indicates [On/Off] condition of PANIC button of Intelligent Key			

ACTIVE TEST

Test item	Operation	Description	
	RH	Outputs the voltage to turn the right side turn signal lamps ON.	
FLASHER	LH	Outputs the voltage to turn the left side turn signal lamps ON.	
	Off	Stops the voltage to turn the turn signal lamps OFF.	

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010249350

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	
Data Monitor	The BCM input/output signals are displayed.	E
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	Read and save the vehicle specification.Write the vehicle specification when replacing BCM.	F

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

				\times : Applicable item	
System	Sub system selection item	Diagnosis mode			
System		Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	
Interior room lamp control	INT LAMP	×	×	×	
Remote keyless entry system	MULTI REMOTE ENT	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	_
Turn signal and hazard warning lamps	FLASHER		×	×	E
Manual air conditioner	AIR CONDITONER		×	×	
Combination switch	COMB SW		×		
Body control system	BCM	×			-
NVIS - NATS	IMMU	×	×	×	
Interior room lamp battery saver	BATTERY SAVER	×	×	×	
Back door	TRUNK		×		
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×	×	
Signal buffer system	SIGNAL BUFFER		×	×	
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	
Panic alarm system	PANIC ALARM			×	•

HEADLAMP

HEADLAMP : CONSULT Function (BCM - HEAD LAMP)

INFOID:000000009945130

WORK SUPPORT

< SYSTEM DESCRIPTION >

Service item	Setting item	Setting	
BATTERY SAVER SET	On*	With the exterior lamp battery saver function	
DATTERT SAVER SET	Off	Without the exterior lamp battery saver function	
	MODE 1		
	MODE 2		
	MODE 3		
ILL DELAY SET	MODE 4	NOTE:	
	MODE 5	This item is displayed, but cannot be used	
	MODE 6		
	MODE 7		
	MODE 8		
	MODE 1		
	MODE 2		
AUTO LIGHT LOGIC SET	MODE 3	NOTE:	
	MODE 4	This item is displayed, but cannot be used	
	MODE 5		
	MODE 6		

*: Factory setting

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor item [Unit]	Description	
IGN ON SW [On/Off]	Indicated [On/Off] condition of ignition switch in ON position	
ACC ON SW [On/Off]	Indicates [On/Off] condition of ignition switch in ACC position	
HI BEAM SW [On/Off]		
HEAD LAMP SW 1 [On/Off]		
HEAD LAMP SW 2 [On/Off]		
TAIL LAMP SW [On/Off]	Each switch status that BCM judges from the combination switch reading function	
AUTO LIGHT SW* [On/Off]		
PASSING SW [On/Off]		
FR FOG SW* [On/Off]		
DOOR SW-DR [On/Off]	Indicated [On/Off] condition of front door switch (driver side)	
DOOR SW-AS [On/Off]	Indicated [On/Off] condition of front door switch (passenger side)	
DOOR SW-RR [On/Off]	Indicated [On/Off] condition of rear door switch RH	

< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description
DOOR SW- RL [On/Off]	Indicated [On/Off] condition of rear door switch LH
BACK DOOR SW [On/Off]	Indicated [On/Off] condition of back door switch
TURN SIGNAL R [On/Off]	Each switch status that PCM judges from the combination switch reading function
TURN SIGNAL L [On/Off]	Each switch status that BCM judges from the combination switch reading function
KEY ON SW [On/Off]	Indicated [On/Off] condition of key switch
KEYLESS LOCK [On/Off]	Indicated [On/Off] condition of lock signal from key fob
PKB SW [On/Off]	The parking brake switch status received from combination meter with CAN communica- tion
ENGINE RUN [On/Off]	The engine status received from ECM with CAN communication
VEHICLE SPEED [km/h]	Display the vehicle speed signal received from combination meter by numerical value [Km/h]
OPTI SEN (DTCT) [V]	NOTE: This item is displayed, but cannot be monitored
OPTI SEN (FILT) [V]	NOTE: This item is displayed, but cannot be monitored

*: This item is displayed, but cannot be monitored.

ACTIVE TEST

Test item	Operation	Description	
TAIL LAMP	On	Transmits the position light request signal to IPDM E/R with CAN commu- nication to turn the tail lamp ON.	J
	Off	Stops the tail lamp request signal transmission.	IZ.
	Hi	Transmits the high beam request signal with CAN communication to turn the headlamp (HI).	ĸ
HEAD LAMP	Lo	Transmits the low beam request signal with CAN communication to turn the headlamp (LO).	EX
	Off	Stops the high & low beam request signal transmission.	
	On	NOTE:	M
FR FOG LAMP	Off	This item is displayed, but cannot be tested	1 V I
	On	NOTE:	
ILL DIM SIGNAL	Off	This item is displayed, but cannot be tested	Ν

FLASHER

FLASHER : CONSULT Function (BCM - FLASHER)

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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< SYSTEM DESCRIPTION >

Monitor item [Unit]	Description		
IGN ON SW [On/Off]	Indicated [On/Off] condition of ignition switch in ON position		
HAZARD SW [On/Off]	The switch status input from the hazard switch		
TURN SIGNAL R [On/Off]	Each quitch status that DOM datasts from the combination quitch reading function		
TURN SIGNAL L [On/Off]	 Each switch status that BCM detects from the combination switch reading function 		

ACTIVE TEST

Test item	Operation	Description
	RH	Outputs the voltage to turn the right side turn signal lamps ON.
FLASHER	LH	Outputs the voltage to turn the left side turn signal lamps ON.
	Off	Stops the voltage to turn the turn signal lamps OFF.

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM) А Diagnosis Description INFOID:000000010249363 AUTO ACTIVE TEST В Description In auto active test mode, the IPDM E/R sends a drive signal to the following systems to check their operation. Oil pressure warning lamp Rear window defogger Front wiper (LO, HI) Parking lamps D Side marker lamp License plate lamps Tail lamps Е Front fog lamps Headlamps (LO, HI) A/C compressor (magnet clutch) Cooling fan F **Operation Procedure** 1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation) NOTE: When auto active test is performed with hood opened, sprinkle water on windshield beforehand. 2. Turn the ignition switch OFF. Н 3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF. CAUTION: Close passenger door. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts. The oil pressure warning lamp starts blinking when the auto active test starts. 5. After a series of the following operations is repeated 3 times, auto active test is completed. 6. NOTE: Κ When auto active test mode has to be cancelled halfway through test, turn the ignition switch OFF. CAUTION:

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-55</u>, <u>"Component Function Check"</u>.
- Do not start the engine.

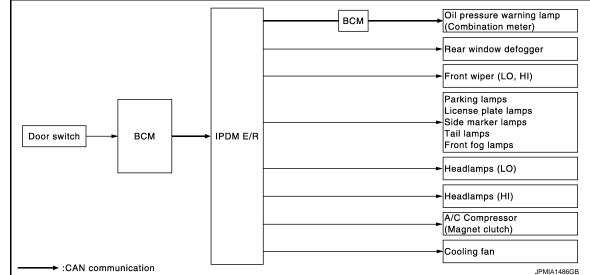
Inspection in Auto Active Test Mode When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation Inspection location Operation Ν sequence А Oil pressure warning lamp Blinks continuously during operation of auto active test 1 10 seconds Rear window defogger 2 Front wiper LO for 5 seconds \rightarrow HI for 5 seconds · Parking lamps · Side marker lamps Ρ 3 License plate lamps 10 seconds · Tail lamps · Front fog lamps LO for 10 seconds \rightarrow HI ON \Leftrightarrow OFF 5 times 4 Headlamps 5 A/C compressor (magnet clutch) ON ⇔ OFF 5 times 6 Cooling fan LO for 5 seconds \rightarrow HI for 5 seconds

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< SYSTEM DESCRIPTION >

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause
		YES	BCM signal input circuit
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger operate?	NO	 Rear window defogger Rear window defogger ground circuit Harness or connector be- tween IPDM E/R and rear window defogger IPDM E/R
Any of the following components do not operate		YES	BCM signal input circuit
 Parking lamps Side marker lamps License plate lamps Tail lamps Front fog lamps Headlamps (HI, LO) Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	NO	 Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper- ate?	YES	 A/C amp. signal input circuit CAN communication signal between A/C amp. and ECM CAN communication signal between ECM and IPDM E/ R
		NO	 Magnet clutch Harness or connector be- tween IPDM E/R and mag- net clutch IPDM E/R

< SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause
	Porform outo activo tost	YES	 Harness or connector be- tween IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	NO	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and combi- nation meter Combination meter
	Perform auto active test.	YES	 ECM signal input circuit CAN communication signal between ECM and IPDM E/ R
Cooling fan does not operate	Does the cooling fan operate?	NO	 Cooling fan motor Harness or connector be- tween IPDM E/R and cool- ing fan motor IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:000000010249364

APPLICATION ITEM

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

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to EXL-166, "WITH INTELLIGENT KEY : DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	MAIN SIG- NALS	Description	
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.	
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.	
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.	
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.	
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.	
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.	

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< SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the clutch interlock switch (M/T models) or shift position (CVT models) judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/ R.
S/L RLY -REQ [Off/On]		NOTE: The item is indicated, but not monitored.
S/L STATE [LOCK/UNLOCK/UNKWN]		NOTE: The item is indicated, but not monitored.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.

ACTIVE TEST

Test item	Operation	Description	
HORN	On	Operates horn relay for 20 ms.	
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	
	1	OFF	
MOTOR FAN	2	Operates the cooling fan relay (LO operation).	
	3		
	4	Operates the cooling fan relay (HI operation).	

< SYSTEM DESCRIPTION >

Test item	Operation	Description	
	Off	OFF	1
	TAIL	Operates the tail lamp relay.	
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.	F
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.	
	Fog	Operates the front fog lamp relay.	(

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYS-TEM)

Diagnosis Description

INFOID:000000010249365

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 warning lamp
- Rear window defogger
- Front wiper (LO, HI)
- Parking lamps
- Side marker lamp
- License plate lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan

Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

NOTE:

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

- 2. Turn the ignition switch OFF.
- Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
 CAUTION:

Close passenger door.

- 4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
- 5. The oil pressure warning lamp starts blinking when the auto active test starts.
- 6. 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 the ignition switch OFF. **CAUTION:**

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-55,</u> <u>"Component Function Check"</u>.
- Do not start the engine.

Inspection in Auto Active Test Mode

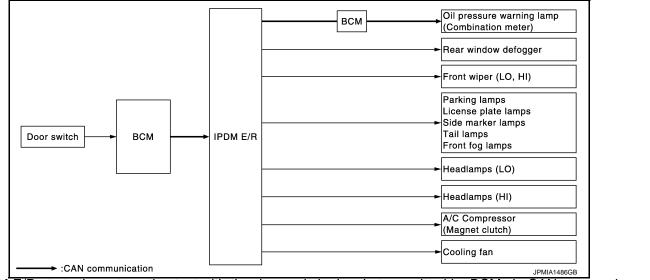
When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
А	Oil pressure warning lamp	Blinks continuously during operation of auto active test
1	Rear window defogger	10 seconds
2	Front wiper	LO for 5 seconds \rightarrow HI for 5 seconds
3	 Parking lamps Side marker lamps License plate lamps Tail lamps Front fog lamps 	10 seconds
4	Headlamps	LO for 10 seconds \rightarrow HI ON \Leftrightarrow OFF 5 times

< SYSTEM DESCRIPTION >

Operation sequence	Inspection location	Operation	А
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$	
6	Cooling fan	LO for 5 seconds \rightarrow HI for 5 seconds	R

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	
		YES	BCM signal input circuit	
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger operate?	NO	 Rear window defogger Rear window defogger ground circuit Harness or connector be- tween IPDM E/R and rear window defogger IPDM E/R 	ŀ
Any of the following components do not operate		YES	BCM signal input circuit	
 Parking lamps Side marker lamps License plate lamps Tail lamps Front fog lamps Headlamps (HI, LO) Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	NO	 Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R 	1
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper- ate?	YES	 A/C amp. signal input circuit CAN communication signal between A/C amp. and ECM CAN communication signal between ECM and IPDM E/ R 	(
	ale :	NO	 Magnet clutch Harness or connector be- tween IPDM E/R and mag- net clutch IPDM E/R 	

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< SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause
	Porform quito activo tost	YES	 Harness or connector be- tween IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	NO	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and combi- nation meter Combination meter
	Perform auto active test.	YES	 ECM signal input circuit CAN communication signal between ECM and IPDM E/ R
Cooling fan does not operate	Does the cooling fan operate?	NO	 Cooling fan motor Harness or connector be- tween IPDM E/R and cool- ing fan motor IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:000000010249366

APPLICATION ITEM

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

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to EXL-177, "WITHOUT INTELLIGENT KEY : DTC Index".

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.

DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description	
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.	
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.	
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.	
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.	
INTER/NP SW [Off/On]		Displays the status of the shift position (CVT models) judged by IPDM E/R.	
ST RLY-REQ [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.	
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.	
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.	
HOOD SW [Off/On]		NOTE: The item is indicated, but not monitored.	
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.	
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.	

ACTIVE TEST

Test item	Operation	Description	
HORN	On	Operates horn relay for 20 ms.	
	Off	OFF	J
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	K
	1	OFF	
	2	Operates the cooling fan relay (LO operation).	EX
MOTOR FAN	3	Operates the cooling fan relay (HI operation).	
	4		
	Off	OFF	M
	TAIL	Operates the tail lamp relay.	
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.	
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.	Ν
	Fog	Operates the front fog lamp relay.	

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< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM)

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

INFOID:0000000010249351

1.CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Pottony power supply	G
Battery power supply	8

Is the fuse fusing?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

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

	Terminals						
(•	+)	()	Voltage (Approx.)				
B	CM		(Approx.)				
Connector	Terminal	Ground					
M70	70	Giouna	Pottony voltage				
M70	57		Battery voltage				

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

 ${f 3.}$ CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

B	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M70	67	*	Existed	

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure INFOID:000000010249352

1. CHECK FUSES AND FUSIBLE LINK

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

< DTC/CIRCUIT DIAGNOSIS >

	Signal name					Fuses and fusible link No.
Battery power supply						8
	Da	attery powers	, abbiy			G
		ACC power su				20
Ignition power supply						2
NO >> 2.CHECK 1. Turn igi 2. Disconi	Replace blown. GO TO 2 POWER S nition switt nect BCM	SUPPLY C	IRCUIT			ring the affected circuit if a fuse or fusible link is
	Terminals					
(+			Igniti	on switch po	osition	
BC	M	(-)	OFF	ACC	ON	
Connector	Terminal					
M67	70 57	-	Battery voltage	Battery voltage	Battery voltage	
M65 -	11	Ground	Approx. 0 V	Battery voltage	Battery voltage	
1000	38		Approx. 0 V	Approx. 0 V	Battery voltage	
	GO TO 3 Repair ha GROUND	arness or c CIRCUIT	onnector.	onnector	and grour	ıd.
	DOM					
Connecto	BCM or Te	erminal	Ground	C	ontinuity	
M67		67		E	Existed	
	-			I		
	Repair ha	arness or c		T KEY S	SYSTE	M)
YES >> NO >> PDM E/I	Repair ha	arness or c H INTEL	LIGEN			M)) : Diagnosis Procedure INFOID:000000010249375
YES >> NO >> PDM E/I PDM E/F 1.check	Repair ha R (WITH R (WITH FUSES A	Arness or c H INTEL I INTELL ND FUSIB	LIGEN ⁻ .IGENT LE LINK	KEY S`	YSTEM): Diagnosis Procedure INFOID:000000010249375
YES >> NO >> PDM E/I PDM E/F 1.check	Repair ha R (WITH R (WITH FUSES A	Arness or c H INTEL I INTELL ND FUSIB	LIGEN ⁻ .IGENT LE LINK	KEY S`	YSTEM): Diagnosis Procedure INFOID:000000010249375
YES >> NO >> PDM E/I	Repair ha R (WITH R (WITH FUSES A the followi	Arness or c H INTEL I INTELL ND FUSIB	LIGEN ⁻ .IGENT LE LINK	KEY S`	YSTEM): Diagnosis Procedure INFOID:000000010249375
YES >> NO >> PDM E/I PDM E/F 1.check	Repair ha R (WITH R (WITH FUSES A the followi Sign	Arness or c H INTEL I INTELL ND FUSIB	LIGEN ⁻ .IGENT LE LINK	KEY S`	YSTEM) : Diagnosis Procedure INFOID:000000010249375

Is the fuse fusing?

< DTC/CIRCUIT DIAGNOSIS >

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

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

	Terminals		
(1	+)	(-)	Voltage (Approx.)
IPDN	/I E/R	(-)	(Approx.)
Connector	Terminal		*
E9	1	Ground	
L9	2	Ground	Battery voltage
E10	8	-	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3.CHECK GROUND CIRCUIT

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

IPDM E	E/R		Continuity
Connector	Terminal	Ground	Continuity
E11	9	Giouna	Existed
E12	19		Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

IPDM E/R (WITHOUT INTELLIGENT KEY SYSTEM)

IPDM E/R (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

INFOID:000000010249376

1.CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
	С
Battery power supply	D
	J

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

3. Check voltage between IPDM E/R harness connector and the ground.

EXL-40

< DTC/CIRCUIT DIAGNOSIS >

(+) (-) Voltage (Approx.) Connector Terminal (-) E9 1 Ground Battery voltage E10 8 Connector NO >> Repair the harness or connector. 3C-HECK IGNITION POWER SUPPLY CIRCUIT 1. Turn the ignition switch ON. 2. Check voltage between IPDM E/R harness connector and the ground. (+) (-) Voltage (Approx.) Connector Terminal Ground Is the measurement value normal? YES YES > GO TO 4. NO NO >> Repair the harness or connector. 4CHECK GROUND CIRCUIT Ith me ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. Image: the ignition switch OFF. Ground Connector Terminal Ground Existed 19 Existed		Terminals				
E9 1 Ground Battery voltage E10 8 Battery voltage s the measurement value normal? YES >> GO TO 3. NO >> Repair the harness or connector. A.CHECK IGNITION POWER SUPPLY CIRCUIT 1. Turn the ignition switch ON. Concertor Terminals (+) (-) Voltage (+) (-) Voltage (+) (-) Voltage (Approx.) Connector Terminal Ground Battery voltage s the measurement value normal? Yes YES >S OT 0 4. NO >> Repair the harness or connector. 4. CHECK GROUND CIRCUIT 1. 1. Turn the ignition switch OFF. 2. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Ground E11 9 E12 19 Open E/R Ground Existed Existed			- (-)			
E9 2 Ground Battery voltage E10 8 Ground Battery voltage Is the measurement value normal? YES >> GO TO 3. NO >> Repair the harness or connector. 3. CHECK IGNITION POWER SUPPLY CIRCUIT 1. Turn the ignition switch ON. 2. 2. Check voltage between IPDM E/R harness connector and the ground. IPDM E/R (-) (+) (-) Voltage (Approx.) Connector Terminal (+) (-) Voltage (Approx.) Connector Terminal State measurement value normal? YES YES >> GO TO 4. NO >> Repair the harness or connector. 4.CHECK GROUND CIRCUIT 1. 1. Turn the ignition switch OFF. 2. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Ground E11 9 E12 19 Does continuity exist? YES >> INSPECTION END	Connector	Terminal				
Is the measurement value normal? YES >> GO TO 3. NO >> Repair the harness or connector. 3.CHECK IGNITION POWER SUPPLY CIRCUIT 1. Turn the ignition switch ON. 2. Check voltage between IPDM E/R harness connector and the ground. Image: the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. 4. CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. Image: the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. 4.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Continuity Ground Continuity E11 9 E12 19 Does continuity existi? YES >> INSPECTION END	E9 -		Ground	Battery voltage	-	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	E10	8				
NO ⇒> Repair the harness or connector. 3. CHECK IGNITION POWER SUPPLY CIRCUIT 1. Turn the ignition switch ON. 2. Check voltage between IPDM E/R harness connector and the ground. Terminals (+) (-) Voltage (Approx.) Connector Terminal Ground E12 18 Battery voltage s the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. 4. CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground.	s the measure	ement value	normal?			
1. Turn the ignition switch ON. 2. Check voltage between IPDM E/R harness connector and the ground. Terminals (+) (-) Voltage (Approx.) Connector Terminal E12 18 S the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. 4.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Ground IPDM E/R Ground Image: Continuity between IPDM E/R harness connectors and the ground. Image: Continuity between IPDM E/R harness connectors and the ground. Image: Continuity between IPDM E/R E11 9 E12 19 Consector Terminal Ground Existed Does continuity exist? YES YES > INSPECTION END	NO >> Re	epair the hari				
Terminals (+) (-) Voltage (Approx.) Connector Terminal Ground E12 18 Battery voltage s the measurement value normal? YES >> GO TO 4. YES >> GO TO 4. Battery voltage NO >> Repair the harness or connector. 4. 4. CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Ground Continuity E11 9 Ground Existed Does continuity exist? YES >> INSPECTION END	. Turn the ig	gnition switch	n ON.			
(+) (-) Voltage (Approx.) Connector Terminal Ground E12 18 Battery voltage Is the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. Battery voltage 1. Turn the ignition switch OFF. Check continuity between IPDM E/R harness connectors and the ground. Image: the trained between the trained betw	. Check vol	tage betweer	n IPDM E/R ha	rness connector ar	d the ground.	
(+) (-) Voltage (Approx.) Connector Terminal Ground E12 18 Battery voltage Is the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. Battery voltage 1. Turn the ignition switch OFF. Check continuity between IPDM E/R harness connectors and the ground. Image: the trained between the trained betw		T.				
IPDM E/R Ground Connector Terminal E12 18 Battery voltage Is the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. 4.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Continuity Ground Existed E11 9 E12 19 Does continuity exist? YES >> INSPECTION END	/		()			
Connector Terminal Ground E12 18 Battery voltage Is the measurement value normal? YES >> GO TO 4. YES >> GO TO 4. NO >> Repair the harness or connector. A.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. Image: PDM E/R Ground Image: Ground Continuity E11 9 E12 19 Does continuity exist? YES >> INSPECTION END			(-)			
E12 18 Battery voltage Is the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. A.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Continuity E11 9 E12 19 Does continuity exist? YES >> INSPECTION END			Ground	/·		
Is the measurement value normal? YES >> GO TO 4. NO >> Repair the harness or connector. 4.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Ground E11 9 E12 19 Does continuity exist? YES >> INSPECTION END			Giodila	Battery voltage	-	
YES >> GO TO 4. NO >> Repair the harness or connector. 4.CHECK GROUND CIRCUIT 1. Turn the ignition switch OFF. 2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Continuity Ground Continuity E11 9 E12 19 Does continuity exist? YES >> INSPECTION END		10		Dattery voltage		
2. Check continuity between IPDM E/R harness connectors and the ground. IPDM E/R Continuity Connector Terminal Ground Ground E11 9 E12 19 Does continuity exist? YES >> INSPECTION END	YES >> G	O TO 4.		tor	-	
Connector Terminal E11 9 E12 19 Does continuity exist? YES >> INSPECTION END	YES >> G NO >> R CHECK GF	O TO 4. epair the har ROUND CIR(ness or connec CUIT	tor.		
E11 9 E12 19 Does continuity exist? YES >> INSPECTION END	YES >> G NO >> R CHECK GF	O TO 4. epair the harn ROUND CIRC gnition switch	ness or connec CUIT 1 OFF.		and the ground.	
Does continuity exist? YES >> INSPECTION END	YES >> G NO >> R CHECK GF . Turn the iq . Check cor	O TO 4. epair the ham ROUND CIRC gnition switch ntinuity betwe	ness or connec CUIT OFF. een IPDM E/R I	harness connector	and the ground.	
YES >> INSPECTION END	YES >> G NO >> R CHECK GF Turn the iq Check cor IPDM B Connector E11	O TO 4. epair the ham ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9	ness or connec CUIT OFF. een IPDM E/R I	harness connector	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM I Connector E11 E12	O TO 4. epair the harn ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19	ness or connec CUIT OFF. een IPDM E/R I	harness connector	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM F Connector E11 E12 Does continuit YES >> IN	O TO 4. epair the harr ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19 19 ty exist? ISPECTION	ness or connec CUIT OFF. een IPDM E/R I Ground	harness connector Continuity Existed	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM F Connector E11 E12 Does continuit YES >> IN	O TO 4. epair the harr ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19 19 ty exist? ISPECTION	ness or connec CUIT OFF. een IPDM E/R I Ground	harness connector Continuity Existed	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM F Connector E11 E12 Does continuit YES >> IN	O TO 4. epair the harr ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19 19 ty exist? ISPECTION	ness or connec CUIT OFF. een IPDM E/R I Ground	harness connector Continuity Existed	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM F Connector E11 E12 Does continuit YES >> IN	O TO 4. epair the harr ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19 19 ty exist? ISPECTION	ness or connec CUIT OFF. een IPDM E/R I Ground	harness connector Continuity Existed	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM F Connector E11 E12 Does continuit YES >> IN	O TO 4. epair the harr ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19 19 ty exist? ISPECTION	ness or connec CUIT OFF. een IPDM E/R I Ground	harness connector Continuity Existed	and the ground.	
	YES >> G NO >> R CHECK GF Turn the ig Check cor IPDM F Connector E11 E12 Does continuit YES >> IN	O TO 4. epair the harr ROUND CIRC gnition switch ntinuity betwee E/R Terminal 9 19 19 ty exist? ISPECTION	ness or connec CUIT OFF. een IPDM E/R I Ground	harness connector Continuity Existed	and the ground.	

HEADLAMP (HI) CIRCUIT

Component Function Check

INFOID:000000009945140

1.CHECK HEADLAMP (HI) OPERATION

®IPDM E/R AUTO ACTIVE TEST

- 1. Start IPDM E/R auto active test. Refer to <u>PCS-10</u>, "<u>Diagnosis Description</u>" (with Intelligent Key) or <u>PCS-41</u>, "<u>Diagnosis Description</u>" (without Intelligent Key).
- 2. Check that the headlamp switches to the high beam.

CONSULT ACTIVE TEST

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

Hi : Headlamp (HI) ON

Off : Headlamp (HI) OFF

NOTE:

ON/OFF is repeated 1 second each.

Is the headlamp (HI) turned ON?

- YES >> Headlamp (HI) circuit is normal.
- NO >> Refer to EXL-42, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

CONSULT ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the headlamp connector.
- 3. Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

	Т	erminals	Test item		
	(+)		(–)		Voltage
	IPDM E	/R		EXTERNAL	(Approx.)
Cor	nnector	Terminal		LAMPS	
RH		49	Ground	Hi	Battery voltage
	E15		Cround	Off	0 V
LH		50		Hi	Battery voltage
				Off	0 V

Is the measurement value normal?

NO >> GO TO 3.

2. CHECK HEADLAMP (HI) OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect the IPDM E/R connector.

3. Check continuity between the IPDM E/R harness connector and the headlamp harness connector.

HEADLAMP (HI) CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

IPOM E/R Headlamp Continuity Connector Terminal Connector Terminal Desc continuity exist? Yes > 60 To 5. NO >> Repair the harnesses or connectors. 3.CHECK HEADLAMP (H) FUSE 1. Turn the ignition switch OFF. 2. 2. Check that the following fuses are not fusing. The dealamp Hi (RH) IPOM E/R 495 10 A Headlamp Hi (LH) IPOM E/R 495 10 A Is the fuse fusing? Yes > 60 To 4. NO YES > 60 To 4. NO >> Replace IPDM E/R. 4.CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT 1. Disconnect the IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. Image: the fuse is fusing again.) Xot existed Desc continuity exist? Yes > Replace the fuse. (Replace TPDM E/R these is fusing again.) O >> Replace the headlamp harness connector and the ground. Image: the fusion fusion group is the fusion group is the fusion group is the fusion group is the state group is the fusion group is							
$\begin{array}{ c c c c c c }\hline \hline \hline Terminal & Connector & Terminal & Finite &$	IP	PDM E/F	र	Headl	amp	Continuity	
LH E15 50 E26 1 Existed Does continuity exist? YES >> GO TO 5. SO	Connecto	or	Terminal	Connector	Terminal	Continuity	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		=15	49	E45	1	Existed	
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NO >> Repair the harnesses or connectors. 3.CHECK HEADLAMP (HI) FUSE 1. Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. Image: Second Secon		-					
3. CHECK HEADLAMP (HI) FUSE 1. Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. Image: The fuse fusion of the following fuses are not fusing. Image: The fuse fusion of the following fuses are not fusing. Image: The fuse fusion of the following fuses are not fusion. Image: The fuse fusion of the following fuses are not fusion. Image: The fuse fusion of the following fuses are not fusion. Image: The fuse fusion of the following fuses are not fusion. Image: The fuse fusion of the following fuses are not fusion. Image: The fuse fusion of the following fuse of the fuse. Image: The fuse fusion of the following fusion. Image: The fusion of the following fusion. Image: The fusion of the following							
1. Turn the ignition switch OFF. 2. Check that the following fuses are not fusing. Image: the fuse fusing fuses are not fusing. Image: the fuse fusing fuses are not fusing. Headlamp HI (RH) IPDM E/R #51 10 A Headlamp HI (RH) IPDM E/R #52 10 A Is the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. A. CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT 1. Disconnect the IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. Image: Connector Terminal Ground Ground RH LISS RH E15 49 Image: Connector Terminal Ground Revised Continuity Not existed Does continuity exist? YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5 CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT Continuity Image: State S	•	•			nnectors.		
2. Check that the following fuses are not fusing. Image: Second secon	3. CHECK	HEAD	DLAMP (H	I) FUSE			
Unit Location Fuse No. Capacity Headlamp HI (RH) IPDM E/R #51 10 Å Headlamp HI (RH) IPDM E/R #52 10 Å Is the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. 4.CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT 1. Disconnect the IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. Image: the fuse fusion of the fuse is fusion of the fuse is fusion of the fuse. NO >> Replace IPDM E/R Connector Terminal Ground Continuity Not existed Not existed Does continuity exist? Not existed YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5.CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT Check continuity between the headlamp harness connector and the ground. Headlamp Ground Continuity RH E45 2 Continuity LH E26 2 Continuity Does continuity exist? Existed Existed Does continuity exist?							
Headlamp HI (RH) IPDM E/R #51 10 Å Headlamp HI (LH) IPDM E/R #52 10 Å Is the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT 1. Disconnect the IPDM E/R connector. 1. Disconnect the IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. IPDM E/R Continuity IMA E15 49 Not existed Interview Does continuity exist? Ground Continuity Not existed Does continuity exist? YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5. CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT Check continuity between the headlamp harness connector and the ground. Image: Connector Terminal Ground Erwind Continuity Image: Connector Terminal RH E45 2 Continuity Existed Does continuity between the headlamp harness connector and the ground. Image: Connector Terminal Ground Erwind Continuity Image: RH E45 2 Image: Connector Terminal Ground Erwind Continuity Image: RH E45 2 Image: Connector Terminal Ground Erwind Continuity	2. Check	that th	ne followin	g fuses are r	not fusing.		
Headlamp HI (RH) IPDM E/R #51 10 Å Headlamp HI (LH) IPDM E/R #52 10 Å Is the fuse fusing? YES >> GO TO 4. NO >> Replace IPDM E/R. A.CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT 1. Disconnect the IPDM E/R connector. 2. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. IPDM E/R Ground Continuity RH E15 49 Not existed Does continuity exist? YES >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5. CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT Continuity Check continuity between the headlamp harness connector and the ground. Image: Connector Terminal RH E45 Image: Connector Terminal RH Ground Image: Connector Terminal		loc't		Location	Euro No	Consoit	
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4. CHECK HEADLAMP HIGH (HI) SHORT CIRCUIT 1. Disconnect the IPDM E/R connector. 2. Check continuity between the IPDM E/R harness connector terminal and the ground. Image: transformed between the IPDM E/R harness connector terminal and the ground. Image: transformed between the IPDM E/R harness connector terminal and the ground. Image: transformed between the IPDM E/R harness connector terminal and the ground. Image: transformed between the IPDM E/R harness connector terminal and the ground. Image: transformed between terminal between the harnesses or connectors. And then replace the fuse. NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.) 5. CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT Check continuity between the headlamp harness connector and the ground. Image: transformed between the headlamp harness connector and the ground. Image: transformed between terminal drug between term	-		-	F/R			
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5.CHECK HEADLAMP (HI) GROUND OPEN CIRCUIT Check continuity between the headlamp harness connector and the ground. Headlamp Connector Terminal Ground Continuity Existed Does continuity exist? YES >> Replace the headlamp (HI) bulb.							
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Headlamp Continuity Connector Terminal RH E45 LH E26 Does continuity exist? YES YES							nd the ground
Continuity Continuity RH E45 2 LH E26 2 Does continuity exist? Existed YES >> Replace the headlamp (HI) bulb.	Check com	ununty	Detween t	ne neaulain _t	namess		na the ground.
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LH E26 2 Does continuity exist? YES >> Replace the headlamp (HI) bulb.	·			Gro	ound		
Does continuity exist? YES >> Replace the headlamp (HI) bulb.						Existed	
YES >> Replace the headlamp (HI) bulb.							
				odlama (LII)	hulb		
		pc					

HEADLAMP (LO) CIRCUIT

Component Function Check

1.CHECK HEADLAMP (LO) OPERATION

®IPDM E/R AUTO ACTIVE TEST

- 1. Start IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u> (with Intelligent Key) or <u>PCS-41, "Diagnosis Description"</u> (without Intelligent Key).
- 2. Check that the headlamp is turned ON.

CONSULT ACTIVE TEST

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

Lo : Headlamp (LO) ON

Off : Headlamp (LO) OFF

Is the headlamp (LO) turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-44, "Diagnosis Procedure".

Diagnosis Procedure

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1.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

CONSULT ACTIVE TEST

- 1. Turn the ignition switch OFF.
- 2. Disconnect the headlamp connector.
- 3. Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 5. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

		Terminals	Test item			
	(+)	(–)	iest item	Voltage	
	IPD	M E/R		EXTERNAL	(Approx.)	
Conr	nector	Terminal	Ground	LAMPS		
RH		52 51		Lo	Battery voltage	
	E15			Off	0 V	
LH				Lo	Battery voltage	
				Off	0 V	

Is the measurement value normal?

YES >> GO TO 2.

NO >> GO TO 3.

2. CHECK HEADLAMP (LO) OPEN CIRCUIT

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

3. Check continuity between the IPDM E/R harness connector and the headlamp harness connector.

IPDM E/R			Head	Continuity	
Connector		Terminal	Connector	Terminal	Continuity
RH	E15	52	E45	3	Existed
LH		51	E26	3	LAISIEU

HEADLAMP (LO) CIRCUIT

< DTC/CIRCU	IT DIAG				
Does continuit					A
	D TO 5. epair the l	harnesses or co	onnectors.		A
3. СНЕСК НЕ	•				
1. Turn the ig	nition sw		not fusing.		B
Unit		Lotion	Fuse No.	Capacity	- C
Headlamp LO (R	RH)	IPDM E/R	#54	15 A	-
Headlamp LO (L	H)	IPDM E/R	#53	15 A	D
NO >> Re 4.CHECK HE	O TO 4. eplace IPI ADLAMF	(LO) SHORT (- E
		M E/R connecter tween the IPDI		ess connec	ctor and the ground.
IPD	M E/R			Continuity	G
Connector	Term	Gro			-
RH LH E15	52 5 ⁷			Not existed	Н
Does continuit	v exist?				•
_NO >> Re	place the	e fuse. (Replace	e IPDM E/F	R if the fuse	place the fuse. is fusing again.)
5. CHECK HE	ADLAMF	(LO) GROUNI	D OPEN CI	RCUIT	
Check continui	ity betwee	en the headlam	p harness	connector a	and the ground. J
Неа	Idlamp			Continuity	•
Connector	Term	ninal Gro		Continuity	K
RH E45	2			Existed	
LH E26	2	-			EXL
Does continuit				lle e e el cet i e	
		e headlamp (LC harnesses or co		ID SOCKET IS	abnormaliy.)
	-				
					N
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					0
					Р

FRONT FOG LAMP CIRCUIT

Component Function Check

1.CHECK FRONT FOG LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u>.

2. Check that the front fog lamp is turned ON.

CONSULT ACTIVE TEST

- 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-46, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK FRONT FOG LAMP FUSE

1. Turn the ignition switch OFF.

2. Check that the following fuse is not fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#50	15 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK FRONT FOG LAMP SHORT CIRCUIT

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

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

	IPDM E	′R		Continuity	
Conr	nector	Terminal	Ground		
RH	E12	21	Giouna	Not ovisted	
LH	E12	22	-	Not existed	

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if the fuse is fusing again.)

3.CHECK FRONT FOG LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT ACTIVE TEST

- T. Disconnect the front fog lamp connector.
- 2. Turn the ignition switch ON.
- 3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

EXL-46

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FRONT FOG LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

	Terminals					
				Test item		
	(+)		(-)		Voltage	
	IPDM E/R			EXTERNAL	(Approx.)	
Co	nnector	Terminal		LAMPS		
RH		21 Ground	21	Ground	Fog	Battery voltage
	E12		Ground	Off	0 V	
LH		22	1	Fog	Battery voltage	
				Off	0 V	

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5.CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

	IPDM E	/R	Front fog	Continuity	
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E12	21	E48	1	Existed
LH	EIZ	22	E30	1	EXISTED

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

$\mathbf{6}.$ CHECK FRONT FOG LAMP GROUND CIRCUIT OPEN CIRCUIT

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

	Front fog la	amp		Continuity	
Conr	nector	Terminal	Ground	Continuity	
RH	E48	2	Ground	Existed	
LH	E30	2		Existed	

Does continuity exist?

YES >> Replace the front fog lamp.

NO >> Repair the harnesses or connectors.

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PARKING LAMP CIRCUIT

Component Function Check

1.CHECK PARKING LAMP OPERATION

®IPDM E/R AUTO ACTIVE TEST

- 1. Start IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u> (with Intelligent Key) or <u>PCS-41, "Diagnosis Description"</u> (without Intelligent Key).
- 2. Check that the parking lamp is turned ON.

CONSULT ACTIVE TEST

- 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-48, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK PARKING LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
 Parking lamp License plate lamp Side marker lamp Tail lamp 	IPDM E/R	#47	10 A

Is the fuse fusing?

YES >> GO TO 2.

NO >> GO TO 3.

2.CHECK PARKING LAMP SHORT CIRCUIT

1. Disconnect IPDM E/R connector and the parking lamp connector.

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

	IPDM E/	′R		Continuity	
Connector		Terminal	Ground	Continuity	
RH	E14	37	Ground	Not existed	
LH	E14	36		INUL EXISTED	

Does continuity exist?

YES >> Repair the harnesses or connectors. And then replace the fuse.

NO >> Replace the fuse. (Replace IPDM E/R if fusing is found again.)

3.CHECK PARKING LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 4.

NO >> Replace the bulb.

4.CHECK PARKING LAMP OUTPUT VOLTAGE

CONSULT ACTIVE TEST

PARKING LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

- 1. Disconnect the parking lamp connector.
- 2. Turn the ignition switch ON.
- 3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 4. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

	Terminals				Test item
	(+) (–)		i cocitemi	Voltage	
	IPDM E/R			EXTERNAL	(Approx.)
Cor	Connector 1			LAMPS	
RH	E14	37	Ground	TAIL	Battery voltage
LH	-	36	-	OFF	0 V

Is the measurement value normal?

YES >> GO TO 5.

NO >> Replace IPDM E/R.

5. CHECK PARKING LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

	IPDM E	/R	Parking	Continuity	
Connector Terminal			Connector	Terminal	Continuity
RH	E14	37	E43	1	Existed
LH	L14	36	E24	1	LAISIEU

Does continuity exist?

YES >> GO TO 6.

NO >> Repair the harnesses or connectors.

6.CHECK PARKING LAMP GROUND OPEN CIRCUIT

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

	Parking la	mp		Continuity
Conr	nector	Terminal	Ground	Continuity
RH	E43	2	Ground	Existed
LH	E24	2		Existed

Does continuity exist?

YES >> Replace the front combination lamp.

NO >> Repair the harnesses or connectors.

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TURN SIGNAL LAMP CIRCUIT

Description

BCM performs the high flasher operation if any bulb or harness of the turn signal lamp circuit is open. **NOTE:**

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

Component Function Check

1.CHECK TURN SIGNAL LAMP

CONSULT ACTIVE TEST

1. Select "FLASHER" of BCM (FLASHER) active test item.

- 2. With operating the test items, check that the turn signal lamps blink.
 - LH : Turn signal lamps (LH) blink
 - RH : Turn signal lamps (RH) blink

Off : Turn signal lamps OFF

Does the turn signal lamps blink?

YES >> Turn signal lamp circuit is normal.

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

Diagnosis Procedure

1.CHECK TURN SIGNAL LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2. NO >> Replace the bu

NO >> Replace the bulb.

2. CHECK TURN SIGNAL LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

- 2. Disconnect BCM connector.
- Disconnect the front turn signal lamp connector, side turn signal lamp connector, or the rear combination lamp connector.
- 4. Check continuity between the BCM harness connector and the front turn signal lamp, side turn signal lamp or the rear combination lamp harness connector.
- With Intelligent Key

Front turn signal lamp

BCM			Front turn	Continuity	
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M70	61	E46	1	Existed
LH	IVI7 O	60	E27	I	LAISIGU

Side turn signal lamp

BCM			Side turn signal lamp		Continuity
Co	nnector	Terminal	Connector	Terminal	Continuity
RH	M70	61	E40	1	Existed
LH	WI7 O	60	E23	Ι	LAISteu

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TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Rear turn signal lam	h			
BCM		Rear comb	ination lamp	Continuity
Connector	Terminal	Connector	Terminal	Continuity
RH M70	61	B59	Λ	Existed
LH	60	B80	4	Existed
Without Intell	igent Key			
Front turn signal lam	р			
BCM		Front turn	signal lamp	
Connector	Terminal	Connector	Terminal	Continuity
RH	61	E46		F 1.4.1
LH M67	60	E27	1	Existed
Side turn signal lamp)			
BCM		Side turn s	signal lamp	
Connector	Terminal	Connector	Terminal	Continuity
RH	61	E40	4	Estate 1
LH M67	60	E23	1	Existed
Rear turn signal lam	5			
BCM		Rear comb	ination lamp	
DCIVI				
Connector	Terminal	Connector	Terminal	Continuity
Connector RH	Terminal 61	Connector B59		
Connector			Terminal 4	Existed
Connector RH M67	61 60	B59		
Connector RH M67 LH M67 Does continuity e YES >> GO 1	61 60 xist? O 3.	B59 B80	4	
ConnectorRH LHM67Does continuity e YES>> GO T NONO>> Reparation	61 60 <u>xist?</u> O 3. ir the harne	B59 B80 esses or co	4 nnectors.	Existed
Connector RH M67 LH M67 Does continuity e YES >> GO T NO >> Repa 3.CHECK TURN	61 60 <u>xist?</u> O 3. ir the harne I SIGNAL L	B59 B80 esses or co AMP SHOI	4 nnectors. RT CIRCU	Existed
ConnectorRH LHM67Does continuity e YES>> GO T NONO>> Reparation	61 60 <u>xist?</u> O 3. ir the harne I SIGNAL L	B59 B80 esses or co AMP SHOI	4 nnectors. RT CIRCU	Existed
Connector RH M67 LH M67 Does continuity e YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key	61 60 O 3. Ir the harne I SIGNAL L between th	B59 B80 esses or co AMP SHOI	4 nnectors. RT CIRCU	Existed
Connector RH M67 LH M67 Does continuity e YES >> GO 1 NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key	61 60 TO 3. Ir the harne I SIGNAL L between th	B59 B80 esses or co AMP SHOI e BCM han	4 nnectors. RT CIRCU	Existed
Connector RH M67 LH M67 Does continuity e YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key E Connector	61 60 TO 3. Ir the harne I SIGNAL L between th	B59 B80 esses or co AMP SHOI e BCM hari	4 nnectors. RT CIRCU	Existed IT ector and th
Connector RH M67 LH M67 Does continuity e YES YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key E Connector RH	61 60 TO 3. Ir the harne I SIGNAL L between th	B59 B80 Esses or co AMP SHOI e BCM harr	4 nnectors. RT CIRCU ness conne	Existed IT ector and th
Connector RH M67 LH M67 Does continuity e YES YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key E Connector RH	61 60 TO 3. ir the harne I SIGNAL L between th	B59 B80 esses or co AMP SHOI e BCM hari	4 nnectors. RT CIRCU ness conne	Existed IT ector and th Continuity
Connector RH M67 LH M67 Does continuity e YES YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key E Connector RH	61 60 TO 3. ir the harne I SIGNAL L between th	B59 B80 Esses or co AMP SHOI e BCM harr	4 nnectors. RT CIRCU ness conne	Existed IT ector and th Continuity
Connector RH M67 LH M67 Does continuity e YES YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key E RH N LH N Vithout Intelligent Key N	61 60 TO 3. ir the harne I SIGNAL L between th	B59 B80 Esses or co AMP SHOI e BCM harr	4 nnectors. RT CIRCU ness conne	Existed IT ector and th Continuity Not existed
Connector RH M67 LH M67 Does continuity e YES YES >> GO T NO >> Reparation B.CHECK TURN Check continuity Vith Intelligent Key E RH N LH N Vithout Intelligent Key N	61 60 TO 3. ir the harne I SIGNAL L between th CM	B59 B80 Esses or co AMP SHOI e BCM harr	4 nnectors. RT CIRCU ness conne	Existed IT ector and th Continuity
Connector RH M67 LH M67 Does continuity e Prepare YES >> GO T NO >> Repare B.CHECK TURN Check continuity Check continuity E Connector RH LH I Vithout Intelligent Key E Connector E RH E Connector E RH E RH E Connector E RH E	61 60 TO 3. ir the harne I SIGNAL L between th CM	B59 B80 esses or co AMP SHOI e BCM harn erminal 61 60	4 nnectors. RT CIRCU ness conne	Existed IT ector and th Continuity Not existed

Check continuity between the BCM harness connector and the front turn signal lamp, side turn signal lamp or the rear combination lamp and the ground.

TURN SIGNAL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Front turn signal lamp

	Front turn sigr	nal lamp		Continuity			
Connector Terminal			Ground	Continuity			
RH	E46	2	Giouna	Existed			
LH	E27	2		Existed			
Side tu	Side turn signal lamp						

	Side turn sign	al lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	E40	2	Ground	Existed
LH	E23	2		Existed

Rear turn signal lamp

	Rear combinat	ion lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	B59	3	Giouna	Existed
LH	B80	5		LAISteu

Does continuity exist?

YES >> Replace BCM. Refer to <u>BCS-88</u>, "<u>Removal and Installation</u>" (with Intelligent Key) or <u>BCS-155</u>, "<u>Removal and Installation</u>" (without Intelligent Key).

NO >> Repair the harnesses or connectors.

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

OPTICAL SENSOR

Descriptior	ו			INFOID:00000009945156
Optical sense	or converts	the outside brightn	ess (lux) to voltage and transmits the opti	cal sensor signal to BCM.
Componer	nt Functio	on Check		INFOID:00000009945157
		NSOR SIGNAL B		
			CONSULI	
CONSULT	DATA MON			
. Select "C	PTISEN (D	TCT)" of BCM (HE	ADLAMP) data monitor item.	
	lighting swi optical sens		eck the monitor status.	
	-			
Monitor item		Condition	Voltage (Approx.)	
	Optical	When illuminating	3.1 V or more *	
(DTCT)	sensor	When shutting off ligh		
s the item sta	-	-	ss than the standard value if brightness is weak.	
		or is normal.		
		<u>53, "Diagnosis P</u>	rocedure".	
Diagnosis	Procedu	re		INFOID:00000009945158
I.CHECK O	PTICAL SE	NSOR POWER S	UPPLY INPUT	
	ignition swi			
	lighting swi e voltage b		sensor harness connector and the groun	d.
	Termina			
	(+)	(-)	Voltage	
	al sensor		(Approx.)	
Connector	Termina	al Ground	<u> </u>	
M17	1	lo pormel?	5 V	
l <u>s the measu</u> YES >> 0	<u>ement valu</u> 30 TO 2.	ie normal?		
	GO TO 2. GO TO 4.			
2. снеск о	PTICAL SE	NSOR GROUND	INPUT	
			sor harness connector and the ground.	
	Termina	ls		
	(+)	(-)	Voltage	
Optica	al sensor		(Approx.)	
Connector	Termina	al Ground		
M17	3		0 V	
Is the measu	ement valu	ie normal?		
	GO TO 3.			
NO >> 0	GO TO 3. GO TO 6.	NSOR SIGNAL O		

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

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

	Terminals		Condition		
(+	(+)		Condition	Voltage	
Optical	sensor		Optical sensor	(Approx.)	
Connector	Terminal	Ground			
M17	M17 0	Giouria	When illuminating	3.1 V or more *	
M17 2	2		When shutting off light	0.6 V or less	

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

Is the measurement value normal?

YES >> GO TO 7.

NO >> Replace the optical sensor.

4.CHECK OPTICAL SENSOR OPEN CIRCUIT

1. Turn the ignition switch OFF.

- 2. Disconnect the optical sensor connector and BCM connector.
- 3. Check continuity between the optical sensor harness connector and the BCM harness connector.

Optical	sensor	B	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M17	1	M68	17	Existed	

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.

5.CHECK OPTICAL SENSOR SHORT CIRCUIT

Check the continuity between the optical sensor harness connector and the ground.

Optical	sensor		Continuity
Connector	Terminal	Ground	Continuity
M17	1		Not existed

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM. Refer to <u>BCS-88, "Removal and Installation"</u>.

6.CHECK OPTICAL SENSOR GROUND OPEN CIRCUIT

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

Optica	sensor	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M17	3	M68	18	Existed

Does continuity exist?

YES >> Replace BCM. Refer to <u>BCS-88, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL OPEN CIRCUIT

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

OPTICAL SENSOR

< DTC/CIRCUIT DIAGNOSIS >

Optical	sensor	R	СМ	
Connector	Terminal	Connector	Terminal	Continuity
M17	2	M68	14	Existed
NO >> F	GO TO 8. Repair the h DPTICAL SE		RT CIRCUI	Т
Check the co	ontinuity bet	ween the opt	tical sensor	harness cor
Optic	al sensor			0
Connector	Termina	al Gr	ound	Continuity
M17	2			Not existed
Does continu	•			
YES >> F NO >> F	Repair the h Replace BC	arnesses or M. Refer to <u>E</u>	connectors. BCS-88. "Re	emoval and I

HAZARD SWITCH

Component Function Check

1. CHECK HAZARD SWITCH SIGNAL BY CONSULT

CONSULT DATA MONITOR

1. Turn the ignition switch ON.

2. Select "HAZARD SW" of BCM (FLASHER) data monitor item.

3. With operating the hazard switch, check the monitor status.

Monitor item	Con	Monitor status	
HAZARD SW	Hazard switch	ON	On
HAZARD SW	TIAZATU SWILCH	OFF	Off

Is the item status normal?

YES >> Hazard switch circuit is normal.

NO >> Refer to EXL-56, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:000000009945160

1.CHECK HAZARD SWITCH SIGNAL INPUT

With operating the hazard switch, check the voltage between the BCM harness connector and the ground. With Intelligent Key

	Terminals		Condition		
(+)		(–)	Condition	Voltage (Approx.)	
	CM		Hazard switch	volage (Approx.)	
Connector Terminal					
			ON	0 V	
M68	29	Ground	OFF	(V) 15 10 5 0 	

Without Intelligent Key

	Terminals		Condition		
(+)		(-)	Condition	Voltage (Approx)	
B	CM		Hazard switch	Voltage (Approx.)	
Connector	Connector Terminal		Hazaru Switch		
			ON	0 V	
M65	29	Ground	OFF	(V) 15 10 5 0 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	

Is the measurement value normal?

YES >> Replace BCM. Refer to <u>BCS-88, "Removal and Installation"</u> (with Intelligent Key) or <u>BCS-155,</u> <u>"Removal and Installation"</u> (without Intelligent Key).

EXL-56

HAZARD SWITCH

< DTC/CIRC		NOSIS >			
NO >>	GO TO 2.				
2. CHECK F	AZARD SW	ITCH SIGN	IAL OPEN C	CIRCUIT	A
 Disconn Check c 	ontinuity bet	ard switch co		d BCM conne harness con	ctor. nector and the BCM harness connector.
With Intelligent K					
Hazard			СМ	Continuity	С
Connector	Terminal	Connector	Terminal		
M45	2	M68	29	Existed	D
Without Intelliger					
Hazard switch BCM		Continuity			
Connector	Terminal	Connector	Terminal	-	E
M45	2	M65	29	Existed	
NO >> 3.CHECK H	GO TO 3. Repair the h IAZARD SW	/ITCH SIGN	AL SHORT	CIRCUIT	G or and the ground.
	ard switch				Н
Connector	Termin	al 0	Ground	Continuity	11
M45	2			Not existed	
Does continu				Not oxiotod	I
YES >>	Repair the h GO TO 4.				J
Check contir	nuity betwee	n the hazard	d switch har	ness connect	or and the ground.
Haz	zard switch				—
Connector	Termir	nal	Ground	Continuity	
M45	1			Existed	EXI
Does continu	uity exist?				
	Replace the Repair the h				Μ
					Ν
					0
					P

TAIL LAMP CIRCUIT

Component Function Check

NOTE:

Check the parking lamp circuit if the parking lamp and the tail lamp are not turned ON.

1.CHECK TAIL LAMP OPERATION

DIPDM E/R AUTO ACTIVE TEST

- 1. Start IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u> (with Intelligent Key) or <u>PCS-41, "Diagnosis Description"</u> (without Intelligent Key).
- 2. Check that the tail lamp is turned ON.

CONSULT ACTIVE TEST

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. With operating the test items, check that the tail lamp is turned ON.
 - TAIL : Tail lamp ON
 - Off : Tail lamp OFF

Is the tail lamp turned ON?

YES >> Tail lamp circuit is normal.

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

Diagnosis Procedure

INFOID:000000009945162

1.CHECK TAIL LAMP OUTPUT VOLTAGE

CONSULT ACTIVE TEST

- 1. Disconnect the rear combination lamp connector.
- 2. Turn the ignition switch ON.
- 3. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 4. With operating the test items, check the voltage between the IPDM E/R harness connector and the ground.

	٦	Ferminals		Test item	
(+)			(–)	iest item	Voltage
	IPDM E	/R		EXTERNAL	(Approx.)
Co	onnector	Terminal		LAMPS	
RH		38	Ground	TAIL	Battery volt- age
	E14		Ciouna	Off	0 V
LH		41		TAIL	Battery volt- age
				Off	0 V

Is the measurement value normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R.

2. CHECK TAIL LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

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

TAIL LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R			Rear combi	Continuity	
C	connector	Terminal	Connector	Terminal	Continuity
RH	E14	38	B59	6	Existed
LH		41	B80	6	LAISteu

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK TAIL LAMP GROUND OPEN CIRCUIT

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

	Rear combinat	ion lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	B59	3	Giodila	Existed
LH	B80	3		EXISTED

Does continuity exist?

YES >> Replace the rear combination lamp.

NO >> Repair the harnesses or connectors.

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REAR SIDE MARKER LAMP CIRCUIT

Component Function Check

INFOID:000000009945163

NOTE:

Check the parking lamp circuit if the parking lamp and the rear side marker lamp are not turned ON.

1.CHECK REAR SIDE MARKER LAMP OPERATION

DIPDM E/R AUTO ACTIVE TEST

- 1. Start IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u> (with Intelligent Key) or <u>PCS-41, "Diagnosis Description"</u> (without Intelligent Key).
- 2. Check that the rear side marker lamp is turned ON.

CONSULT ACTIVE TEST

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

TAIL : Rear side marker lamp ON

Off : Rear side marker lamp OFF

Is the rear side marker lamp turned ON/OFF?

YES >> Rear side marker lamp circuit is normal.

NO >> Refer to EXL-60, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK REAR SIDE MARKER LAMP BULB

Check the applicable lamp bulb.

Is the bulb normal?

YES >> GO TO 2.

NO >> Replace the bulb.

2. CHECK REAR SIDE MARKER LAMP OPEN CIRCUIT

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

	IPDM E	/R	Rear side r	Continuity	
C	Connector	Terminal	Connector	Terminal	Continuity
RH	E14	41	T5	1	Existed
LH	L14	41	T4	1	LAISIEU

Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK REAR SIDE MARKER LAMP GROUND OPEN CIRCUIT

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

	Rear side mar	ker lamp		Continuity
C	Connector	Terminal	Ground	Continuity
RH	T5	1	Giouna	Existed
LH	T4	1		Existed

Does continuity exist?

YES >> Replace the rear side marker lamp assembly.

NO >> Repair the harnesses or connectors.

EXL-60

LICENSE PLATE LAMP CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >	
LICENSE PLATE LAMP CIRCUIT	А
Component Function Check	A
NOTE: Check the parking lamp circuit if the parking lamp and the license plate lamp are not turned ON. 1.CHECK LICENSE PLATE LAMP OPERATION	В
 PDM E/R AUTO ACTIVE TEST Start IPDM E/R auto active test. Refer to <u>PCS-10, "Diagnosis Description"</u> (with Intelligent Key) or <u>PCS-41, "Diagnosis Description"</u> (without Intelligent Key). 	С
 Check that the license plate lamp is turned ON. CONSULT ACTIVE TEST Select "EXTERNAL LAMPS" of IPDM E/R active test item. With operating the lighting switch, check that the license plate lamp is turned ON. 	D
TAIL: License plate lamp ONOff: License plate lamp OFF	F
<u>Is the license plate lamp turned ON?</u> YES >> License plate lamp circuit is normal. NO >> Refer to <u>EXL-61, "Diagnosis Procedure"</u> .	G
Diagnosis Procedure	
1.CHECK LICENSE PLATE LAMP BULB	Н
Check the applicable lamp bulb. <u>Is the bulb normal?</u> YES >> GO TO 2. NO >> Replace the bulb.	I
2. CHECK LICENSE PLATE LAMP OPEN CIRCUIT	J
 Turn the ignition switch OFF. Disconnect IPDM E/R connector and the license plate lamp connector. Check continuity between the IPDM E/R harness connector and the license plate lamp harness connector. 	K

IPDM E/R			License p	Continuity	
С	onnector	Terminal	Connector	Terminal	Continuity
RH	F14	41	Т3	1	Existed
LH	L14	41	T2	1	LAISIEU

Does continuity exist?

tor.

YES >> GO TO 3.

NO >> Repair the harnesses or connectors.

3.CHECK LICENSE PLATE LAMP GROUND OPEN CIRCUIT

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

	License plate	e lamp		Continuity
	Connector	Terminal	Ground	Continuity
RH	T3	2	Ground	Existed
LH	T2	2		LAISted

Does continuity exist?

YES >> Replace the license plate lamp.

NO >> Repair the harnesses or connectors.

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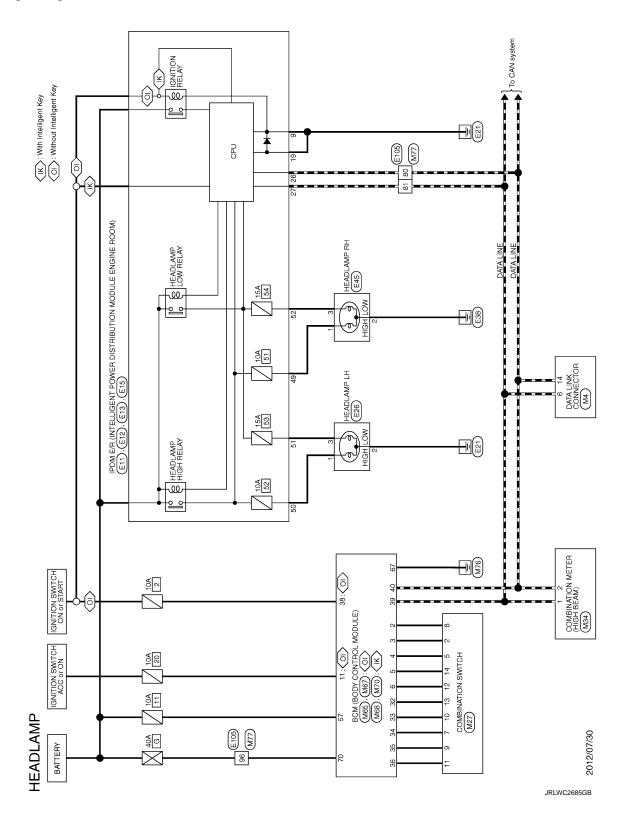
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HEADLAMP SYSTEM

Wiring Diagram - HEADLAMP -



Connector No. E106 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name Prentine Marco Signal Name (Specification) No Signal Name (Specification) A Signal Name (Specification) B P A Signal Name (Specification)	 (2) (2) (2) (2) (2) (2) (2) (2) (2) (2)
Connecto Connecto Iterminal	<u>→ </u>
E86 HEADLAMP LH NoosFB Signal Name [Specification]	E45 HEADLAMP RH ND005FB
26 R 59 Y 61 V 61 V 61 V 62 L Corrector Name Corrector Name Corrector Type Hantal Color Of Name	
Corrector No. E13 Connector Name Para Restruction Notice Connector Name Connector Name Connecto	

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< DTC/CIRCUIT DIAGNOSIS >

2014 CUBE

HEADLAMP SYSTEM

JRLWD0803GB

HEADLAMP SYSTEM

Revision: 2013 October

< DTC/CIRCUIT DIAGNOSIS >

HEADL/ Connector No.	HEADLAMP	VIP IM68	Connector No.		M70	6	H		
Connecto	Connector Name	BCM (BODY CONTROL MODULE)	Connector Name		BCM (BODY CONTROL MODULE)	10	-		
Connecto	or Type	Connector Type TH40FB-NH	Connector	r Type	Connector Type FEA09FW-FHA6-SA	32	╈	L/B -	Т
ą			ą			33		RVY -	
AFF.			王			5 8	+		
H S	73		H.S.	_	7 56 57 59 60 61 63 1	36	H		П
		28 29 31 32 33 34 35 36			65 66 67 68 69 70	82	╉	LIR	-
						45	╈	LG/R -	1
						46	H	GR/W	
Terminal	Color Of	of Signal Name [Specification]	Terminal	Color Of	Signal Name [Specification]	4		00	
		COMPLEM INDUT 6	Ч	-	NITERIOR POOM AND POWER SLIPPLY	n 2	+	B/W	- -
v e.	ang Be		57	- >	BAT (FLISF)	5 2	+		1
4	S	COMBI SW INPUT 3	59	0	PASSENGER DOOR UNLOCK OUTPUT	57	+	GR -	
5	U	COMBI SW INPUT 2	60	W/B	TURN SIGNAL LH OUTPUT	56		N	
9	۳.		61	W/L	TURN SIGNAL RH OUTPUT	99	+	R/W	
` °	7/M		65 65	꽃 >		<u>ة</u>	+	PUIVV -	1
, ,	2	STOP LAMP SV	99	-IAB	S DOOR UNL	89	┢	W/B -	1
12	Яß	CENTRAL DOOR LOCK SW	67	в	GROUND	67	\vdash	Y/R -	
13	BR	CENTRAL DOOR UNLOCK SW	68	L	POWER WINDOW POWER SUPPLY (IGN)	69		- <u>-</u> 101	
14	L/G	OPTICAL SENSOR	69	٩	POWER WINDOW POWER SUPPLY (BAT)	70			
15	WL	REAR WINDOW DEFOGGER SW	70	≻	BAT (F/L)	7	+	P/B -	-
17	R/G	OPTICAL SENSOR POWER SUPPLY				12	+	RIG -	
8 F	> 5	SENSOR GNU	Connector No		MZZ	212	+	- ×	T
3 22	, ∧Z	SECURITY INDICATOR I AMP			411 L	92	+		
25	20	NATS ANTENNA AMP.	Connector Name		WIRE TO WIRE	2	╈	GR/R -	
27	0	ACSW	Connector Type	r Type	TH80FW-CS16-TM4	78	t		
28	GW	BLOWER FAN SW	4			79	\mathbb{H}		
29	۲W	HAZARD SW	ß			80	_		-
31	G/B	DR DOOR UNLOCK SENSOR	S i C			8	+		
32	g	COMBI SW OUTPUT 5				82	+	GR -	
е С	1	COMBI SW OUTPUT 4			2 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	83	╉	GR - '	- -
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er a						5 6	╀	~ ~ ~	1
37	0/9	SHIFT P	Terminal	Color Of		6			1
38	SS	RECEIVER COMM	Ś	Wire	Signal Name [Specification]	94	┝	R/B -	1
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40	٩	CAN-L	2	я		96	Ĺ		
			e	G/R		97		T	
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HEADLAMP SYSTEM

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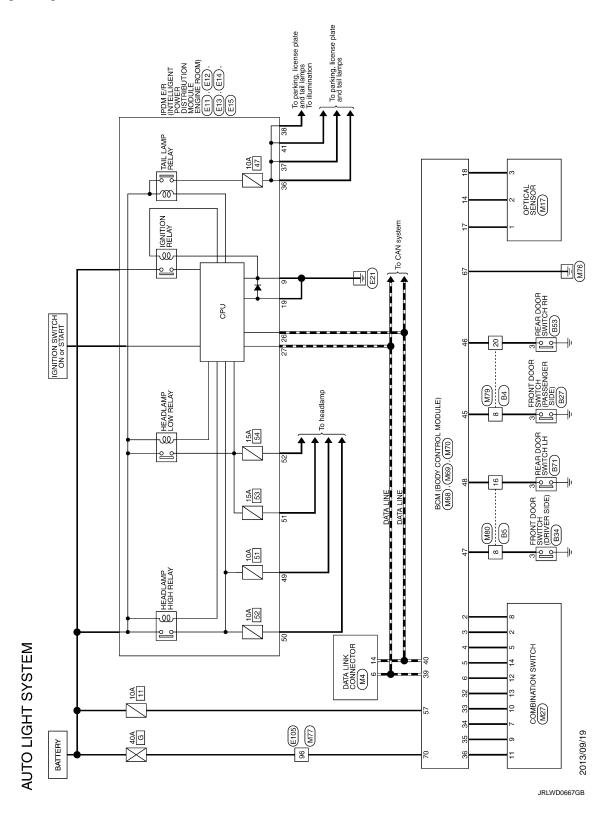
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< DTC/CIRCUIT DIAGNOSIS >

AUTO LIGHT SYSTEM

Wiring Diagram - AUTO LIGHT SYSTEM -



AUTO LIGHT SYSTEM

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Terminal Color Of Ware Of War	D
	E
Other Image: Normal System Connector Name ERONIT DOOR SWITCH (DRIVER SLID) Connector Name FRONIT DOOR SWITCH RH Connector Name FRONIT DOOR SWITCH RH Connector Name FEAR DOOR SWITCH LH	F
Corrector No. B34 Connector Name FRONT DOC Connector Name FRONT DOC Na Wire Na Unit	G
Corrector Name Connector Name Connector Name Connector Name Connector Name Connector Name Connector Name Connector Name Connector Name	Н
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Signal As 1 1 1 1 1 Signal As 1 1 1 1 1	J
Connector No. B5 Convector Name WRE TO WIRE No. Vire Signal N Vire Signal N Signal N Signal N	K
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AUTOLICHT SYST Connector Nume Connector Nume Connector Nume Connector Nume Connector Nume Connector Nume Nu	Ν
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AUTO LIGHT SYSTEM	Connector No.	E15	Ŷ	-	- [Vvith NAV]]	- - - -
and the second se	00000000	Company and a second	0		DAGEBOOK & MAY/11	+
IPUM EX (NIELLIGEN POWER US INBUTION MODULE ENSINE ROOM)	Connector Name	FUM E/K (NIELLINEN) FUWER US IRBUILON MUULE ENGNE ROOM)		< >	- [14/14] -	
	ŀ			- (╀
I H1ZE W-NH	Connector Type	NST6FW-US	20	s :		_
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20 27 26 25 24		0 00 F	8	ŀ		
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			8	+		Connector Lype BD16FW
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-	51 R		51	_	 [With M/T] 	
	52 P	-	51	R	- [With CVT]	
	54 GR		53	┝		Terminal Color Of
	╀		54	┝	DAGHA MACT	
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			\$	+	- [with CV I]	
	57 G		57	د ار		5 B
	58 LG	- [With M/T]	59			6 L -
	58 R	- [With CVT]	99	0		7 GR/R -
E14		-	6	┡	,	- -
DM F/R INTELLIGENT PC/WER DISTRIBUTION MODULE	. ^		6	+		┝
Connector Name Ensine Room	+		3 5			t
(M		3	╉		16 LG/K -
NS12FBR-CS	62 L		67	GR	- [With CVT]	
			67	>	- [With M/T]	
			69	۵.		Connector No. M17
	Connector No	E105	02	CHIELD		
30 38 37 36	COLLIGCIOL NO.	E103	2	t		Connector Name OPTICAL SENSOR
	Connector Name	WIRE TO WIRE		+		
46 45 44 43 41 40			77	_		Connector Lype LK03FW
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,	No. Wire		84		-	1 R/G POWER
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MTO EEADEPV-FHAG-SA. EEADEPV-FHAG-SA. Sgral kime [Spacification] MITERIOR ROOM LAMP POWER SUPPLY INTERIOR ROOM LAMP POWER SUPPLY TURN SIGNAL HI OUTPUT TURN SIGNAL HI OUTPUT MIT - MIT -	
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8 WIB 9 WIB 13 UIC 14 UIC 15 NUL 23 RN 23 RN 23 RN 23 RU 35 RU 36 RU 37 Connector Name 40 P 40 P 41 UO 38 CIO 39 VIL 44 BN/M 45 S0 50 RM 60 P	
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AUTO LIGHT SYSTEM

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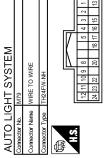
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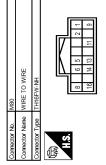
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Signal Name [Specification]										-
Color Of Wire	L/B	GR/L	M	W/L	BR/Y	RY	0	BR/W	W/B	W/G
Terminal Color Of No. Wire	-	2	5	9	8	6	11	13	14	16



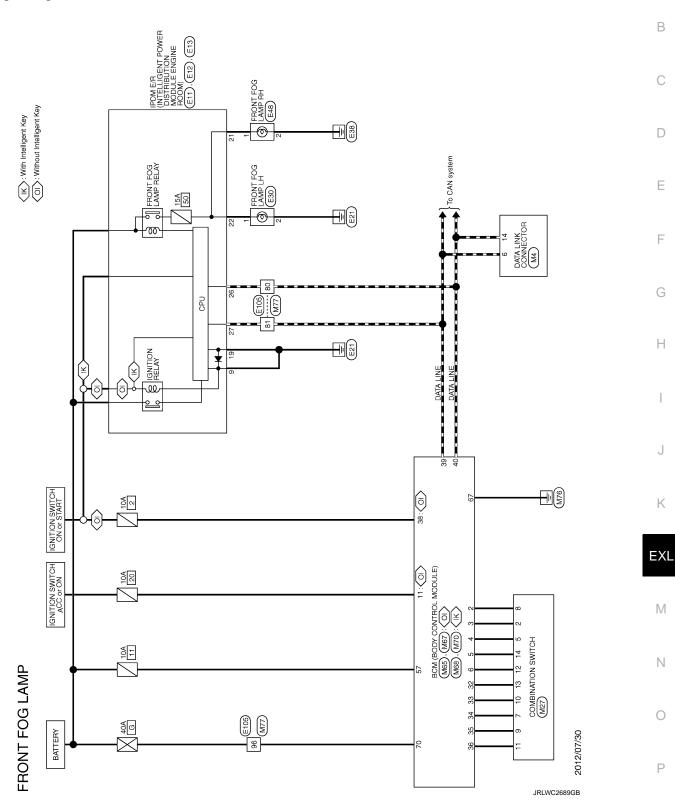
Signal Name [Specification]	-	-			-		-		-			-	-	-		-			
Color Of Wire	W/G	۲V	æ	P/B	M	SB	D/J	GR/B	G/B	G/R	R/G	RI	GR/R	BR/Y	ΡN	GR/L	L	٨/L	G/W
Terminal No.	+	2	9	4	5	8	6	10	11	12	13	15	16	17	18	20	22	23	24



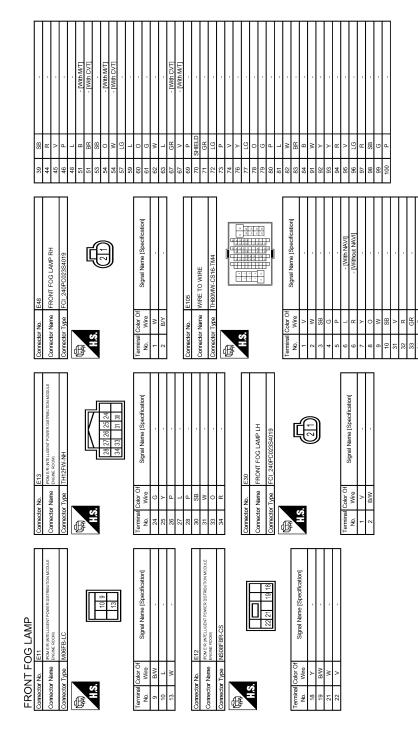
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FRONT FOG LAMP SYSTEM

Wiring Diagram - FRONT FOG LAMP -



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< DTC/CIRCUIT DIAGNOSIS >

GR CENTRAL DOOR LOCK SW BR CENTRAL DOOR LOCK SW	N/L W/L	NG OPTIC/	P/L NATS ANTENNA AMP. R/Y SECURITY INDICATOR LAMP	0 FC	G/W B	G/B DR DOOR UNLOCK SENSOR	LG	7/L	R/L COMBI	Г/О	G/O	G/T RECEIVER COMM	· a.		Connector No M70	1 8		COMPECT TYPE FEAUSTW-FITMO-SA		S.	20 L0 00 AC	65 66 67 68 69 70		0	Wire	· ~	G PASSI	W/B I URN SIGNAL LH OUTPUT	BR	> !			P POWER WINDC	7					
Connector No. M67 Connector No. M67 Connector Name BCM RCIDY CONTERCI MODILLE1 13		17 18	S.	30 31 34 80 61 63 63 63 63 63 63 70 25 65 66 67 68 69 70 27 27		Terminal Color Of 29	Wire Signal Name [Specification]	L INTERIOR ROOMLAMP POWER SUPPLY V DAT (CINEE)	59 L/B DRIVER DOOR UNLOCK OUTPUT 35	W/B TURN SIGNAL LH OUTPUT	W/L TURN SIGNAL RH OUTPUT	65 V ALLAMP LIMER CONTROL 38 65 V ALL DOOR LOCK OLITPUT 39	G PASSENGER DOOR, REAR DOOR UNLOCK OUTPUT	67 B GROUND	P POWER WINDOW POWER SUPPLY (1984)	Y BAT (F/L)		Connector No. M68		THADEB-NH	1	······································	HS	23456789 12131415 1718 Terminal M <td></td> <td></td> <td>nal Color Of Signal Name [Specification]</td> <td>2 BR/W COMBLSW INPLIT 5 61</td> <td>COMBI SW INPUT 4</td> <td>L/Y COMBI SW INPUT 3</td> <td>5 G COMBLSW INPUL 2 66 6 L/P COMBLSW INPUL 2 67</td> <td>W/R KEY CYL UNLOCK SW</td> <td>KEY CYL LOCK SW</td> <td>R STOP LAMP SW 1</td> <td></td> <td></td> <td></td> <td></td> <td></td>			nal Color Of Signal Name [Specification]	2 BR/W COMBLSW INPLIT 5 61	COMBI SW INPUT 4	L/Y COMBI SW INPUT 3	5 G COMBLSW INPUL 2 66 6 L/P COMBLSW INPUL 2 67	W/R KEY CYL UNLOCK SW	KEY CYL LOCK SW	R STOP LAMP SW 1					
14 G OUTPUT 2	Connector No. M65	-	Connector Type TH40FW-NH	E	1.5. 13325677891011119131 18100	21 23 25 25 27 23 23 31 22 33 24 55 56 37 33 38 40		Torminal Calar Of	Wire Sig	-		5 G COMBLEW INPUT 2		M/R KEY CYL UNLOCK SW M/ID KEY CYL LOCK SW	aw a	W/L REAF	11 L/Y ACC POWER SUPPLY	GRIL	\mathbb{H}	19 BR KEYLESS ENTRY RECEIVER POWER SUPPLY 20 G/Y KEYLESS ENTRY RECEIVER COMM	P/L	RY SEC	ER 1	Y/G	28 G/W BLOWER FAN SW 29 I AW HAZADD SW	G/Y FR	P	33 Y/L CUMBISW OUTPUL 4 34 W COMBISW OUTPUL 3	R/L	L/0	3/ R/W KEY SWITCH 38 0 IGNITTIONIPOWER SLIPPI V) _	40 P CAN-L						
FRONT FOG LAMP Connector No. M4 Connector Nome Data LINK CONNECTOR		E	S.			Terminal Color Of	No. Wire Signal Name (Specification)	+	 0		+	14 P	1	Commission No. 1077		Connector Name COMBINATION SWITCH	Connector Type TH16FW-NH			123 456	7 8 9 10 11 12 13 14	-	Terminal Color Of	Signa	2 CP WASHER (RR)	R/G V	M	6 B GROUND	- ×	BRW	9 K/L INPUL2 10 V/I INPUL2	F/0	L/R	13 LG INPUT 5					

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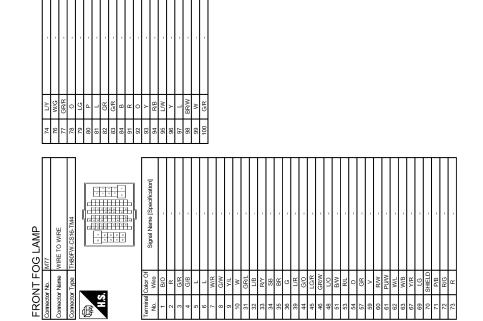
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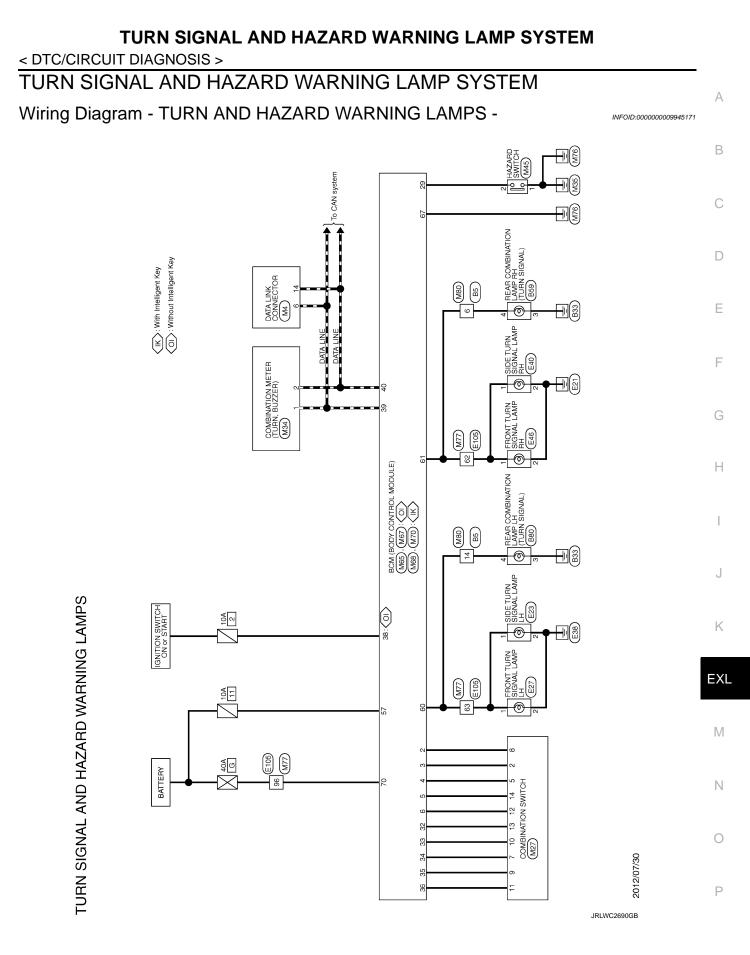
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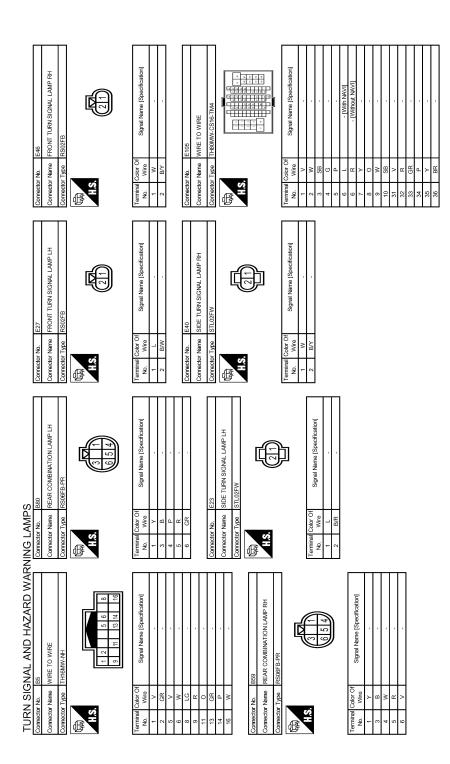
FRONT FOG LAMP SYSTEM < DTC/CIRCUIT DIAGNOSIS >



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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < DTC/CIRCUIT DIAGNOSIS >



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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM < DTC/CIRCUIT DIAGNOSIS >

	· · · · · · · · · · · · · · · · · · ·	
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ATA LINK CONNECTOR ATA LINK CONNECTOR Signal Name [Specification] Signal Name [Specification] Z MBIIMATTON SWITCH HIEFWAM CONPUT 3 OUTPUT 4 WASHER (FRR) OUTPUT 3 OUTPUT 3 OUTPUT 1 NPUT 1 NPUT 1 NPUT 1		
AT LINK CONNECTO		
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TURN SIGNAL AND HAZARD MAR	NING LAMI Corrector Name Corrector N	
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9 Y/L 10 W 31 GR(1 33 R/Y 34 SB 35 BR			93 Y 94 R/B 95 L/W 97 L 97 L 98 BR/W 99 W 100 G/R
N6. M70 Name BCM (BODY CONTROL MODULE) Type FEA09FW-FHA6-SA	Color Of Si I </td <td>THERN SERVEL LIT OF DUPUT THERN SERVEL LIT OF DUPUT ROUTL LIDEN SERVEL LIDEN LIDEN CONTROL RALL DOOR LIDEN CONTROL POWER WINDOW FOWER SUPPLY (163) POWER WINDOW FOWER SUPPLY (163)</td> <td>eminal Cotor Of Signal Name (Specification) No. Write Specification) 2 R R</td>	THERN SERVEL LIT OF DUPUT THERN SERVEL LIT OF DUPUT ROUTL LIDEN SERVEL LIDEN LIDEN CONTROL RALL DOOR LIDEN CONTROL POWER WINDOW FOWER SUPPLY (163)	eminal Cotor Of Signal Name (Specification) No. Write Specification) 2 R R
88 M. (BODY CONTROL MODULE) 410FB.NH	Image: Second	LR COMBI SWINPUT 1 URR KEC YCLUBOK SWINPUT 1 WUR KEC YCLUBOK SWINPUT 1 WUR KEC YCLUBOK SWINPUT 1 WIR KEC YCLUBOK SWINPUT 1 R STOPLALE DORT NULDOR SWINPUT 1 BR CERTRAL DORT NULDOR SWINPUT 1 ULG OPTICAL EDSIG NULDOK SWINPUT 2 PL CONTICAL ESINS NULDOK SWINPUT 2 PL CPTICAL ESINS NULDOK SWINPUT 2 PL MATS ANTENAN AMD PL MATS ANTENAN AMD CM ELCURTT INDUCATOR LAMP PL MATS ANTENAN AMD CM BLOURT AN SWI LOW ACC SWINPUT 3 LUW HAZARD SWIN VIL COMBI SWINPUT 3 VIL COMBI SWINPUT 3 VIL COMBI SWINPUT 3 VIL COMBI SWINPUT 2 VIL COMBI SWINPUT 2	37 GiO SHET P 38 GiY RECEIVER COMM 39 L CANL 40 P CANL
RN SIGNAL , RV SIGNAL , LG GR YG GR GR	32 LLG COMBIS WOUTPUT 5 33 Y/L COMBIS WOUTPUT 4 34 W COMBIS WOUTPUT 3 35 R/L COMBIS WOUTPUT 3 36 R/L COMBIS WOUTPUT 3 37 R/W COMBIS WOUTPUT 3 36 R/L COMBIS WOUTPUT 3 37 R/W KEY SWICH 38 U/O COMBIS WOUTPUT 2 39 U COMBIS WOUTPUT 3 39 L CANT 40 P CANL	Lot the merity of the merity o	67 B GROWER WINDOW POWER SUPPLY ((34)) 68 L POWER WINDOW POWER SUPPLY ((34)) 70 Y POWER WINDOW POWER SUPPLY (B41)

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

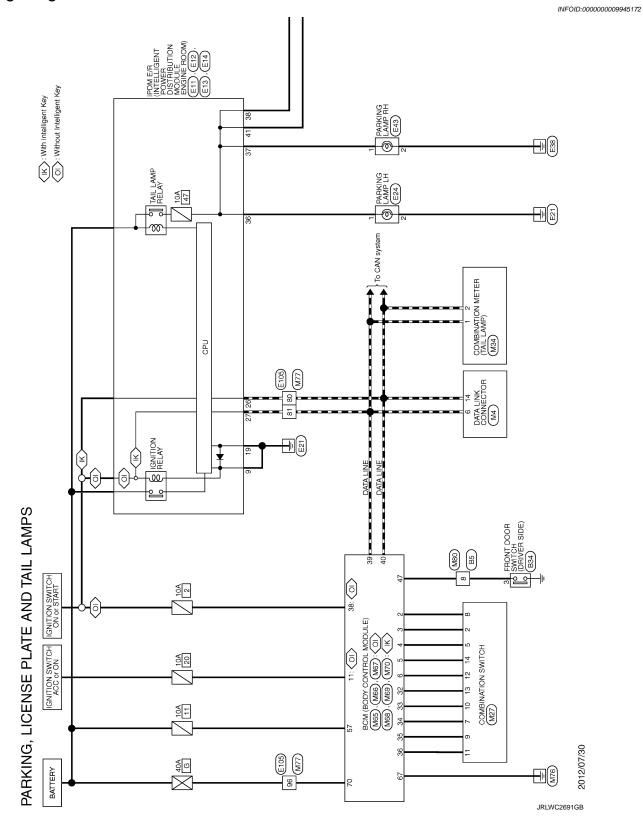
< DTC/CIRCUIT DIAGNOSIS >

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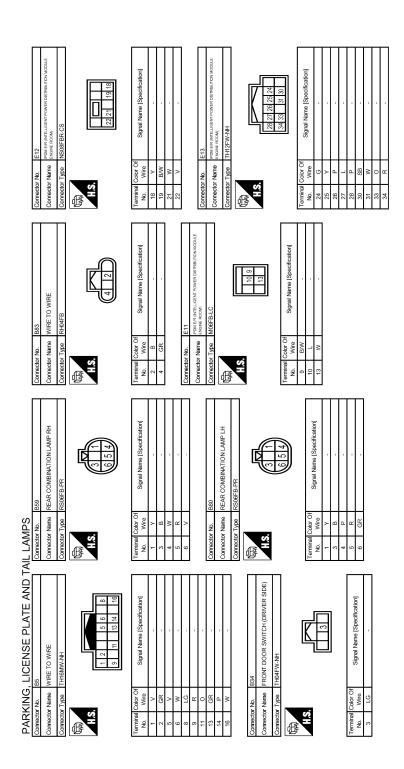
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PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS SYSTEM Wiring Diagram - PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS -



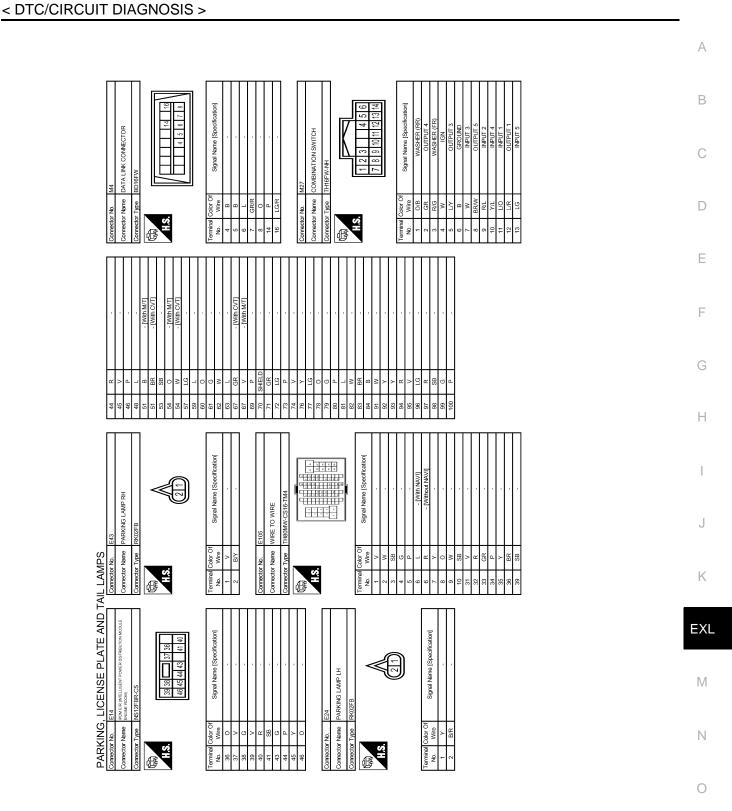
REAR COMBINATION LAMP RH B59 В To stop lamp С STOP **I** D TAIL REAR COMBINATION LAMP LH B80 Е F ٩ ٩ G TAIL SIDE MARKER LAMP RH T5 Н 8 N L L <u></u> SIDE MARKER LAMP LH J 0 LICENSE PLATE LAMP T3 Κ <u></u> LICENSE LH LH T2 EXL T6 B83 0 Μ BS 5 ლ MBO Ν (LM) 66 98 E105 Ο JRLWC2692GB Ρ

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PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS SYSTEM

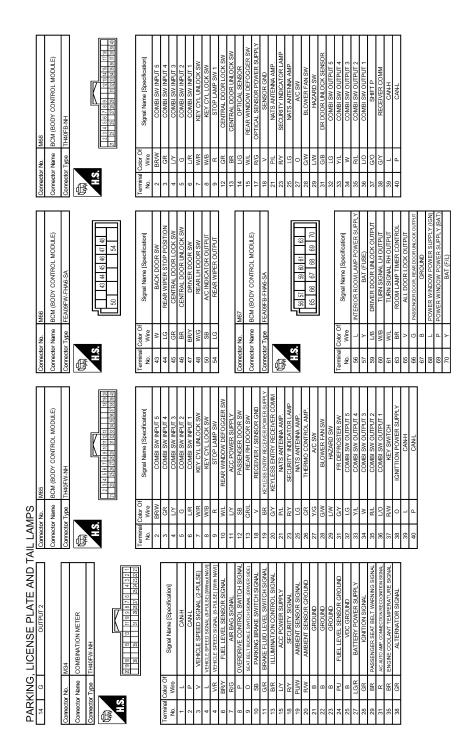


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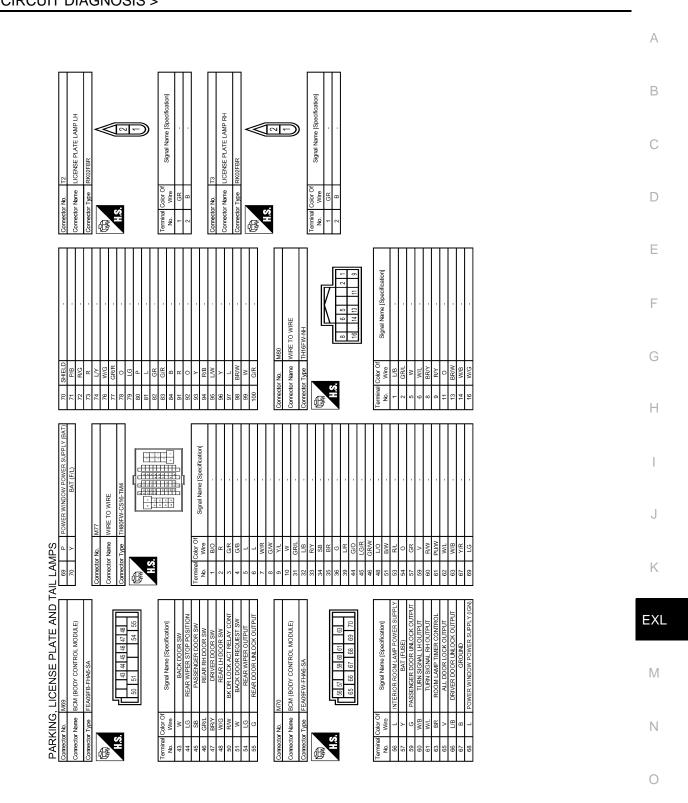
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PARKING, LICENSE PLATE, SIDE MARKER AND TAIL LAMPS SYSTEM

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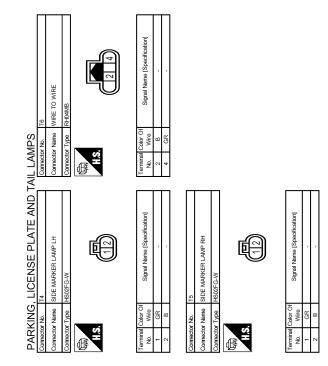


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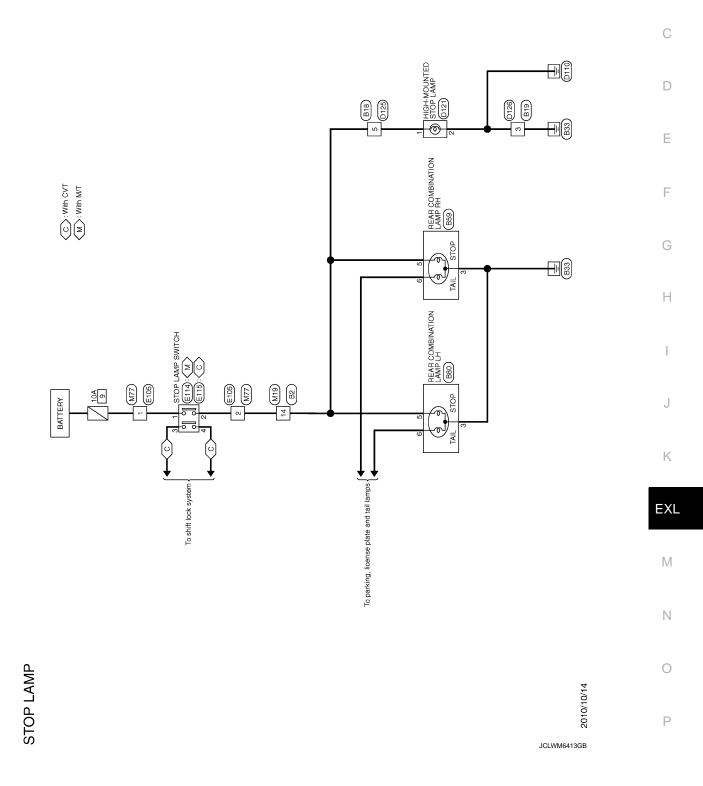


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< DTC/CIRCUIT DIAGNOSIS >

STOP LAMP

Wiring Diagram - STOP LAMP -

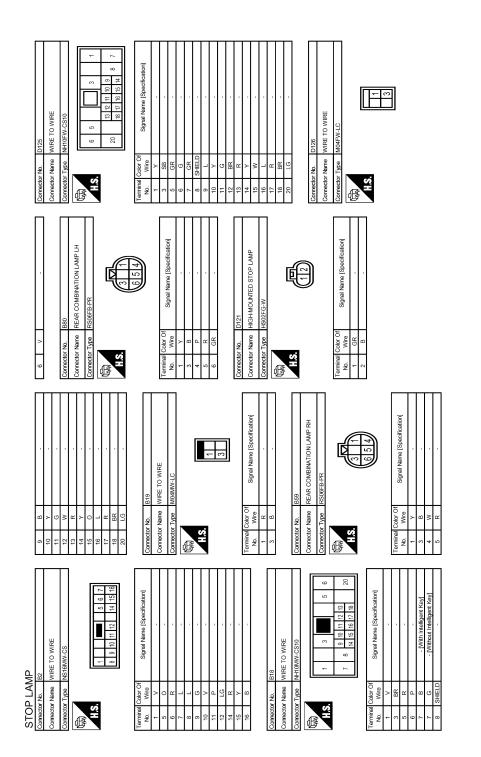


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STOP LAMP



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STOP LAMP							
Terminal Color Of Signal Name [Specification]	61	÷ 0	- Connector No. E115	15	Connector No.	No. M77	
	70	> -	Connector Name ST	STOP LAMP SWITCH	Connector Name	Name WIRE TO WIRE	
- 6	67	GR	- [With CVT] Connector Type M0	M04FW-LC	Connector	Type TH80FW-CS16-TM4	
	67	>				1	
	69	٩			ß		
Connector No. E105	202	SHIELD	ĩ	r c	SH	* *	
Connector Name WIRE TO WIRE	5 8	<u>y</u>		0 4			
Connector Type TH80MW-CS16-TM4	73	ے د		1 2			
	74	>					
	76	~					
ç	77	LG	10	Signal Name [Snecification]	B	Color Of Sinnal Name [Snertfination]	
	78	0	- No. Wire		.oN		
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	81	٦	_		m	G/R -	
	82	8	- 4 G		4	G/B -	
Terminal Color Of Signal Name [Specification]	8	Я			e G	-	
	84		ſ		9		
-	91	> :	- Connector No. M19	6	~ '		
+	92	~	Connector Name Wil	WIRE TO WIRE	×	G/W -	
SB	8	>	-		თ		
4 6 -	64	œ :	- Connector Type NS	NS16FW-CS	10		
_	36	>	đ		31	GR/L -	
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SB					39	L/R -	
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	Connector No.		<u>a</u>	Signal Name [Specification]	1	LG/R -	
GR	Connector Name		STOP LAMP SWITCH				
٩			-		48		
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┥	ą		6 R		53	R/L -	
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46 P -			-		60	R/W -	
			+		61	PUW -	
8			-		62		
51 BR - [With CVT]		ĺ	14 R		63	W/B -	
SB	Terminal	Color Of	Simal Name (Snartfination)	-	67	Y/R -	
0	No	Wire				LG	
54 W - [With CVT]	-	>	-		70	SHIELD -	
57 LG -	2	W			71	P/B -	
_					72	R/G -	
- 0 09					73	,	

STOP LAMP

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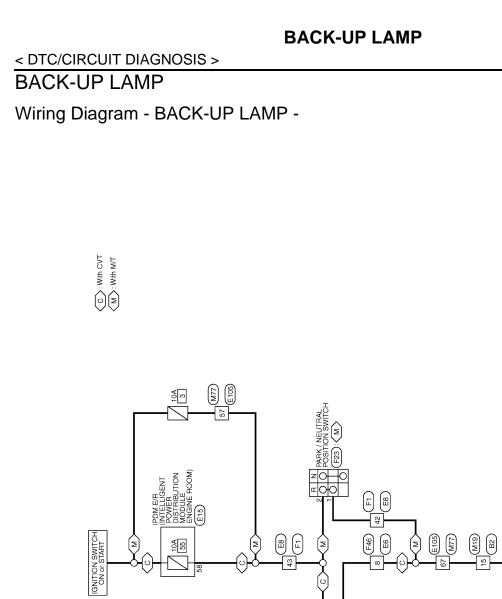
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STOP LAMP	2	W/G	GR/R	0	ГC	٩	٦	GR	G/R	в	ч	0	≻	R/B	LW	Υ	_	BR/W	W	G/R	
STO	74	76	22	78	62	80	81	82	83	84	16	92	93	94	95	96	26	86	66	100	

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TRANSMISSION BANGE SWITCH

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REAR COMBINATION LAMP RH (BACK-UP) (B59)

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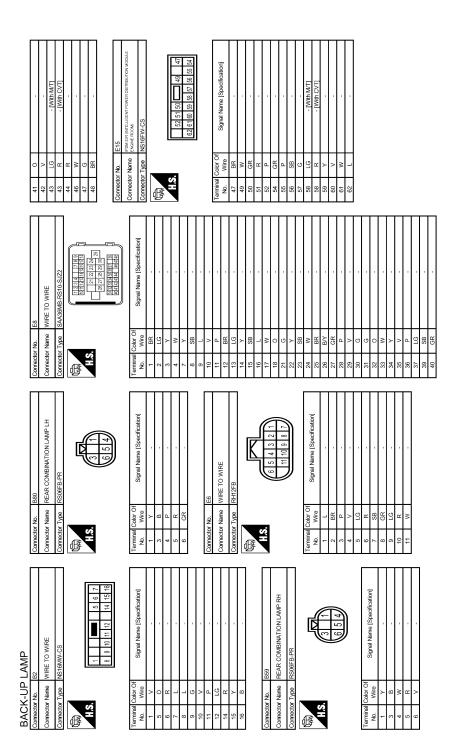
REAR COMBINATION LAMP LH BACK-UP) BBD

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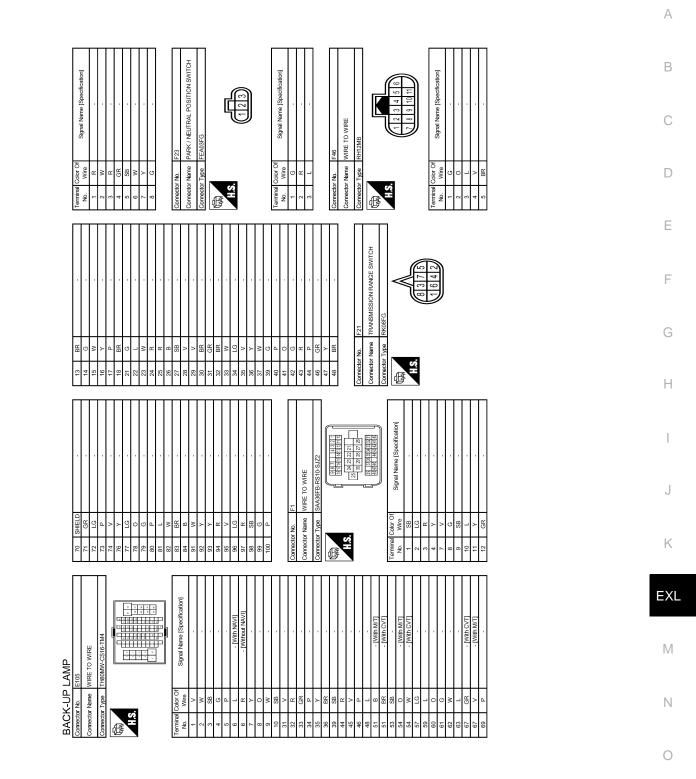
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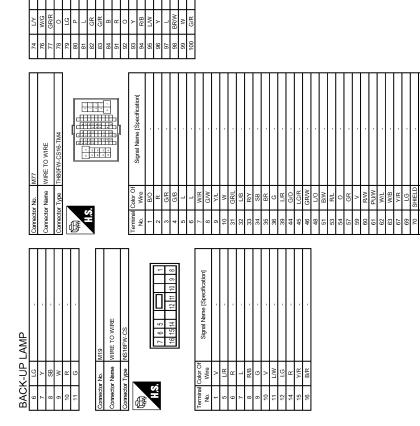


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BACK-UP LAMP



JRLWD0820GB



JRLWD0821GB

P/B R/G

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BCM (BODY CONTROL MODULE)	
< ECU DIAGNOSIS INFORMATION >	
ECU DIAGNOSIS INFORMATION	Δ
BCM (BODY CONTROL MODULE)	$\overline{\Lambda}$
WITH INTELLIGENT KEY	В
WITH INTELLIGENT KEY : Reference Value	 00000010249353
VALUES ON THE DIAGNOSIS TOOL NOTE:	С
The following table includes information (items) inapplicable to this vehicle. For information (items) ap to this vehicle, refer to CONSULT display items.	plicable

CONSULT	MONITOR	ITEM
CONSOLI		

Monitor Item	Condition	Value/Status	
FR WIPER HI	Other than front wiper switch HI	Off	E
	Front wiper switch HI	On	
FR WIPER LOW	Other than front wiper switch LO	Off	_
	Front wiper switch LO	On	F
FR WASHER SW	Front washer switch OFF	Off	
FR WASHER SW	Front washer switch ON	On	G
FR WIPER INT	Other than front wiper switch INT	Off	
	Front wiper switch INT	On	
FR WIPER STOP	Front wiper is not in STOP position	Off	Η
FR WIFER STOP	Front wiper is in STOP position	On	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	I
RR WIPER ON	Other than rear wiper switch ON	Off	
	Rear wiper switch ON	On	J
RR WIPER INT	Other than rear wiper switch INT	Off	
	Rear wiper switch INT	On	
RR WASHER SW	Rear washer switch OFF	Off	K
K WASHER SW	Rear washer switch ON	On	
RR WIPER STOP	Rear wiper is in STOP position	Off	ΕX
AR WIFER STOP	Rear wiper is not in STOP position	On	
TURN SIGNAL R	Other than turn signal switch RH	Off	
I UKIN SIGINAL K	Turn signal switch RH	On	M
TURN SIGNAL L	Other than turn signal switch LH	Off	
I URIN SIGINAL L	Turn signal switch LH	On	N
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off	
TAIL LAIVIT SVV	Lighting switch 1ST or 2ND	On	
HI BEAM SW	Other than lighting switch HI	Off	0
	Lighting switch HI	On	
	Other than lighting switch 2ND	Off	Р
HEAD LAMP SW 1	Lighting switch 2ND	On	F
	Other than lighting switch 2ND	Off	
HEAD LAMP SW 2	Lighting switch 2ND	On	
	Other than lighting switch PASS	Off	
PASSING SW	Lighting switch PASS	On	

Monitor Item	Condition	Value/Status
AUTO LIGHT SW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On
	Front fog lamp switch OFF	Off
FR FOG SW	Front fog lamp switch ON	On
	Driver door closed	Off
DOOR SW-DR	Driver door opened	On
	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
	Rear LH door closed	Off
DOOR SW-RL	Rear LH door opened	On
	Back door closed	Off
DOOR SW-BK	Back door opened	On
	Other than power door lock switch LOCK	Off
CDL LOCK SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
CDL UNLOCK SW	Power door lock switch UNLOCK	On
	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
	Other than driver door key cylinder UNLOCK position	Off
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On
	Hazard switch is OFF	Off
HAZARD SW	Hazard switch is ON	On
	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
TR/BD OPEN SW	NOTE: The item is indicated, but not monitored.	Off
TRNK/HAT MNTR	NOTE:	Off
	The item is indicated, but not monitored.	
FAN ON SIG	Blower fan OFF	Off
	Blower fan ON	On
AIR COND SW	Air conditioner OFF (A/C switch indicator OFF)	Off
	Air conditioner ON (A/C switch indicator ON)	On
RKE-LOCK	LOCK button of the key is not pressed	Off
	LOCK button of the key is pressed	On
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off
	UNLOCK button of the key is pressed	On
RKE-TR/BD	BACK DOOR OPEN button of the key is not pressed	Off
	BACK DOOR OPEN button of the key is pressed	On
RKE-PANIC	PANIC button of the key is not pressed	Off
	PANIC button of the key is pressed	On
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
	LOCK/UNLOCK button of the key is pressed and held simultaneously	On

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V
DPTISEN (DTCT)	Dark outside of the vehicle	Close to 0 V
	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V
OPTI SEN (FILT)	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	Off
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -DR	Driver door request switch is not pressed	Off
	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
030 300	Push-button ignition switch (push switch) is pressed	On
CLUCH SW	The clutch pedal is not depressed.	Off
	The clutch pedal is depressed	On
BRAKE SW 1	The brake pedal is not depressed	Off
DRAKE SW I	The brake pedal is depressed	On
	The brake pedal is depressed when No. 9 fuse is blown	Off
RAKE SW 2	The brake pedal is not depressed when No. 9 fuse is blown, or No. 9 fuse is normal	On
	Selector lever in P position	Off
DETE/CANCL SW	Selector lever in any position other than P	On
SFT PN/N SW	Selector lever in any position other than P and N	Off
	Selector lever in P or N position	On
S/L -LOCK	NOTE: The item is indicated, but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off
JNLK SEN -DR	Driver door is locked	Off
INLIN JEIN -UK	Driver door is unlocked	On
	Push-button ignition switch (push-switch) is not pressed	Off
USH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On
	Ignition switch in OFF or ACC position	Off
GN RLY1 -F/B	Ignition switch in ON position	On
	Selector lever in any position other than P	Off
DETE SW -IPDM	Selector lever in P position	On
	Selector lever in any position other than P and N	Off
SFT PN -IPDM	Selector lever in P or N position	On

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Monitor Item	Condition	Value/Status
	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On
	Selector lever in any position other than N	Off
SFT N -MET	Selector lever in N position	On
	Engine stopped	Stop
	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed ometer reading
VEH SPEED 2	While driving	Equivalent to speed ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Selector lever is in the P position except for M/T models)	Reset
	Ignition switch ON	Set
PRMT ENG STRT	The engine start is prohibited	Reset
PRMITENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	—
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID reg- istered to BCM.	Yet
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the fourth key ID reg- istered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the third key ID reg- istered to BCM.	Done

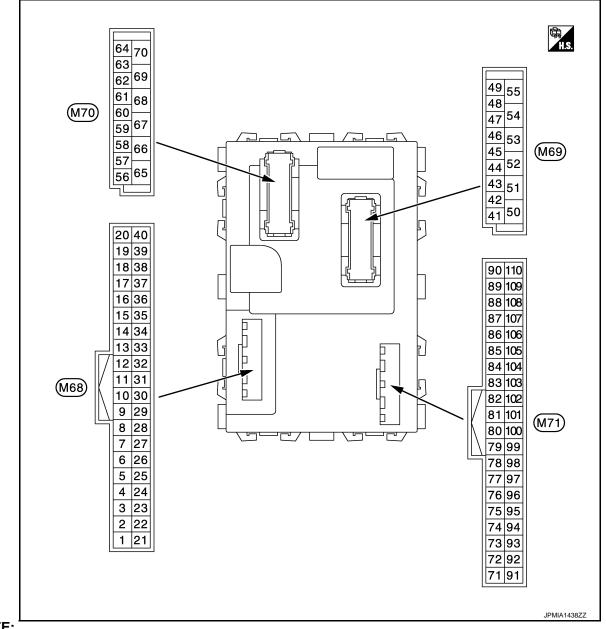
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Monitor Item	Condition	Value/Status
	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done
	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
CONFIRM ID1	The key ID that the key slot receives is recognized by the first key ID reg- istered to BCM.	Done
	BCM detects registered key ID, or BCM does not detect key ID.	ID OK
NOT REGISTERED	BCM detects non-registration key ID.	ID NG
	The ID of fourth key is not registered to BCM	Yet
TP 4	The ID of fourth key is registered to BCM	Done
	The ID of third key is not registered to BCM	Yet
TP 3	The ID of third key is registered to BCM	Done
TP 2	The ID of second key is not registered to BCM	Yet
12	The ID of second key is registered to BCM	Done
	The ID of first key is not registered to BCM	Yet
TP 1	The ID of first key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
	ID of front LH tire transmitter is registered	Done
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
ID NEGOT KLI	ID of rear LH tire transmitter is not registered	Yet
	Tire pressure indicator OFF	Off
WARNING LAMP	Tire pressure indicator ON	On
	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



NOTE:

Connector color

- M68, M70: Black
- M69, M71: White

PHYSICAL VALUES

	nal No. color)	Description		-		Value
(wire +	-	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	0 V
				Turn signal switch RH		
					Lighting switch HI	(V) 15
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit-	Lighting switch 1ST	10 5 0 • • • 10ms • • • • • • • • • • • • • • • • • • •
(BK/W)			tent dial 4)	Lighting switch 2ND	(V) 10 5 0 ++10 ms JPMIA0342JP 2.0 V	
					All switch OFF	0 V
		nd Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch LH	
3 (GR)	Ground				Lighting switch PASS	(V) 15 0 •••10ms ••••10ms PKIB4958J 1.0 V
					Front fog lamp switch ON	(V) 15 10 5 0 + 10ms PKIB4956J 0.8 V
4 (L/Y) Ground				All switch OFF	0 V	
				Front wiper switch LO		
				Combination	Front wiper switch MIST	(V) 15
	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch INT	10 0 0 ++10ms
(L/Y)					Lighting switch AUTO	

		Description				Value	
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	0 V	
					Front washer switch (Wiper intermittent dial 4)	(V) 15	
					Rear washer ON (Wiper intermittent dial 4)		
					Any of the condition below with all switch OFF	→-+10ms	
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6	PKIB4958J 1.0 V	
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 10 10 10 10 10 10 10 10 10	
			Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V	
		ound Combination switch INPUT 1			Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4) Wiper intermittent dial 3 (All switch OFF)	(V) 15 10 5 0 + +10ms DID 4000	
						PKiB4958J 1.0 V	
6 (L/R)	Ground				Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 10 5 0 +10ms +10ms PKIB4952J 1.9 V	
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ++10ms PKIB4956J 0.8 V	

Instruction Signal name Input Condition (Approx.) + - Signal name Output Door key cylinder Input Door key cylinder Input Door key cylinder Input Door key cylinder WLUTRAL position (V): Input UNLOCK position 0.V 8 Ground Door key cylinder Input Door key cylinder switch Input Door key cylinder switch NEUTRAL position 0.V Input Stop lamp switch 1.VCK position 0.V Input OFF (Brake pedal is not ov depressed) 0.V 0.V Input OFF (Brake pedal is not ov vices and unlock switch unlock switch Input Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0.V Input Input Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position Input Input Door lock and unlock switch NEUTRAL position Input Input Input Door lock and unlock switch NEUTRAL position Input Inp	Terminal No.		Description				Value	
7 (W/R) Ground Door key cylinder switch UNLOCK Input Door key cylin- der switch NEUTRAL position Imput Door key cylin- der switch UNLOCK position 0 V 8 (W/R) Ground Door key cylinder switch LOCK Input Door key cylin- der switch NEUTRAL position 0 V 9 (R) Ground Stop lamp switch 1 Input Stop lamp switch NEUTRAL position 0 V 0 V 12 (GR) Ground Stop lamp switch 1 Input Stop lamp switch NEUTRAL position 0 V 0 V 12 (GR) Ground Door lock and unlock switch LOCK Input Door lock and unlock switch NEUTRAL position 0 V 9 (Pressed) Battery voltage 13 (BR) Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position Imput NEUTRAL position Imput Imput Imput Neuropation Imput Imput Imput Neuropation Imput Imput Imput Neuropation Imput Imput Imput Neuropation Imput Imput Imput Imput Neure bright outside of the Vehicle Close to		-	Signal name		Condition			A
B Ground Door Key cylinder switch LOCK Input Door Key cylin- der switch UNLOCK position 0 V 9 Ground Stop lamp switch 1 Input Stop lamp switch MEUTRAL position 0 V 0 V 9 Ground Stop lamp switch 1 Input Stop lamp switch OF Forke pedal is not depressed) 0 V 0 V 12 Ground Door lock and unlock switch LOCK Input Door lock and unlock switch NEUTRAL position 0 V Battery voltage 13 Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position V Passanton 13 Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position 0 V 14 Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position 0 V 14 Ground Optical sensor Input Input Rear window defog- ger switch Input Rear window defogger switch Not pressed Close to 0 V		Ground		Input		NEUTRAL position	10 0 	B C D
8 (W/B) Ground Door key cylinder switch LOCK Input Door key cylinder der switch NEUTRAL position 12 V LOCK position 0 V 9 (R) Ground Stop lamp switch 1 Input Stop lamp switch Stop lamp switch Stop lamp switch 1 0 V 0 V 12 (GR) Ground Door lock and unlock switch LOCK Input Door lock and unlock switch NEUTRAL position 0 V 0 V 12 (GR) Ground Door lock and unlock switch LOCK Input Door lock and unlock switch NEUTRAL position 0 V 0 V 13 (BR) Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position 0 V 14 (LG) Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position 0 V 14 (LG) Ground Optical sensor Input Input Brain window ON NEUTRAL position 0 V 15 (W/L) Ground Optical sensor Input Input Brain window ON Not pressed OV Input						UNLOCK position		
(WB) Ground switch LOCK input der switch LOCK position 0 V 9 Ground Stop lamp switch 1 Input Stop lamp switch 0 V 0 V 12 Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 12 Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 13 Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 14 Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 15 Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 16 Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 17 Ground Optical sensor pow- ger switch Input Input Rear window defoger switch Not pressed 0 V 18 Ground Rear window defoger switch Input Rear wind	8		Door key cylinder		Door key cylin-		12 V	_
9 (R) Ground Stop lamp switch 1 Input Stop lamp switch Idepressed) UV 12 (GR) Ground Door lock and unlock switch Input Door lock and unlock unlock switch NEUTRAL position Battery voltage 12 (GR) Ground Door lock and unlock switch Input Door lock and unlock unlock switch NEUTRAL position Imput Stop lamp switch LOCK NEUTRAL position Imput unlock switch NEUTRAL position Imput unlock switch NEUTRAL position Imput unlock switch NEUTRAL position Imput unlock unlock unlock unlock unlock switch NEUTRAL position Imput unlock switch NEUTRAL position Imput unlock unlock unlock unlock unlock unlock unlock switch NEUTRAL position Imput unlock unloc unlock unlock unlock unlock unlock unlock unlock unl		Ground		Input		LOCK position	0 V	E
(K) Image: Smitch pressed ON (Brake pedal is depressed) Battery voltage 12 (GR) Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position Image: Smitch LOCK Image: Smitch	9	Crownd		lanut	Stop lamp		0 V	F
12 (GR) Ground Door lock and unlock witch LOCK Input Door lock and unlock switch NEUTRAL position Imput Imput Imput Door lock and unlock switch NEUTRAL position Imput Imput <td>(R)</td> <td>Ground</td> <td>Stop lamp switch 1</td> <td>input</td> <td>switch</td> <td></td> <td>Battery voltage</td> <td></td>	(R)	Ground	Stop lamp switch 1	input	switch		Battery voltage	
13 (BR) Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position Imput Imput Imput NEUTRAL position Imput Imput </td <td></td> <td>Ground</td> <td></td> <td>Input</td> <td></td> <td>NEUTRAL position</td> <td>15 10 5 0 10 ms JPMIA0012GB</td> <td>G</td>		Ground		Input		NEUTRAL position	15 10 5 0 10 ms JPMIA0012GB	G
13 (BR) Ground Door lock and unlock switch UNLOCK Input Door lock and unlock switch NEUTRAL position Imput Imput Imput NEUTRAL position Imput Imput </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>LOCK position</td> <td>0 V</td> <td></td>						LOCK position	0 V	
14 (L/G) Ground Optical sensor Input Ignition switch ON When bright outside of the vehicle Close to 5 V 14 (L/G) Ground Optical sensor Input Ignition switch ON When bright outside of the vehicle Close to 5 V 15 (W/L) Ground Rear window defog- ger switch Input Rear window defogger switch Not pressed (V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		Ground		Input		NEUTRAL position	15 10 5 0 10 ms JPMIA0012GB	J K EXL
14 (L/G) Ground Optical sensor Input Ignition switch ON When bright outside of the vehicle Close to 5 V 15 (W/L) Ground Rear window defog- ger switch Input Rear window defogger switch Not pressed Input Input defogger switch Not pressed Input defogger switch Inp								
14 (L/G) Ground Optical sensor Input Ignition switch ON Venicle 15 (W/L) Ground Rear window defog- ger switch Input Rear window defogger switch Not pressed (V) 15 0 10 ms Input Rear window defogger switch 17 Optical sensor pow- 0 Optical sensor pow- 0 Output Input Input OFF, ACC OV						When bright outside of the		M
15 (W/L) Ground Rear window defog- ger switch Input Rear window defogger switch Not pressed Input Input Rear window defogger switch 10 ms JPMIA0012GB 10 ns JPMIA0012GB 10 ns OV		Ground	Optical sensor	Input		When dark outside of the		NI
17 Optical sensor pow- Output Ignition quitable OFF, ACC 0 V		Ground		Input			15 10 5 0 10 ms JPMIA0012GB	N O P
(R/G) er supply Output Ignition switch ON 5 V	17 (R/G)	Ground	Optical sensor pow- er supply	Output	Ignition switch	OFF, ACC	0 V	

Terminal No.		Description				Value	
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	
18 (V)	Ground	Sensor ground	Input	Ignition switch ON		0 V	
21 (P/L)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key: Intelligent Key battery is re- moved	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 15 0 • • • 40ms JMKIA6232JP	
					Brake pedal: Not de- pressed	12 V	
					ON	0 V	
23 (R/Y)	Ground	Security indicator lamp	Output	Security indica- tor	Blinking (Ignition switch OFF)	(V) ₁₅ 10 5 •••••15 ••••••••••••••••••••••••••	
					OFF	Battery voltage	
25 (LG)	Ground	NATS antenna amp.	Input/ Output	During waiting	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 15 0 • • • 40ms JMKIA6233JP	
					Brake pedal: Not de- pressed	12 V	
27 (O)	Ground	A/C ON	Input	A/C	OFF (A/C switch indicator: OFF)	(V) 15 0 10 10 10 10 10 JPMIA0012GB 1.0 - 1.5 V	
					ON (A/C switch indicator: ON)	0 V	
					Blower fan switch OFF	0 V	
28 (G/W)	Ground	Blower fan switch	Input	Fan switch	Blower fan switch ON	(V) 15 10 5 0 •••••••••••••••••••••••••••••••	

Terminal No. (Wire color)		Description				Value	
(vvire +	-	Signal name	Input/ Output	Condition		(Approx.)	
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF ON	12 V 0 V	
31 (G/B)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 • 10ms • 10ms PKIB4960J 7.0 - 8.0 V	
					UNLOCK status (Unlock sensor switch ON)	0 V	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms	
32 (LG) Ground	Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4) Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	0 0 0 0 0 0 0 0 0 0 0 0 0 0	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 • 10ms • 10ms PKIB4960J 7.0 - 8.0 V	
33 (Y/L) Ground	Ground	und Combination switch OUTPUT 4 Output	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)		
				Lighting switch AUTO (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4) Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 0 0 ++10ms +КІВ4958Ј 1.2 V		

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	nal No.	Description				Value
(Wire	color)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 0 0 0 0 0 0 0 0 0 0 0 0
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	
()					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10
					Rear washer switch ON (Wiper intermittent dial 4)	50
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	++10ms РКIВ4958J 1.2 V
35		Ind Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit-	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
(R/L)	Ground				Lighting switch 2ND	
				tent dial 4)	Lighting switch PASS	(V) 15
					Front wiper switch INT	
					Front wiper switch HI	0 ++10ms PKIB4958J 1.2 V
36		Combination switch		Combination	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
(L/O)	Ground	OUTPUT 1	Output	(Wiper intermit-	Turn signal switch RH	
				tent dial 4)	Turn signal switch LH	(V) 15
					Front wiper switch LO (Front wiper switch MIST)	
					Front washer switch ON	++10ms PKIB4958J 1.2 V
			1	I	1	

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Terminal No. (Wire color)		Description				Value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
37 (G/O)	Ground	Selector lever P po- sition switch	Input	Selector lever	P position Any position other than P	0 V 12 V	
			Ignition switch OFF (Remote keyless entry communication)	Waiting When operating either button on Intelligent Key	12 V		
38 (G/Y)		Input/ Output	Ignition switch	Waiting	(V) 15 10 5 0 100 ms JMMIA0573GB		
				ON (TPMS communication)	When receiving signal from tire pressure sensor	(V) 15 0 5 0 100 ms JMMIA0574GB	
39 (L)	Ground	CAN-H	Input/ Output		_	_	
40 (P)	Ground	CAN-L	Input/ Output		_		
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 10 0 0 0 0 0 0 0 0 0 0 0 0 0	
					ON (When back door opened)	0 V	
44		Rear wiper stop po-		Ignition switch	Rear wiper stop position	12 V	
(-round		sition			Any position other than rear wiper stop position	0 V	

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	nal No.	Description				Value
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)
45 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 0 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
46 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	(V) 10 0 0 0 0 0 0 0 0 0 0 0 0 0
					ON (When rear RH door opened)	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When driver door opened)	0 V
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	(V) 15 10 5 0 • • • • • • • • • • • • •
					ON (When rear door LH opened)	0 V
50 Grou	Ground	Back door lock actu-	Output	Back door	LOCK (Actuator is activat- ed)	0 V
(R/W)		ator relay control			Other than LOCK (Actua- tor is not activated)	Battery voltage
51	Ground	Back door request	Input	Back door re-	ON (Pressed)	0 V
(W)		switch		quest switch	OFF (Not pressed)	12 V
54 (LG)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped) ON (Activated)	0 V 12 V
· - /						12 V

Terminal No. (Wire color)		Description				Value	/	
(vvire +		Signal name	Input/ Output		Condition	(Approx.)	A	
55	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)	12 V	E	
(G)	Cround		Output		Other than UNLOCK (Ac- tuator is not activated)	0 V		
					p battery saver is activated. room lamp power supply)	0 V	(
56 (L)	Ground	Interior room lamp power supply	Output	vated.	p battery saver is not acti- rior room lamp power sup-	12 V	[
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch Ol	FF	Battery voltage	E	
59	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	12 V	F	
(G)		LOCK	Output	Fassenger door	Other than UNLOCK (Ac- tuator is not activated)	0 V	1	
				Turn signal switch OFF	0 V	(
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15	ŀ	
						Turn signal switch OFF	0 V	
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15	E	
62		Interior room lown		Interior room	OFF	6.0 V 12 V	N	
63 (BR)	Ground	Interior room lamp control signal	Output	lamp	ON	0 V		
65	Crownel		Quit		LOCK (Actuator is activat- ed)	12 V	I	
(V)	Ground	All doors LOCK	Output	All doors	Other than LOCK (Actua- tor is not activated)	0 V		
66	Ground	Driver door UN-	Output	Driver door	UNLOCK (Actuator is activated)	12 V	(
(L/B)	Ground	LOCK	Juipui		Other than UNLOCK (Ac- tuator is not activated)	0 V		
67 (B)	Ground	Ground	Output	Ignition switch O	N	0 V		
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch O	N	12 V		
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V		

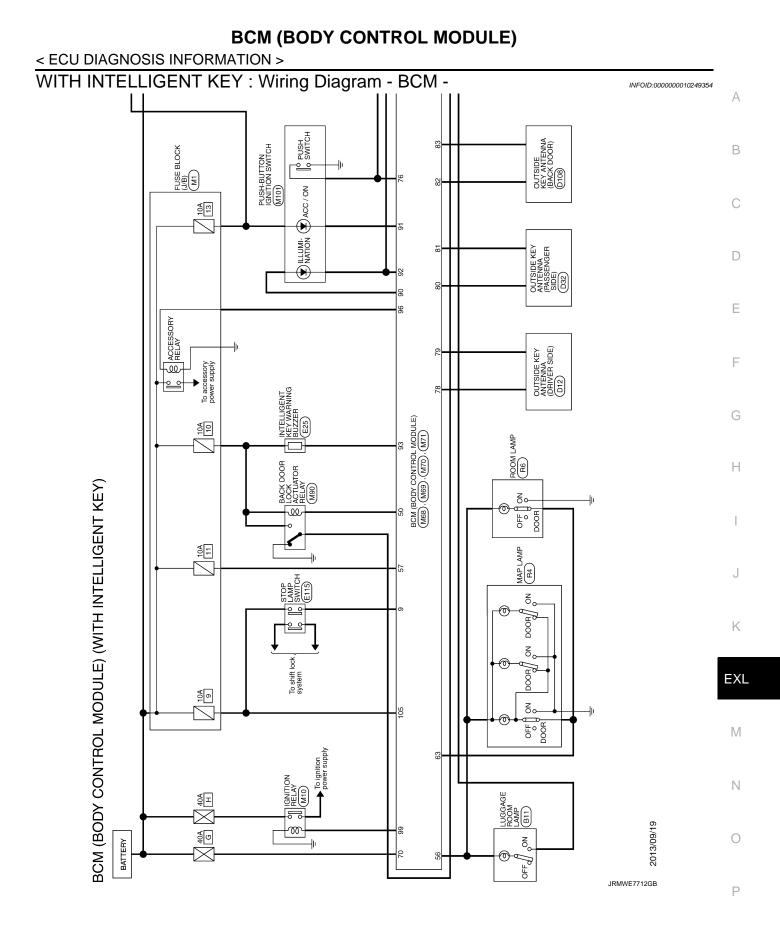
	nal No.	Description				Value
(VVire +	color)	Signal name	Input/ Output	Condition		(Approx.)
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage
72 (SB)	Ground	A/C indicator	Output	A/C indicator	OFF ON	12 V 0 V
75		Driver deer request		Driver door re-	ON (Pressed)	0 V
(SB)	Ground	Driver door request switch	Input	quest switch	OFF (Not pressed)	12 V
70		Duch hutten insition		Push-button ig-	Pressed	0 V
76 (L/O)	Ground	Push-button ignition switch (push switch)	Input	nition switch (push switch)	Not pressed	12 V
78	Ground	Driver door antenna	Output	When the driver door request switch is operat- ed with ignition switch ON	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 50 500 ms JMKIA5954GB
78 (LG)	Clound	(+)			When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5
79	Ground	Ground Driver door antenna O		When the driver door request switch is operat- ed with ignition switch ON	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5
79 (V)			Output		When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5

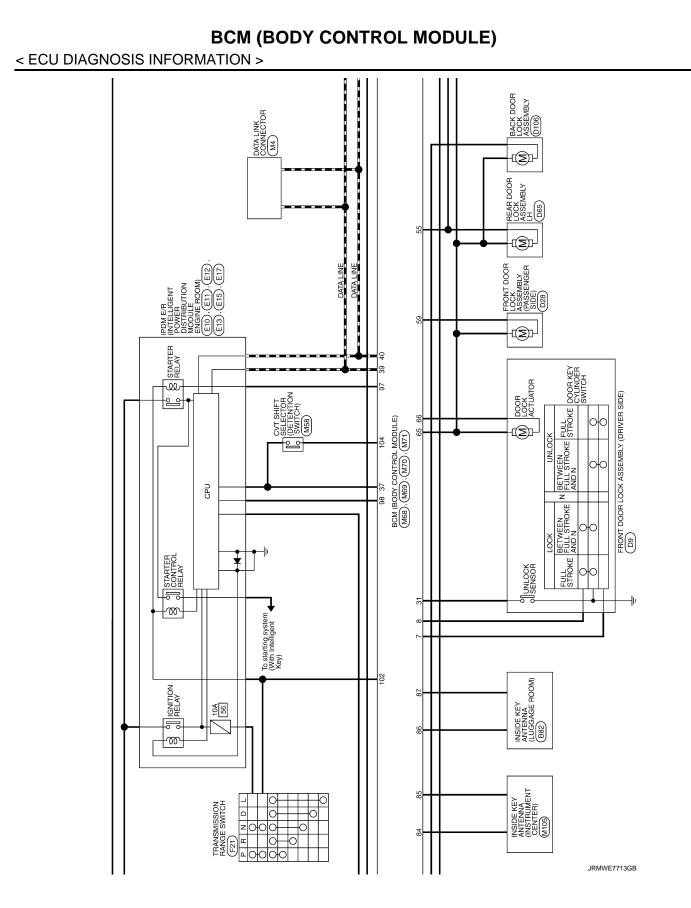
	nal No.	Description	l			Value	٨
(Wire	e color) _	Signal name	Input/ Output		Condition	(Approx.)	A
80		Passenger door an-		When the pas- senger door re-	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 50 500 ms JMKIA5954GB	B C D
(BR/Y)	Ground	tenna (+)	Output	quest switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB	E
81	81 (L/Y) Ground Passenger door an- tenna (-) Output of i	When the pas- senger door re-	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 500 ms JMKIA5954GB	G H I		
(L/Y)			Output	quest switch is operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 0 50 500 ms JMKIA5955GB	J K EX
82		Back door antenna		When the back door request	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 500 ms JMKIA5954GB	M
82 (W/B)	Ground	(+) Output	switch is operat- ed with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 50 50 500 ms JMKIA5955GB	O	

Terminal No. (Wire color)		Description				Value	
(vvire +		Signal name	Input/ Output		Condition	(Approx.)	
83	Ground	Back door antenna (-	Output	When the back door request switch is operat- ed with ignition switch ON	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 500 ms JMKIA5954GB	
(B/W))	Output		When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB	
84	Ground	Room antenna (+) (Instrument center)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detec- tion area	(V) 15 0 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 5 0 10 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1	
(Y/G)					When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 1 5 0 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1 1 5 1	
85	Ground	ound Room antenna (-) (Instrument center)	Output	Ignition switch ON	When Intelligent Key is not in the antenna detec- tion area	(V) 15 0 10 10 10 10 10 10 10 10 10	
85 (Y/L)	Ground				When Intelligent Key is in the antenna detection area	(V) 15 0 5 0 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 10 5 0 10 10 5 0 10 10 5 0 10 10 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1	

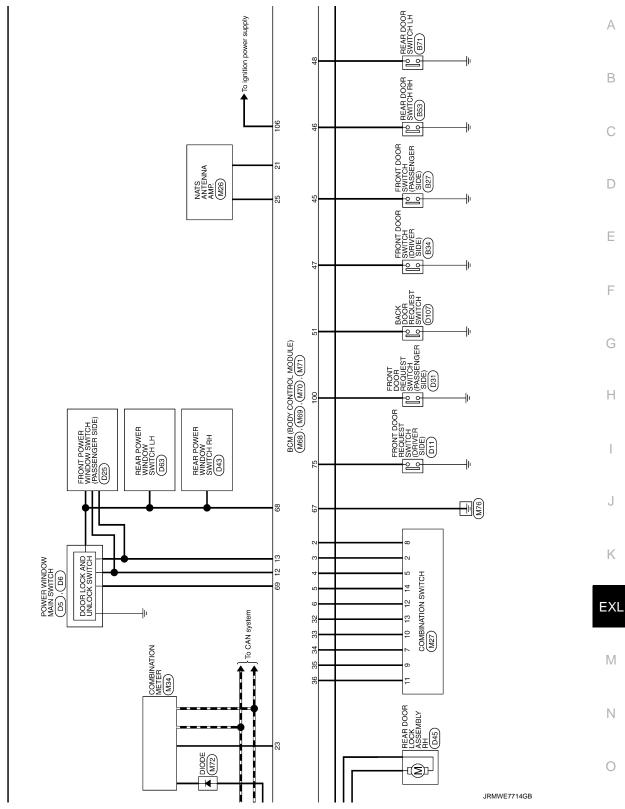
Terminal No. (Wire color)		Description				Value	0
		Signal name	Input/		Condition	(Approx.)	А
+	_		Output			00	В
86		Luggage room an-		Ignition switch	When Intelligent Key is not in the antenna detec- tion area	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	C
(P)	Ground	tenna (+)	Output	ŌN	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB	E
87	Ground	Luggage room an-	Output	Ignition switch	When Intelligent Key is not in the antenna detec- tion area	(V) 15 10 5 0 1 s JMKIA5951GB	G H I
(L)		tenna (-)		ON	When Intelligent Key is in the antenna detection area	(V) 15 0 16 17 10 10 10 10 10 10 10 10 10 10	J K EXL
90		Push-button ignition		Push-button ig-	ON	12 V	
90 (W/L)	Ground	switch illumination	Output	nition switch illu- mination	OFF	0 V	M
91	Ground	ACC/ON indicator	Outerist		OFF	Battery voltage	1 4 1
(Y)	Ground	lamp	Output	Ignition Switch	ACC or ON	0.5 V	
92 (BR/R)	Ground	Push-button ignition switch illumination ground	Output	mination Ignition switch Tail lamp	OFF	0 V NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 15 10 10 ms JPMIA1554GB 6.0 - 7.0 V	N O P

Terminal No. (Wire color) + –		Description				Value
		Signal name	Input/ Output	Condition		(Approx.)
93	Ground	Intelligent Key warn-	Output	Intelligent Key	Sounding	0 V
(GR/W)	Giouna	ing buzzer	Output	warning buzzer	Not sounding	12 V
96	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
(BR/W)	Giouna	ACC relay control	Output	Ignition switch	ACC or ON	12 V
97	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage
(L/R)	Starter relay control	Output	ON	When selector lever is not in P or N position	0 V	
98	Ground	Ignition relay (IPDM	Output	Ignition owitch	OFF or ACC	12 V
(BR)	Ground	E/R) control	Output Ignition switch		ON	0 V
99	Ground	Ignition relay control	Output	Ignition switch	OFF or ACC	0 V
(W/R)	Ground	Ignition relay control	Output	Ignition switch	ON	12 V
100	Cround	Passenger door re-	Input	Passenger door	ON (Pressed)	0 V
(G)	Ground	quest switch	Input	request switch	OFF (Not pressed)	12 V
102	Ground	Selector lever P/N	Input	Solootor lovor	P or N position	Battery voltage
(G)	Ground	position	Input	Selector lever	Except P and N positions	0 V
		d Front defroster Inj switch			A/C mode defroster ON position	0 V
103 (G/Y)	Ground		Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) 10 5 0 11 11 12 13 14 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 17 1
104 (Y/R)	Ground	CVT shift selector (detention switch) power supply	Output	Ignition switch ON		12 V
105 (B/O)	Ground	Stop lamp switch 2	Input	Ignition switch O	FF	Battery voltage
106	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(Y/B)	Giounu	lay control	Juipui		ON	12 V

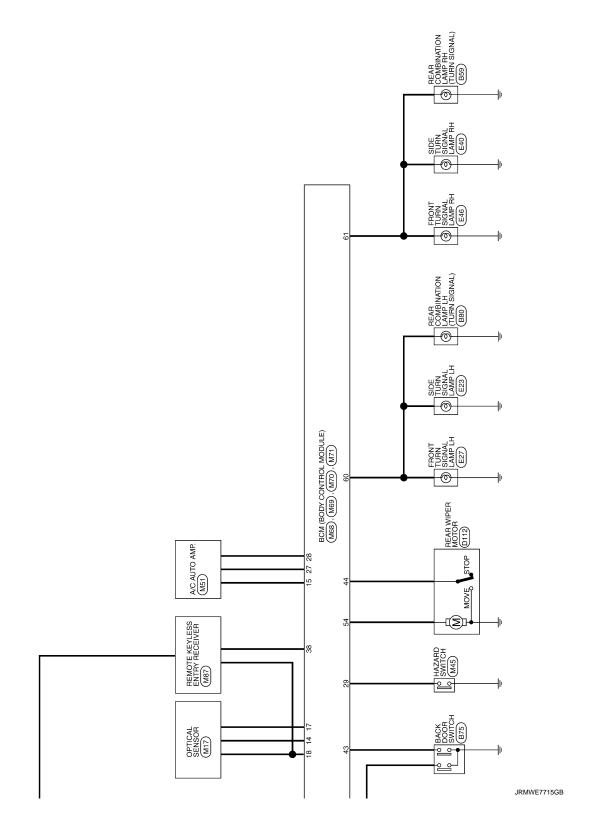




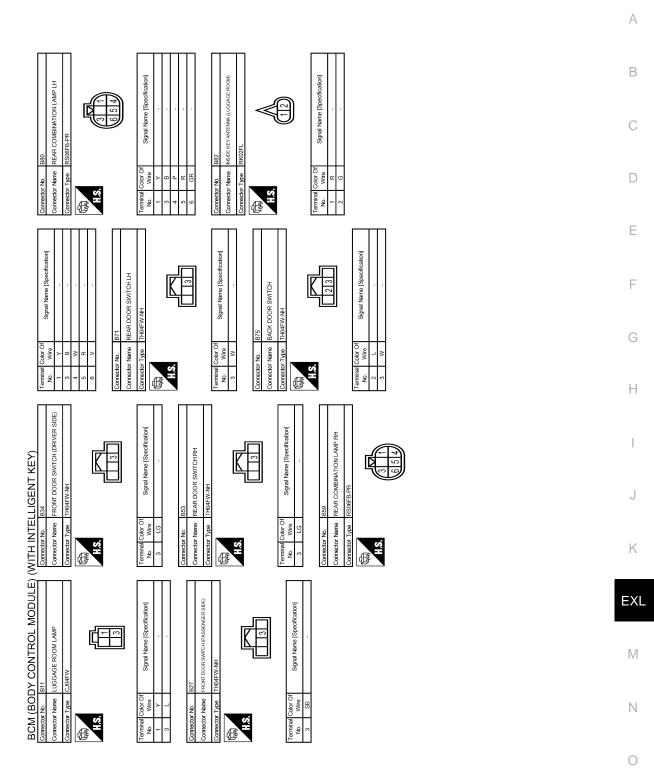
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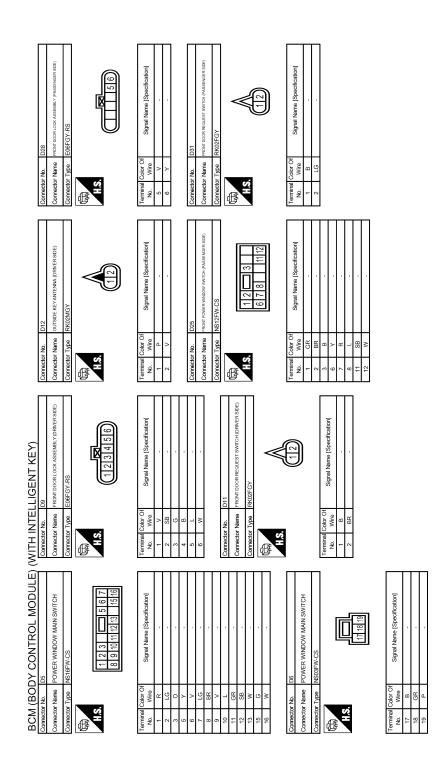
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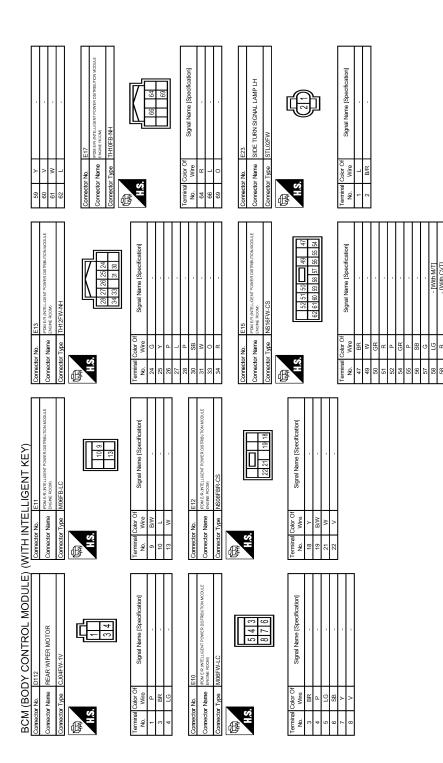
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	T SWITCH	pecification]	(BACK DOOR)	be cification)	В
	Corrector No. D107 Corrector Name BACK DOOR REQUEST SWITCH Corrector Type RK02FCY	Signal Name (Specification)	Corrrector No. D108 Connector Neme OUTSIDE KEY ANTENNA (BACK DOOR) Connector Type RV02MGY	Signal Name (Specification)	С
	Connector Nome E Connector Name E Connector Type F	Terminal Color Of No. Wire 2 B	Corrector No. D108 Corrector Name OUTSIDE Corrector Type RK02MC	Terminal Color Of No. Wite 2 BR	D
		pecification]		beoffication	E
	DBS REAR DOOR LOCK ASSEMBLY LH EGGFGY-HS	Signal Name [Specification]	DIOB BACK DOOR LOCK ASSEMBLY FEAQUED FINA2-LC	Signal Name (Specification)	F
	Corrrector Name Corrrector Type H.S.	Terminal Color Of No. Wire 1 V 2 G	Corrector No. D106 Corrector Name BACK DOOR LOCH Corrector Type EEA00FEFH42-LOC	$\begin{array}{c c} \mbox{Terminal Color Of} \\ \mbox{Mo.} & \mbox{Wise} \\ \mbox{Mos} & \mbox{Mos} \\ M$	Н
(λ	SSEMBLY RH	specification]	w switch LH	Specification)	I
LIGENT KE	Pd45 REAR DOOR LOCK ASSEMBLY RH E06FGY-RS	Signal Name [Specification]	D63 REAR POWER WINDOW SWITCH LH NS08FW-CS 23451	Signal Name (Specification)	J
(WITH INTEL	Corrector Name Corrector Name Corrector Type	Terminal Color Of No. Wire 5 W 6 P	Commettor No. Connector Name Commettor Type	Terminal Main	K
L MODULE)	wsserver spr	specification]	W SWITCH RH	Specification]	EXL
BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)	D22 ourside key Antenuk, (PASSENGER SIDE) RROZMGY	Signal Name [Specification]	143 REAR POWER WINDOW SWITCH RH NS08FW-CS 2 3 4 5 1	Signal Name (Specification)	Μ
BCM (BOD	Corrrector Name Corrrector Type	Terminal Color Of No. Wire 1 P	Connector No. D43 Connector Name REAR POWE Connector Type NS08FW-CS	Terminal Color A A Wite A A - - - A - - - A - - -	Ν
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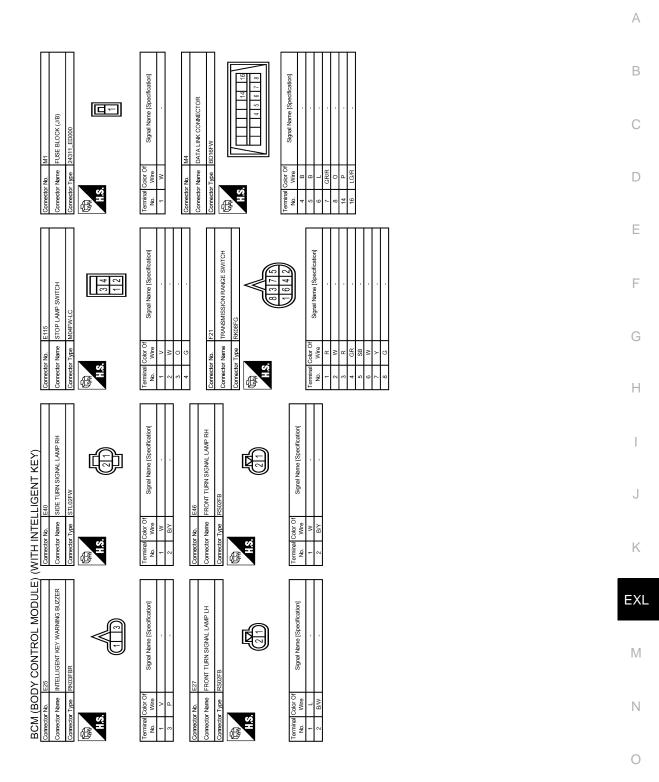
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BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION >

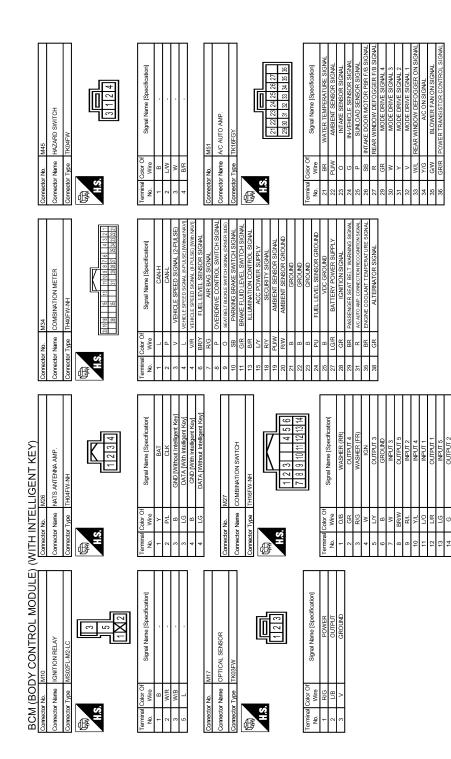


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BCM (BODY CONTROL MODULE)

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DY CONTROL MOD Miss OVT SHIFT SELECTOR THA0FWAH THA0FWAH THA0FWAH Bigrah Name (Specification) Signah Name (Specification) Sig	Μ
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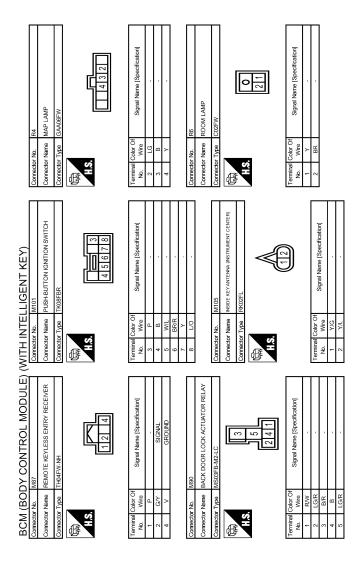
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BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION >

< ECU DIAGNOSIS INFORMATION >



WITH INTELLIGENT KEY : Fail-safe

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

JRMWE7825GB

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< ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter relay control signal Starter relay status signal (CAN)
B260F: ENG STATE SIG LOST	Inhibit engine cranking	When any of the following conditions are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B26F1: IGN RELAY OFF	Inhibit engine cranking	 When the following conditions are fulfilled Ignition switch ON signal (CAN: Transmitted from BCM): ON Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	 When the following conditions are fulfilled Ignition switch ON signal (CAN: Transmitted from BCM): OFF Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	 When the following conditions are fulfilled Starter control relay signal (CAN: Transmitted from BCM): OFF Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	 When the following conditions are fulfilled Starter control relay signal (CAN: Transmitted from BCM): ON Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM	Inhibit engine cranking by Intelligent Key sys- tem	When room antenna and luggage room antenna functions normally

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal. When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

- 1. More than 1 minute is passed after the rear wiper stop.
- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

If voltage of battery power supply lower, BCM maintains combination switch reading to the status when input voltage is less than approximately 9 V.

NOTE:

When voltage of battery power supply is approximately 9 V or more, combination switch reading function N returns to normal operation.

WITH INTELLIGENT KEY : DTC Inspection Priority Chart

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

Priority	DTC	. P
1	B2562: LOW VOLTAGE	
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)	_

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< ECU DIAGNOSIS INFORMATION >

Priority	DTC
3	 B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI-SCANNING B2198: NATS ANTENNA AMP
4	 B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2601: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP/CLUTCH SW B2605: PNP/CLUTCH SW B2605: STARTER RELAY B2606: ENG STATE SIG LOST B2614: BCM B2615: BCM B2616: BCM B2616: BCM B2617: IGN RELAY ON B26672: IGN RELAY ON B26673: START CONT RLY OFF B2674: START CONT RLY OFF B2675: BCM B2676: BCM B2676: BCM B2677: BCM <l< td=""></l<>
5	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA
7	 B2626: OUTSIDE ANTENNA B2627: OUTSIDE ANTENNA B2628: OUTSIDE ANTENNA

WITH INTELLIGENT KEY : DTC Index

NOTE:

The details of time display are as follows.

• CRNT: A malfunction is detected now.

• PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>EXL-20, "COM-MON ITEM : CONSULT Function (BCM - COMMON ITEM)"</u>.

INFOID:000000010249357

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	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	_		_	_	<u>BCS-40</u>	-
U1010: CONTROL UNIT (CAN)		_	_		BCS-41	-
U0415: VEHICLE SPEED	_	_	×	_	BCS-42	-
B2192: ID DISCORD BCM-ECM	×	_	_	_	<u>SEC-38</u>	-
B2193: CHAIN OF BCM-ECM	×	_	_	_	<u>SEC-40</u>	_
B2195: ANTI-SCANNING	×	_	_	_	<u>SEC-41</u>	-
B2198: NATS ANTENNA AMP	×		_	_	<u>SEC-42</u>	_
B2555: STOP LAMP		×	×	_	<u>SEC-46</u>	
B2556: PUSH-BTN IGN SW		×	×	_	<u>SEC-48</u>	•
B2557: VEHICLE SPEED	_	×	×	_	<u>SEC-50</u>	-
B2562: LOW VOLTAGE		×	_		BCS-43	-
B2601: SHIFT POSITION	_	×	×	_	SEC-51	-
B2602: SHIFT POSITION	_	×	×	_	<u>SEC-54</u>	-
B2603: SHIFT POSI STATUS	_	×	×	_	<u>SEC-57</u>	-
B2604: PNP/CLUTCH SW	_	×	×	_	SEC-62	-
B2605: PNP/CLUTCH SW	_	×	×	_	<u>SEC-65</u>	-
B2608: STARTER RELAY	×	×	×	_	<u>SEC-67</u>	-
B260F: ENG STATE SIG LOST	×	×	×	_	<u>SEC-69</u>	-
B2614: BCM	_	×	×	_	PCS-77	-
B2615: BCM	_	×	×	_	PCS-80	-
B2616: BCM	_	×	×	_	PCS-83	-
B2618: BCM		×	×		PCS-86	
B261A: PUSH-BTN IGN SW	_	×	×	_	PCS-87	
B2621: INSIDE ANTENNA		×	_		<u>DLK-44</u>	-
B2622: INSIDE ANTENNA	_	×	_	_	DLK-46	-
B2626: OUTSIDE ANTENNA		×	_		DLK-50	-
B2627: OUTSIDE ANTENNA		×	_	_	DLK-48	-
B2628: OUTSIDE ANTENNA	_	×	_	_	DLK-52	-
B26F1: IGN RELAY OFF	×	×	×	_	PCS-89	-
B26F2: IGN RELAY ON	×	×	×	_	PCS-91	_
B26F3: START CONT RLY ON	×	×	×	_	<u>SEC-70</u>	-
B26F4: START CONT RLY OFF	×	×	×	_	<u>SEC-71</u>	-
B26F6: BCM	_	×	×	_	PCS-93	-
B26F7: BCM	×	×	×	_	SEC-73	-
B26F8: BCM		×	×	_	<u>SEC-74</u>	-
B26FC: KEY REGISTRATION	_	×	×	_	<u>SEC-75</u>	-

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1704: LOW PRESSURE FL	—	—	_	×	
C1705: LOW PRESSURE FR	—	—	_	×	WT-26
C1706: LOW PRESSURE RR	—	—	_	×	<u>vv1-20</u>
C1707: LOW PRESSURE RL	—	—	_	×	
C1708: [NO DATA] FL	—	—	—	×	
C1709: [NO DATA] FR	—	—	_	×	<u>WT-28</u>
C1710: [NO DATA] RR	—	—	—	×	<u>vv1-20</u>
C1711: [NO DATA] RL	—	—	_	×	
C1716: [PRESSDATA ERR] FL	—	—	_	×	
C1717: [PRESSDATA ERR] FR	—	—	—	×	<u>WT-31</u>
C1718: [PRESSDATA ERR] RR	—	—	—	×	<u>vvi-SI</u>
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	_	×	<u>WT-33</u>

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : Reference Value

INFOID:000000010249358

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item	Condition	Value/Status
GN ON SW	Ignition switch OFF or ACC	Off
IGIN ON SW	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
DL LOCK SVI	Press door lock/unlock switch to the lock side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
DE UNLOCK SW	Press door lock/unlock switch to the unlock side	On
OOR SW-DR	Driver's door closed	Off
JOOR SW-DR	Driver's door opened	On
OOR SW-AS	Passenger door closed	Off
JOOR SW-AS	Passenger door opened	On
OOR SW-RR	Rear RH door closed	Off
JOOR SW-RR	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
JOOK SW-KL	Rear LH door opened	On
ACK DOOR SW	Back door closed	Off
DOOK SW	Back door opened	On
OCK STATUS	Off	

Monitor Item	Condition	Value/Status
ACC ON SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
EYLESS LOCK	"LOCK" button of key fob is not pressed	Off
	"LOCK" button of key fob is pressed	On
EYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off
TLESS UNLOCK	"UNLOCK" button of key fob is pressed	On
SHOCK SENSOR	NOTE: The item is indicated, but not monitored.	NORMAL
EY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
LET CTL LK-SW	Driver door key cylinder LOCK position	On
	Other than driver door key cylinder UNLOCK position	Off
EY CYL UN-SW	Driver door key cylinder UNLOCK position	On
/EHICLE SPEED	While driving	Equivalent to speed- ometer reading
	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
REVERSE SW CAN	NOTE:	Off
EVERSE SW CAN	The item is indicated, but not used.	On
	Lighting switch OFF	Off
AIL LAMP SW	Lighting switch 1ST	On
R FOG SW	NOTE: The item is indicated, but not monitored.	Off
	The seat belt (driver side) is fastened. [Seat belt switch (driver side) OFF]	Off
SUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) ON]	On
RNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
YLS TRNK/HAT	NOTE: The item is indicated, but not monitored.	Off
EYLESS PANIC	PANIC button of key fob is not pressed	Off
LILEGO FAINIC	PANIC button of key fob is pressed	On
II BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
	Lighting switch OFF	Off
IEAD LAMP SW 1	Lighting switch 2ND	On
	Lighting switch OFF	Off
IEAD LAMP SW 2	Lighting switch 2ND	On
UTO LIGHT SW	NOTE: The item is indicated, but not monitored.	Off
	Other than lighting switch PASS	Off
ASSING SW	Lighting switch PASS	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
	Turn signal switch OFF	Off
TURN SIGNAL R	Turn signal switch RH	On
	Turn signal switch OFF	Off
FURN SIGNAL L	Turn signal switch LH	On

Monitor Item	Condition	Value/Status
PKB SW	Parking brake switch is OFF	Off
	Parking brake switch is ON	On
ENGINE RUN	Engine stopped	Off
ENGINE KON	Engine running	On
OPTI SEN (DTCT)	NOTE: The item is indicated, but not monitored.	Close to 5 V
OPTI SEN (FILT)	NOTE: The item is indicated, but not monitored.	Close to 5 V
LIG SEN COND	NOTE: The item is indicated, but not monitored.	OFF
IGN SW CAN	Ignition switch OFF or ACC	Off
GN SW CAN	Ignition switch ON	On
	Front wiper switch OFF	Off
FR WIPER HI	Front wiper switch HI	On
	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On
	Front wiper switch OFF	Off
FR WIPER INT	Front wiper switch INT	On
	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
	Any position other than front wiper stop position	Off
FR WIPER STOP	Front wiper stop position	On
	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On
	Rear wiper switch OFF	Off
RR WIPER INT	Rear wiper switch INT	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
	Rear wiper stop position	Off
RR WIPER STOP	Other than rear wiper stop position	On
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch OFF	Off
HAZARD SW	Hazard switch ON	On
	Blower control dial OFF	Off
FAN ON SIG	Other than blower control dial OFF	On
	A/C switch OFF	Off
AIR COND SW	A/C switch ON	On
	Ignition switch ON	Off
THERMO AMP	Evaporator is extremely low temperature	On
	Other than A/C mode defroster ON position	Off
FR DEF SW	A/C mode defroster ON position	On
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
TRNK OPNR SW	NOTE: The item is indicated, but not monitored.	Off
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off
HOOD SW	Close the hood	Off
	Open the hood	On
	Other than the ignition switch is ON by key registered to BCM.	Off
TRANSPONDER	The ignition switch is ON by key registered to BCM.	On
INTELLI KEY	NOTE: The item is indicated, but not used.	Off
AUTO RELOCK	NOTE: The item is indicated, but not monitored.	Off
OIL PRESS SW	Ignition switch OFF or ACC Engine running	Off
	Ignition switch ON	On
BRAKE SW	Brake pedal is not depressed	Off
DRARE JVV	Brake pedal is depressed	On

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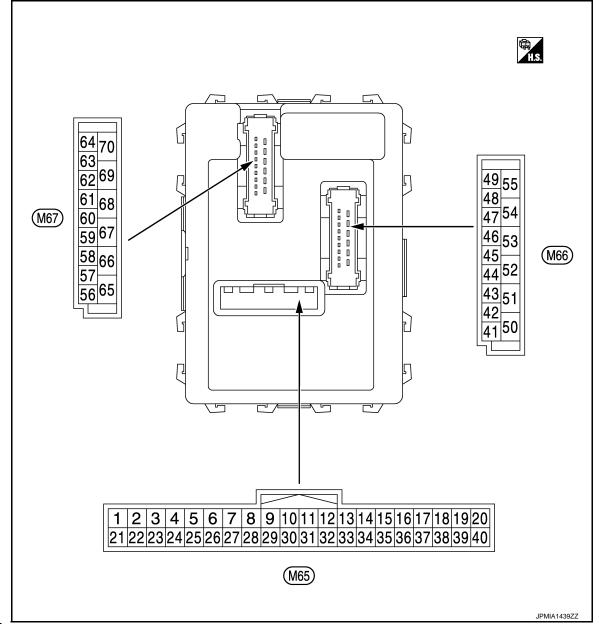
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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



NOTE:

• M65, M66: White

• M67: Black

PHYSICAL VALUES

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		-		Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	0 V
					Turn signal switch RH	
					Lighting switch HI	(V) 15
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit-	Lighting switch 1ST	10 5 0 • • • 10ms • • • • • • • • • • • • • • • • • • •
(BR/W) Crossie INPUT 5			tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 ••••10 ms ••••10 ms JPMIA0342JP 2.0 V	
					All switch OFF	0 V
					Turn signal switch LH	
			Combination	Lighting switch PASS	(V) 15	
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	PKIB4958J 1.0 V
					All switch OFF	0 V
					Front wiper switch LO	
				Combination	Front wiper switch MIST	(V) 15
4 Ground (L/Y)	Ground	Ground Combination switch INPUT 3	Input	switch (Wiper intermit- tent dial 4)	Front wiper switch INT	10 5 0 • • • 10ms • • • 10ms • • • 10ms • • • 10ms • • • 10ms

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	nal No.	Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4) Front washer switch (Wiper intermittent dial 4) Rear washer switch ON (Wiper intermittent dial 4) Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 5 • Wiper intermittent dial 4)	0 V	
					All switch OFF (Wiper intermittent dial 4) Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4) Wiper intermittent dial 3 (All switch OFF)	O V O V (V) 15 0 4 4 10ms 4 7 KIB4958J 1.0 V	
6 (L/R)	6 Ground Co (L/R)	Ground Combination switch Inp	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 0 5 0 +10ms FKIB4952J 1.9 V	
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •	

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 → + 10ms → + 10ms → FKIB4960J 7.0 - 8.0 V
					UNLOCK position	0 V
8	Onerrord	Door key cylinder	la a d	Door key cylin-	NEUTRAL position	12 V
(W/B)	Ground	switch LOCK	Input	der switch	LOCK position	0 V
9	Ground	Stop lamp switch	Incut	Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R)	Ground	Stop lamp Switch	Input	switch	ON (Brake pedal is de- pressed)	Battery voltage
10	Ground	Rear window defog-	Input	Rear window	OFF (Not pressed)	12 V
(W/L)	Giound	ger switch	input	defogger switch	ON (Pressed)	0 V
11	Ground	Ignition switch ACC	Input	Ignition switch O	FF	0 V
(L/Y)	Croand	.g. mon et mon 7.00	mpor	Ignition switch A	CC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	(V) 15 10 5 0 •••• 10ms •••• 10ms •••• 10ms •••• 10ms •••• 10ms •••• 10ms •••• 10ms •••• 10ms •••• 10ms •••• 7.0 - 8.0 V
					ON (When rear RH door opened)	0 V
18 (V)	Ground	Receiver ground	Input	Ignition switch O	N	0 V

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	nal No.	Description) (alua		
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)		
					Insert mechanical key into ignition key cylinder	0 V		
					Remove mechanical key from ignition key cylinder (Any door opened)	5 V		
19 (BR)	(BR) Ground try r	Remote keyless en- try receiver power supply	Input	Ignition switch OFF	Remove mechanical key from ignition key cylinder (Any door closed)	(V) 6 4 2 0 •••0.2 s JPMA0338JP		
					Insert mechanical key into ignition key cylinder	0 V		
20 (G/Y)	Ground	Remote keyless en- try receiver commu- nication	Input	Input	Input	Ignition switch OFF	Waiting	(V) 6 4 2 0 ••••1.0ms ••••1.0ms ••••1.0ms ••••1.0ms ••••1.0ms ••••1.0ms •••••1.0ms •••••1.0ms •••••
					Signal receiving	(V) 6 4 2 0 •••••••••••••••••••••••••••••••••		
21	Ground	NATS antenna amp.	Input/	Just after insertin	g ignition key in key cylinder	Pointer of tester should move		
(P/L)		•	Output	Other than above		0 V		
23 (R/Y)	Ground	Security indicator	Input	Security indica- tor	ON Blinking (Ignition switch OFF)	0 V		
					OFF	12 V		
25 (LG)	Ground	NATS antenna amp.	Input/ Output		g ignition key in key cylinder	Pointer of tester should move		
			Output	Other than above		0 V		
26 (GR)	Ground	Thermo control amp.	Input	Ignition switch O	remely low temperature	0 V 12 V		
()					iemely low temperature	IZ V		

	Terminal No. Description (Wire color)				Value	
+	-	Signal name	Input/ Output		Condition	(Approx.)
27 (Y/G)	Ground	A/C switch	Input	A/C switch	OFF	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10
					ON	0 V
28 (G/W)	Ground	Blower fan switch	Input	Fan switch	Blower fan switch OFF	(V) 15 0 0 10 10 10 10 10 10 10 10
					Blower fan switch ON	0 V
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
()					ON A/C mode defroster ON position	0 V 0 V
31 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) ₁₅ 10 5 0 ₩, 10000000000000000000000000000000000
32		Combination switch		Combination	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 • • 10ms • • 10ms • • 10ms • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •
(LG)	Ground	OUTPUT 5	Output	switch	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15
				Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	10 5 0 ++10ms PKIB4956J 1.0 V	

	nal No.	Description				Value
(Wire +	e color) _	Signal name	Input/ Output	Condition		(Approx.)
33	Ground	Combination switch	Quant	Combination	All switch OFF (Wiper intermittent dial 4)	(V) 15 0 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
(Y/L)	Ground	OUTPUT 4	Output	switch	Lighting switch 1ST (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5
					 Any of the condition below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6 	0 + +10ms + +
					All switch OFF (Wiper intermittent dial 4)	(V) 10 50 •••••••••••••••••••••••••••••••••
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	PKIB4958J 1.2 V
35	Ground	Combination switch	Output	Combination	All switch OFF	(V) 10 50 ••••10ms PKIB4960J 7.0 - 8.0 V
(R/L)	Ground	OUTPUT 2	Output	(Wiper intermit- tent dial 4)	Lighting switch 2ND Lighting switch PASS	(V) 15
					Front wiper switch INT	
					Front wiper switch HI	
						1.2 V

Terminal No.		Description				Value
(Wire +	e color) _	Signal name	Input/ Output	Condition		(Approx.)
					All switch OFF	(V) 15 10 5 0 + 10ms
36 (L/O)	Ground	Combination switch OUTPUT 1	Output	Output Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH Turn signal switch LH Front wiper switch LO (Front wiper switch MIST)	PKIB4960J 7.0 - 8.0 V
					Front washer switch ON	++10ms PKIB4958J 1.2 V
37				Insert mechanica der	al key into ignition key cylin-	Battery voltage
(R/W)	Ground	Key switch	Input		nical key from ignition key	0 V
38	Cround	Institute outline ON	lanut	Ignition switch O	FF or ACC	0 V
(O)	Ground	Ignition switch ON	Input	Ignition switch O	N	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output		_	_
40 (P)	Ground	CAN-L	Input/ Output		—	—
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 15 10 5 0 + 10ms PKIB4960J
					ON (When back door	7.0 - 8.0 V
					opened) Rear wiper stop position	12 V
44 (LG)	Ground	Rear wiper stop po- sition	Input	Ignition switch ON	Any position other than rear wiper stop position	0 V
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1
						1.0 - 1.5 V
					LOCK position	0 V

Terminal No.		Description		Condition		Value
(Wire color) + –		Signal name Input/ Output				(Approx.)
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 0 10 10 ms JPMIA0012GB 1.0 - 1.5 V
					UNLOCK position	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 4 4 10ms FKIB4960J 7.0 - 8.0 V
					ON (When driver door opened)	0 V
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	(V) 15 10 5 0 • • • • • • • • • • • • •
					ON (When rear LH door opened)	0 V
50	Ground	A/C indicator	Output	A/C indicator	OFF	12 V
(SB)	Croand		Carpor		ON	0 V
54	Ground	Rear wiper	Output	Ignition switch	Rear wiper switch OFF	0 V
(LG)				ON	Rear wiper switch ON	12 V
56 (L)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply)		0 V
				Interior room lamp battery saver is not acti- vated. (Outputs the interior room lamp power sup- ply)		12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage
59 (L/B)	Ground	Driver door UN- LOCK	Output	Driver door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Ac- tuator is not activated)	0 V

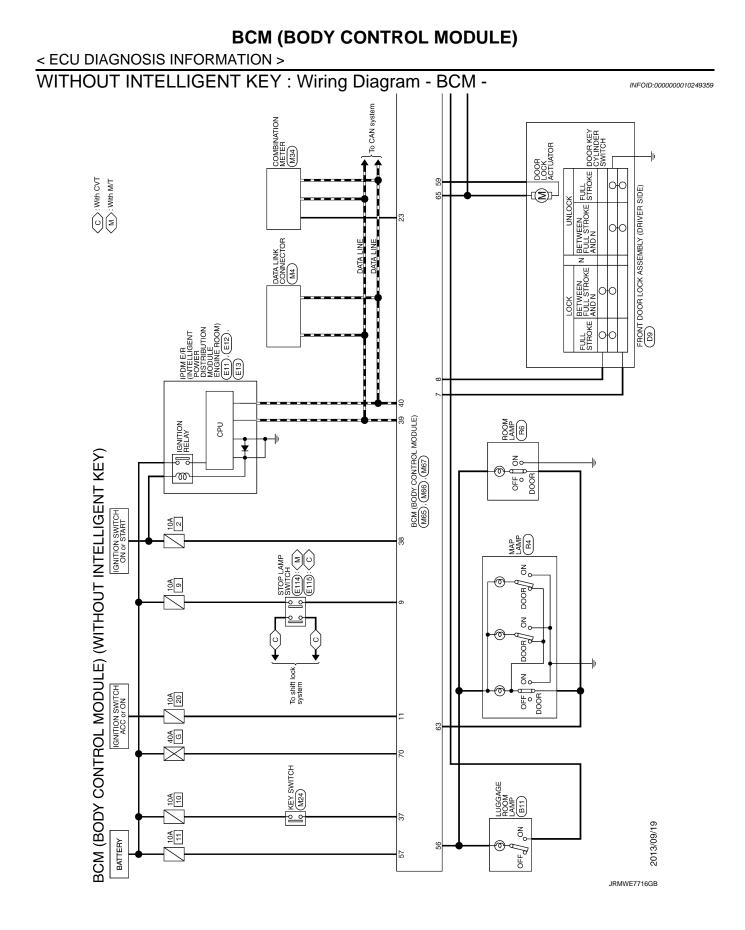
< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	А
+		Signal name	Input/ Output	Condition		(Approx.)	
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V	В
					Turn signal switch LH	(V) 15 0 5 0 15 15 15 15 15 15 15 15 15 15	C
					Turn signal switch OFF	0 V	E
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 0 5 0 15 10 10 10 10 10 10 10 10 10 10	F
					OFF	6.0 V 12 V	
63 (BR)	Ground	Interior room lamp control signal	Output	Interior room Iamp	ON	0 V	Η
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activat- ed)	12 V	I
					Other than LOCK (Actua- tor is not activated)	0 V	
66 (G)	Ground	Passenger door and rear door UNLOCK	Output	Passenger door and rear door	UNLOCK (Actuator is activated)	12 V	J
					Other than UNLOCK (Ac- tuator is not activated)	0 V	K
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V	
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch O	N	12 V	ΕX
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V	M
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	111

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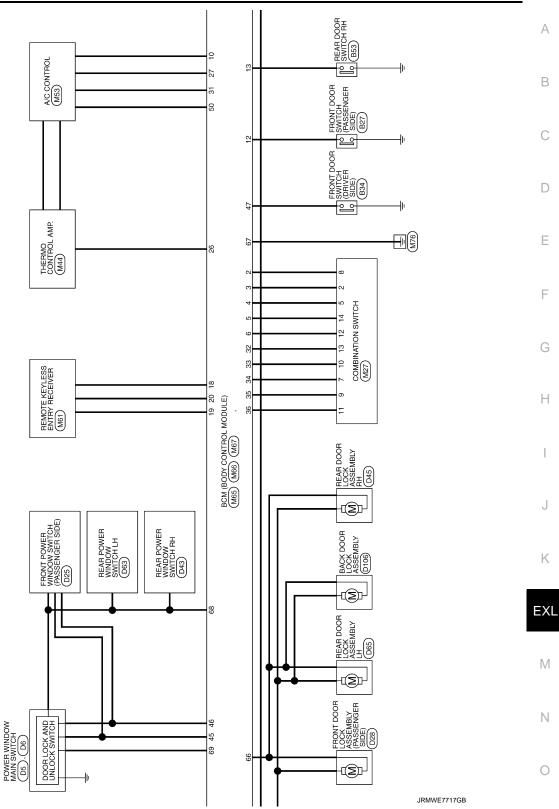
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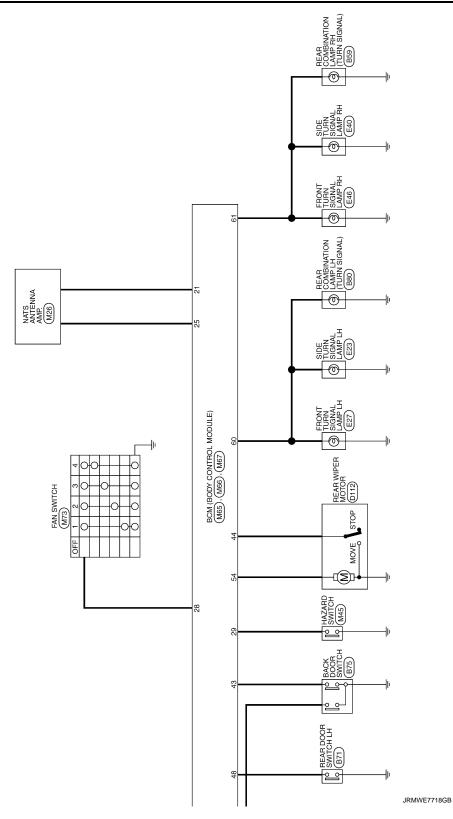


BCM (BODY CONTROL MODULE)

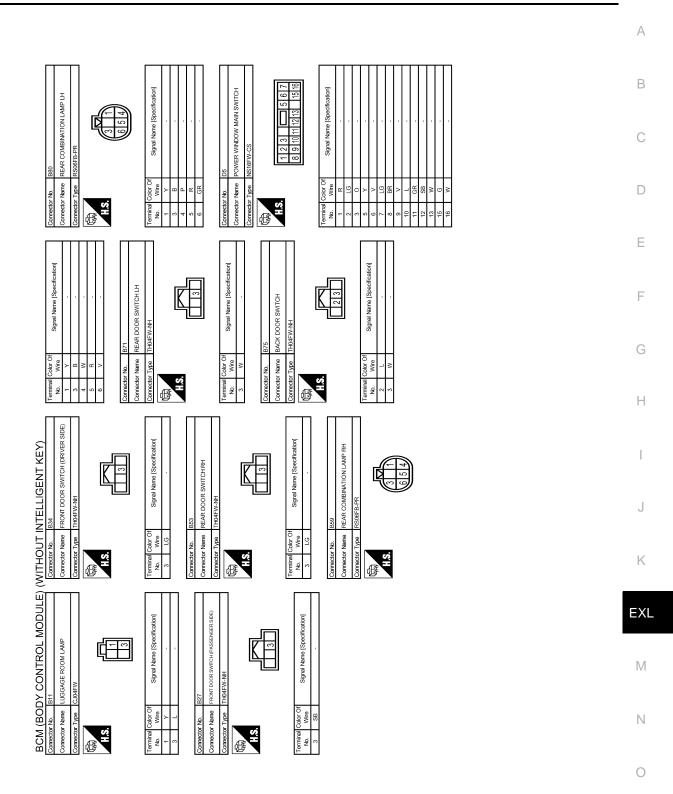
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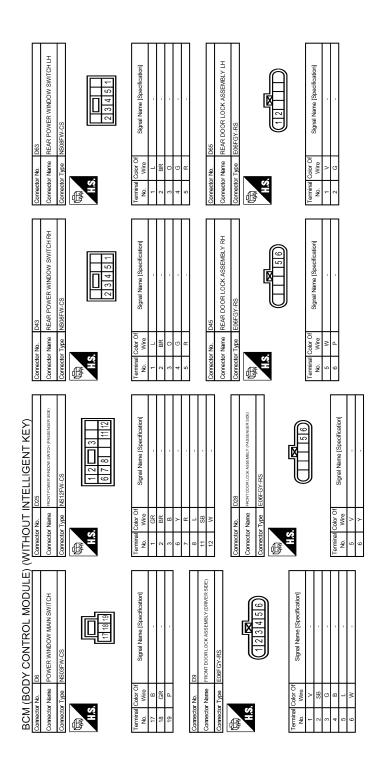


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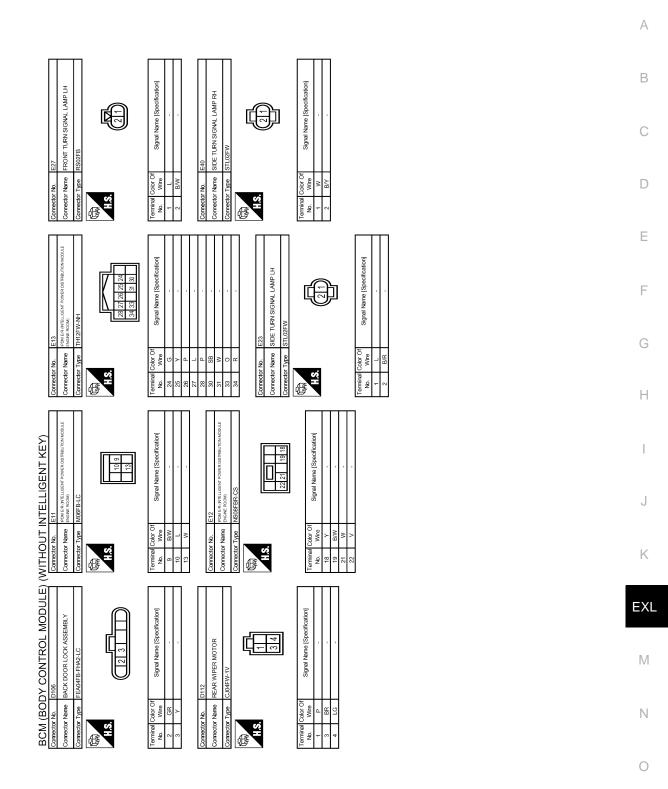
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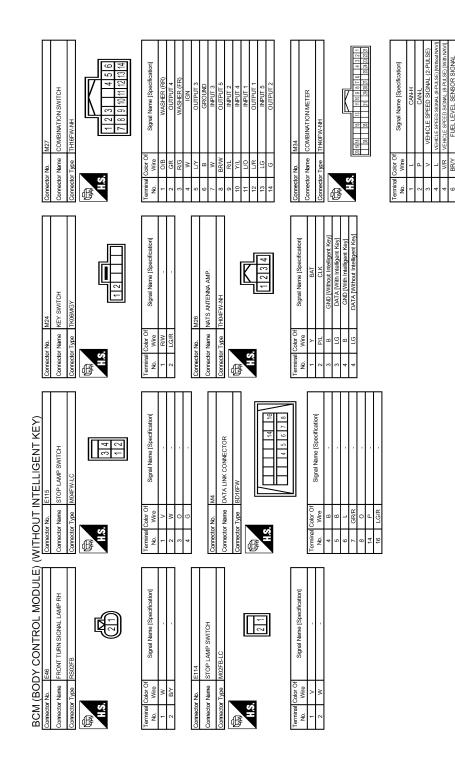


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BCM (BODY CONTROL MODULE)

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M61 REMOTE KEYLESS ENTRY RECEIVER TK04FW M65 M65 M66 M65 M66 M66 M66 M66	F
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BCM All Bold BOLT 7 R(G AIR Bold SIGNAL 9 P OVERDER/ECONTROL MODULE 10 SR ESTELETIONCE SWITCH SIGNAL 11 ERR BOLG SIGNAL ERRELETIONCE SWITCH SIGNAL 12 PL ARTELETIONCE SWITCH SIGNAL 13 ERR FULUE LEVEL SWITCH SIGNAL 14 LIV ARTELETIONCONFERCIONE 15 LIV ARTELETIONCONFERCIONE 16 PUW ARTELETIONCONFERCIONE 17 REAL ARTELETIONCONFERCIONE 18 PUW ARTELETIONCONFERCIONE 19 RUN ARTELETIONCONFERCIONE 10 R ARTELETIONCONFERCIONE 11 R ARTELETIONCONFERCIONE 12 R ARTELETIONCONFERCIONE 13 R ARTELETIONCONFERCIONE 14 ARTELETIONCONFERCIONE ARTERNIONE SIGNAL 15 R ARTELETIONCONFERCIONE 16 R ARTENNIONE SIGNAL 17 ARTENNIONE SIGNAL 18 ARTENNIONE SIGNAL 1	Μ
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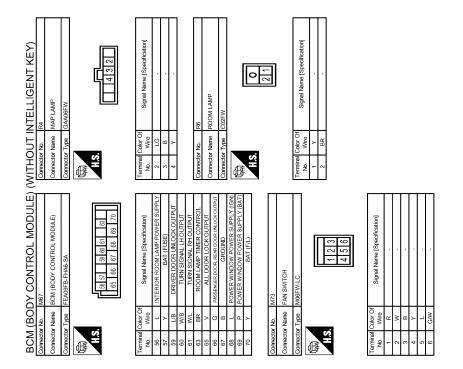
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BCM (BODY CONTROL MODULE)

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WITHOUT INTELLIGENT KEY : Fail-safe

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

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BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation	А
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC	
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC	
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC	В
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC	
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$	С

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper auto stop signal. When the rear wiper auto stop signal does not change more than 5 seconds while driving the rear wiper, BCM D stops power supply to protect the rear wiper motor.

Condition of cancellation

- 1. Pass more than 1 minute after the rear wiper stop.
- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

WITHOUT INTELLIGENT KEY : DTC Inspection Priority Chart

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

Priority	DTC	
1	U1000: CAN COMM U1010: CONTROL UNIT (CAN)	
2	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING 	
3	C1735: IGN CIRCUIT OPEN	
4	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR 	
	 C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1729: VHCL SPEED SIG ERR 	

WITHOUT INTELLIGENT KEY : 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.

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BCM (BODY CONTROL MODULE)

CONSULT display	Fail-safe	Tire pressure monitor warn- ing lamp ON	Reference
U1000: CAN COMM	_	—	BCS-120
U1010: CONTROL UNIT (CAN)	_	—	<u>BCS-121</u>
B2190: NATS ANTENNA AMP	×	—	<u>SEC-197</u>
B2191: DIFFERENCE OF KEY	×	—	<u>SEC-200</u>
B2192: ID DISCORD BCM-ECM	×	—	<u>SEC-201</u>
B2193: CHAIN OF BCM-ECM	×	—	<u>SEC-202</u>
B2195: ANTI SCANNING	×	—	<u>SEC-203</u>
C1704: LOW PRESSURE FL	_	×	
C1705: LOW PRESSURE FR	_	×	
C1706: LOW PRESSURE RR	_	×	<u>WT-26</u>
C1707: LOW PRESSURE RL	_	×	
C1708: [NO DATA] FL	_	×	
C1709: [NO DATA] FR	_	×	
C1710: [NO DATA] RR	_	×	<u>WT-28</u>
C1711: [NO DATA] RL	_	×	
C1716: [PRESS DATA ERR] FL	_	×	
C1717: [PRESS DATA ERR] FR	—	×	WT 04
C1718: [PRESS DATA ERR] RR	—	×	<u>WT-31</u>
C1719: [PRESS DATA ERR] RL	—	×	
C1729: VHCL SPEED SIG ERR	_	×	<u>WT-33</u>
C1735: IGN CIRCUIT OPEN	_		BCS-122

< ECU DIAGNOSIS INFORMATION >

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

WITH INTELLIGENT KEY : Reference Value

INFOID:000000010249367

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В

С

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VALUES ON THE DIAGNOSIS TOOL

NOTE:

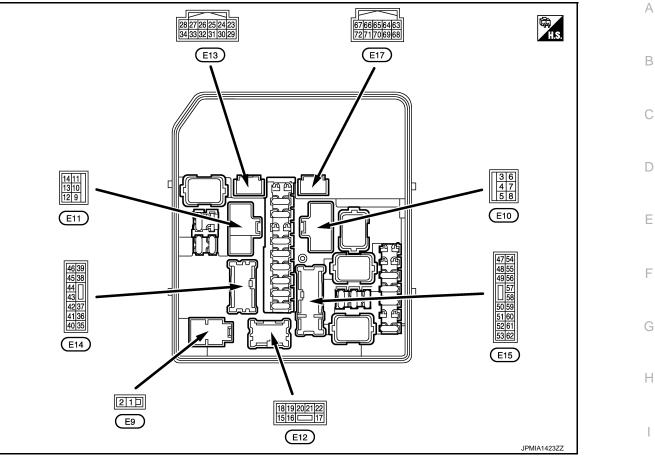
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item		Condition	Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1/2/3/4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND, HI or AUT	D (Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
	Lighting switch 2ND or	Front fog lamp switch OFF	Off
FR FOG REQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
	Ignition switch ON	Front wiper switch INT	1LOW
FR WIP REQ		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 opera- tion	BLOCK
	Ignition switch OFF or ACC		Off
IGN RLY1 -REQ	Ignition switch ON		On
	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
	Release the push-button ignition	n switch	Off
PUSH SW	Press the push-button ignition s	witch	On
		 Selector lever in any position other than P or N (CVT models) Release clutch pedal (M/T models) 	Off
INTER/NP SW	Ignition switch ON	 Selector lever in P or N position (CVT models) Depress clutch pedal (M/T mod- els) 	On

Monitor Item	Cor	ndition	Value/Status
ST RLY CONT	Ignition switch ON	Off	
ST KLT CONT	At engine cranking		On
IHBT RLY -REQ	Ignition switch ON		Off
	At engine cranking		On
	Ignition switch ON		Off
	At engine cranking		$INHI\:ON\toST\:ON$
ST/INHI RLY		control relay cannot be recognized by . when the starter relay is ON and the	UNKWN
DETENT SW	Ignition switch ON	 Pull the selector lever with selector lever in P position Selector lever in any position other than P 	Off
	Release the selector lever with sele NOTE: Fixed On for M/T models	ector lever in P position	On
S/L RLY -REQ	NOTE: The item is indicated, but not monit	Off	
S/L STATE	NOTE: The item is indicated, but not monit	UNLOCK	
DTRL REQ	NOTE: The item is indicated, but not monit	ored.	Off
OIL P SW	Ignition switch OFF, ACC or engine	running	Open
OIL P SW	Ignition switch ON		Close
HOOD SW	NOTE: The item is indicated, but not monit	ored.	Off
	Not operation		Off
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE S TEM 	On	
	Not operating		Off
HORN CHIRP	Door locking with Intelligent Key (he	orn chirp mode)	On

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

Termin		Description			Value	
(Wire) +	color) —	Signal name	Input/ Output	Condition	(Approx.)	K
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	EXI
3	Ground	Starter motor	Output	Ignition switch ON	0 V	
(BR)	Giouna	Starter motor	Output	At engine cranking	Battery voltage	M
4 (P)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
5	Ground	Cooling fan relay-1	Output	Cooling fan OFF	0 V	— N
(LG)	Ground	power supply	Output	Cooling fan operated	Battery voltage	
				Cooling fan OFF	0 V	0
7 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan LO operated	9.0 V	
(.)		Porto: 042223		Cooling fan HI operated	Battery voltage	_
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	— P
9 (B/W)	Ground	Ground	_	Ignition switch ON	0 V	
				Cooling fan OFF	0 V	
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fan LO operated	5.0 V	
(-)		9.00.00		Cooling fan HI operated	0 V	

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J

Termin		Description				Value
(Wire +	-	Signal name	Input/ Output	Condition		(Approx.)
13	Ground	Rear window defogger	Output	Ignition switch	Rear window defogger switch OFF	0 V
(W)	Ground	Real window delogger	Output	ON	Rear window defogger switch ON	Battery voltage
19 (B/W)	Ground	Ground	—	Ignition sw	vitch ON	0 V
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(**)				2ND	Front fog lamp switch ON	Battery voltage
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(•)				2ND	Front fog lamp switch ON	Battery voltage
24	Ground	Oil pressure switch	Input	Ignition switch	Engine stopped	0 V
(G)	Ground	On pressure switch	Input	ON	Engine running	Battery voltage
25				Ignition	Front wiper stop position	0 V
25 (Y)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage
26 (P)	Ground	CAN-L	Input/ Output		_	_
27 (L)	Ground	CAN-H	Input/ Output		_	—
30	Ground	Starter relay control	Output	At engine	cranking	0 V
(SB)	Cround		Output	Ignition sw		Battery voltage
31 (W)	Ground	Fuel pump relay control	 Approximately 1 second after turn- ing the ignition switch ON I pump relay control Output Engine running 	0 - 1.5 V		
(VV)					ately 1 second or more after e ignition switch ON	Battery voltage
				Ignition sw	vitch ON	Battery voltage
33 (O)	Ground	Power generation com- mand signal	Output		et on "ACTIVE TEST", "AL- OR DUTY" of "ENGINE"	(V) 6 4 2 0 ► 2ms JPMIA0002GB 3.8 V
					et on "ACTIVE TEST", "AL- OR DUTY" of "ENGINE"	(V) 6 2 0 2 2 2 2 2 2 2 2 2 3 2 2 3 2 3 3 3 3
34	Ground	Horn relay control	Output	The horn i	s deactivated	Battery voltage
(R)	Ground	Horn relay control	Output	The horn i	s activated	0 V

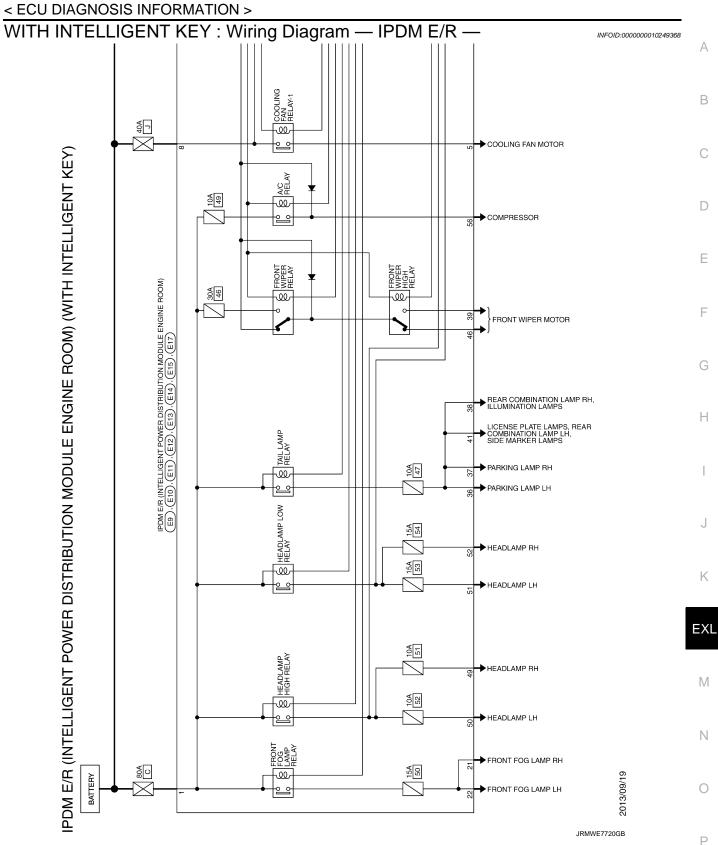
Terminal NO. (Wire color)		Description				Value
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)
36				Ignition	Lighting switch OFF	0 V
(O)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
37				Ignition	Lighting switch OFF	0 V
(V)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage
38		Tail lamp (RH) & illumi-		Ignition	Lighting switch OFF	0 V
(G)	Ground	nations	Output	switch ON	Lighting switch 1ST	Battery voltage
39				Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
40					vitch OFF n a few seconds after turn- n switch OFF)	Battery voltage
40 (R)	Ground	ECM relay control	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	0 - 1.5 V
41		Tail lamp (LH) & license		Ignition	Lighting switch OFF	0 V
(SB)	Ground	plate lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
43		ECM relay power sup-			vitch OFF n a few seconds after turn- n switch OFF)	0 V
(G) Grour	Ground	ply		(For a fe	switch ON switch OFF sw seconds after turning ig- vitch OFF)	Battery voltage
44		ECM relay power sup-			vitch OFF n a few seconds after turn- n switch OFF)	0 V
(P)	Ground	ply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
45 (Y)	Ground	TCM power supply	Output	Ignition sw	vitch OFF	Battery voltage
46				Ignition	Front wiper switch OFF	0 V
(O)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
		Transmission range			er in any position other than nition switch ON)	0 V
47 (BR)	Ground	switch ^{*1}	Input	Select leve ON)	er P or N (Ignition switch	Battery voltage
		Clutch interlock		Release th	ne clutch pedal	0 V
		switch ^{*2}		Depress th	ne clutch pedal	Battery voltage
49				Ignition	Lighting switch OFF	0 V
(W)	Ground	Headlamp HI (RH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage
50				Ignition	Lighting switch OFF	0 V
(GR)	Ground	Headlamp HI (LH)	Output	switch ON	 Lighting switch HI Lighting switch PASS 	Battery voltage

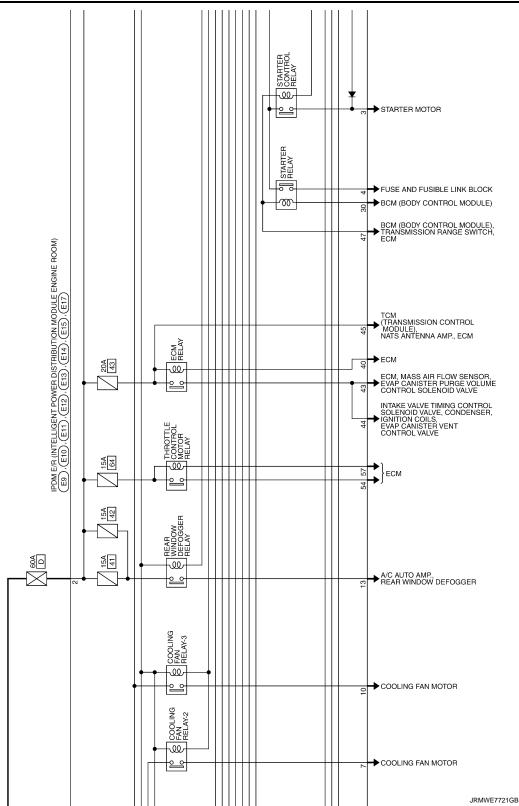
< ECU DIAGNOSIS INFORMATION >

	nal NO. color)	Description			O 1111	Value				
+	-	Signal name	Input/ Output	Condition		(Approx.)				
51				Ignition Lighting switch OFF		0 V				
(R)	Ground	Headlamp LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage				
52			_	Ignition	Lighting switch OFF	0 V				
(P)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage				
54		Throttle control motor			ritch OFF n a few seconds after turn- n switch OFF)	0 V				
(GR)	Ground	relay power supply	Output	(For a fe	switch ON switch OFF w seconds after turning ig- vitch OFF)	Battery voltage				
					ately 1 second or more than ig the ignition switch ON	0 V				
55 (P)	Ground	Fuel pump power sup- ply	Output		mately 1 second after turn- gnition switch ON running	Battery voltage				
					A/C switch OFF	0 V				
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage				
								I		0 - 1.0 V
57 (G)	Ground	round Throttle control motor Outp			ritch ON \rightarrow OFF	↓ Battery voltage ↓ 0 V				
				Ignition sw	ritch ON	0 - 1.0 V				
58	0	Ignition relay power		Ignition sw	ritch OFF	0 V				
(R)	Ground	supply	Output	Ignition sw	ritch ON	Battery voltage				
59	Ground	Ignition relay power	Output	Ignition sw	ritch OFF	0 V				
(Y)	Ground	supply	Output	Ignition sw	ritch ON	Battery voltage				
60	Cround	Ignition relay power	Output	Ignition sw	ritch OFF	0 V				
(V)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage				
61	Ground	Ignition relay power	0	Ignition sw	ritch OFF	0 V				
(W)	Ground	supply	Output	Ignition sw	ritch ON	Battery voltage				
62	Ground	Ignition relay power	Output	Ignition sw	ritch OFF	0 V				
(L)	Ground	supply	Julpul	Ignition sw	ritch ON	Battery voltage				
64 ^{*1}		CVT shift selector		Ignition	Select lever P	0 V				
64 (R)	Ground	(Detention switch)	Input	switch ON	Select lever in any posi- tion other than P	Battery voltage				
66		Puch button ignition		Press the	push-button ignition switch	0 V				
66 (L) Gr	Ground	Push-button ignition switch	Input	Release th switch	e push-button ignition	Battery voltage				
69	Ground	Ignition rolay monitor	Innut	Ignition sw	ritch OFF or ACC	Battery voltage				
(O)	Ground	Ignition relay monitor	Input	Ignition sw	ritch ON	0 V				

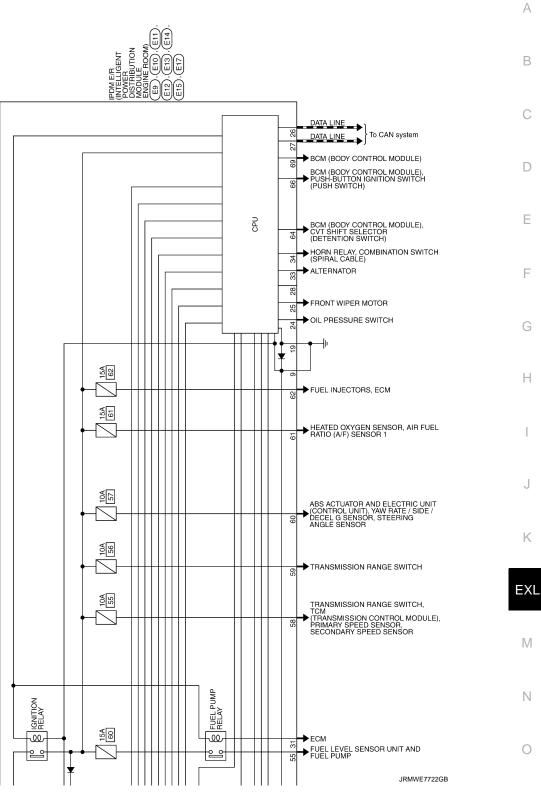
*1: CVT models

*2: M/T models





< ECU DIAGNOSIS INFORMATION >



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION >

Signal Name [Specifi Signal Name [Spec olor O Wire Connector Name Name Connector Type HS. IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (WITH INTELLIGENT KEY) Signal Name [Spec Name [Spe Signal Name Connector Name olor (Connector Type Connector No. Connector H.S. H.S.H ß ß Signal Name [Specification Signal Name [Specification 10 9 19 51 Connector Name Name nector No. mector Connector H.S. Ø Signal Name [Specification] Signal Name [Specification 5 4 3 8 7 6 nector Name ector Name S HS. ß Æ

JRMWE7835GB

INFOID:000000010249369

WITH INTELLIGENT KEY : 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

Revision: 2013 October

EXL-164

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation) The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
 Parking lamps Side marker lamps License plate lamps Illuminations Tail lamps 	 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	 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. 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.
Front fog lamps	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control 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.

Voltage	judgment			
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation	
ON	ON	Ignition relay ON normal		M
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	 Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes 	Ν
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	\bigcirc

FRONT WIPER CONTROL

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

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

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

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< ECU DIAGNOSIS INFORMATION >

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.

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.

WITH INTELLIGENT KEY : DTC Index

INFOID:000000010249370

NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 \rightarrow 2 \cdots 38 \rightarrow 39 after returning to the normal condition whenever IGN OFF \rightarrow ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

		×: Applicable
CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-15
B2098: IGN RELAY ON CIRC	×	PCS-16
B2099: IGN RELAY OFF CIRC	_	PCS-18
B210B: STR CONT RLY ON CIRC	_	<u>SEC-76</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-77</u>
B210D: STARTER RLY ON CIRC	_	<u>SEC-78</u>
B210E: STARTER RLY OFF CIRC	_	<u>SEC-79</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-81</u>
B2110: INTRLCK/PNP SW OFF	_	<u>SEC-83</u>

WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : Reference Value

INFOID:000000010249371

VALUES ON THE DIAGNOSIS TOOL

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item		Condition	Value/Status	
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 REQ		A/C switch OFF	Off	
	Engine running	A/C switch ON (Compressor is operating)	On	
TAIL&CLR REQ	Lighting switch OFF			
IAILQULK KEQ	Lighting switch 1ST, 2ND, H	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		
HL LO REQ	Lighting switch OFF	Lighting switch OFF		
	Lighting switch 2ND, HI or A	UTO (Light is illuminated)	On	

< ECU DIAGNOSIS INFORMATION >

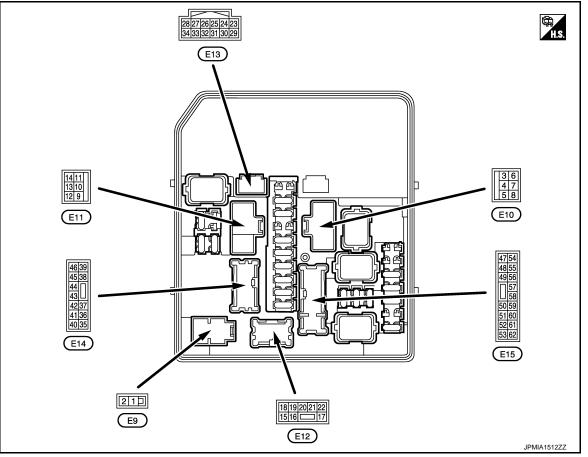
Monitor Item		Condition	Value/Status	
	Lighting switch OFF	Off		
HL HI REQ	Lighting switch HI	On		
FR FOG REQ	Lighting switch 2ND or	Front fog lamp switch OFF	Off	
TRIOGREQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On	
		Front wiper switch OFF	Stop	
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW	
	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 opera- tion	BLOCK	
	Ignition switch OFF or ACC	Off		
IGN RLY	Ignition switch ON			
INTER/NP SW		Selector lever in any position other than P or N (CVT models)	Off	
	Ignition switch ON	Selector lever in P or N position (CVT models)	On	
	Ignition switch OFF or ACC		Off	
ST RLY -REQ	Ignition switch ON		On	
DTRL REQ	NOTE: The item is indicated, but not me	onitored.	Off	
OIL P SW	Ignition switch OFF, ACC or eng	jine running	Open	
OIL P SVV	Ignition switch ON		Close	
HOOD SW	NOTE: The item is indicated, but not me	Off		
	Not operation			
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICL TEM 	On		
	Not operating		Off	
HORN CHIRP	Door locking with key fob (horn	On		

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< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT



PHYSICAL VALUES

Termin		Description			Value	
(Wire +	color) –	Signal name	Input/ Output	Condition	(Approx.)	
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
3	Ground	Starter motor	Output	Ignition switch ON	0 V	
(BR)	Giouna	Starter motor	Output	At engine cranking	Battery voltage	
5	Ground	Cooling fan relay-1	Output	Cooling fan OFF	0 V	
(LG)	Ground	power supply	Output	Cooling fan operated	Battery voltage	
6	Ground	Ignition switch START	Output	Any position other ignition switch START	0 V	
(SB)		-		Ignition switch START	Battery voltage	
				Cooling fan OFF	0 V	
7 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan LO operated	9.0 V	
(.)		perior cupply		Cooling fan HI operated	Battery voltage	
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
9 (B/W)	Ground	Ground	_	Ignition switch ON	0 V	

	nal NO.	Description						Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)		
				Cooling fai	n OFF	0 V		
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fai	n LO operated	5.0 V		
(Ľ)		ground		Cooling fai	n HI operated	0 V		
13	Ground	Deer wieden defenser	Output	Ignition	Rear window defogger switch OFF	0 V		
(W)	Ground	Rear window defogger	Output	switch ON	Rear window defogger switch ON	Battery voltage		
18	Cround	Ignition owitch	Output	Ignition sw	ritch OFF	0 V		
(Y)	Ground	Ignition switch	Output	Ignition sw	ritch ON	Battery voltage		
19 (B/W)	Ground	Ground	_	Ignition sw	ritch ON	0 V		
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V		
(**)				2ND	Front fog lamp switch ON	Battery voltage		
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V		
(v)				2ND	Front fog lamp switch ON	Battery voltage		
24				Ignition	Engine stopped	0 V		
(G)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage		
25				Ignition	Front wiper stop position	0 V		
(Y)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage		
26 (P)	Ground	CAN-L	Input/ Output	_		_		
27 (L)	Ground	CAN-H	Input/ Output	_		_		
31 (W)	Ground	Fuel pump relay control	Output		mately 1 second after turn- gnition switch ON running	0 - 1.5 V		
(**)					ately 1 second or more after e ignition switch ON	Battery voltage		
				Ignition sw	ritch ON	Battery voltage		
33 (O)	Ground	Power generation com- mand signal	Output		t on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 2 0 4 2 0 4 2 ms 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
					t on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 2 0 4 2 0 4 2 0 4 2 ms 1 1.4 V		

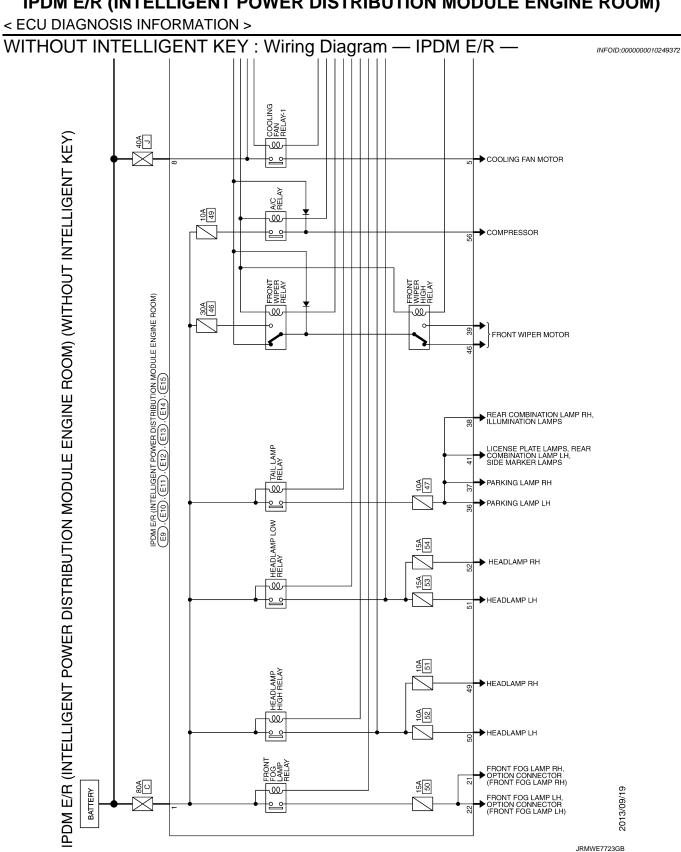
	nal NO.	Description				Value
+	color)	Signal name	Input/ Output		Condition	(Approx.)
34				The horn i	s deactivated	Battery voltage
(R)	Ground	Horn relay control	Output	The horn i	s activated	0 V
36				Ignition	Lighting switch OFF	0 V
(O)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
37			_	Ignition	Lighting switch OFF	0 V
(V)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage
38		Tail lamp (RH) & illumi-	0.1.1	Ignition	Lighting switch OFF	0 V
(G)	Ground	nations	Output	switch ON	Lighting switch 1ST	Battery voltage
39			Q () (Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
40					ritch OFF n a few seconds after turn- n switch OFF)	Battery voltage
40 (R)	Ground	ECM relay control	Output	(For a fe	switch ON switch OFF sw seconds after turning ig- vitch OFF)	0 - 1.5 V
41		Tail lamp (LH) & license		Ignition	Lighting switch OFF	0 V
(SB)	Ground	plate lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
43		ECM relay power sup			ritch OFF n a few seconds after turn- n switch OFF)	0 V
43 (G)	Ground	ECM relay power sup- ply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
44		ECM relay power sup-			vitch OFF n a few seconds after turn- n switch OFF)	0 V
(P)	Ground	ply	Output	 Ignition (For a feed) 	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage
45 (Y)	Ground	TCM power supply	Output	Ignition sw	vitch OFF	Battery voltage
46			_	Ignition	Front wiper switch OFF	0 V
(0)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
		Transmission range			er in any position other than nition switch ON)	0 V
47 (BR)	Ground	switch ^{*1}	Input	Select leve ON)	er P or N (Ignition switch	Battery voltage
		Clutch interlock		-	ne clutch pedal	0 V
		switch ^{*2}	Input		ne clutch pedal	Battery voltage
				Ignition	Lighting switch OFF	0 V
49 (W)	Ground	Headlamp HI (RH)	Output	switch ON	 Lighting switch HI Lighting switch PASS 	Battery voltage

< ECU DIAGNOSIS INFORMATION >

	nal NO.	Description				Value	-
(Wire) +	color) –	Signal name	Input/ Output		Condition	(Approx.)	
50				Ignition	Lighting switch OFF	0 V	_
(GR)	Ground	Headlamp HI (LH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage	=
51			•	Ignition	Lighting switch OFF	0 V	-
(R)	Ground	Headlamp LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage	_
52				Ignition	Lighting switch OFF	0 V	-
(P)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage	-
54		Throttle control motor		`	vitch OFF n a few seconds after turn- n switch OFF)	0 V	_
(GR)	Ground	relay power supply	Output	(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage	
55	Ground	Fuel sums a sum sur		Approximately 1 second or more than after turning the ignition switch ON		0 V	_
55 (P)		ply ii	Fuel pump power sup- ply	Output	Output Approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage
					A/C switch OFF	0 V	-
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage	_
57 (G)	Ground	Throttle control motor relay control	Output	Ignition sw	vitch ON \rightarrow OFF	0 - 1.0 V ↓ Battery voltage ↓ 0 V 0 - 1.0 V	-
58		Ignition relay power		Ignition sw		0 V	_
(R)	Ground	supply	Output	Ignition sw		Battery voltage	
59		Ignition relay power	.	Ignition sw		0 V	
(Y)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage	-
60	Ground	Ignition relay power	Outout	Ignition sw	vitch OFF	0 V	_
(V)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage	_
61	Ground	Ignition relay power	Output	Ignition sw	vitch OFF	0 V	
(W)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage	_
62	Ground	Ignition relay power	Output	Ignition sw	vitch OFF	0 V	_
(L)	Cround	supply	Caiput	Ignition sw	vitch ON	Battery voltage	

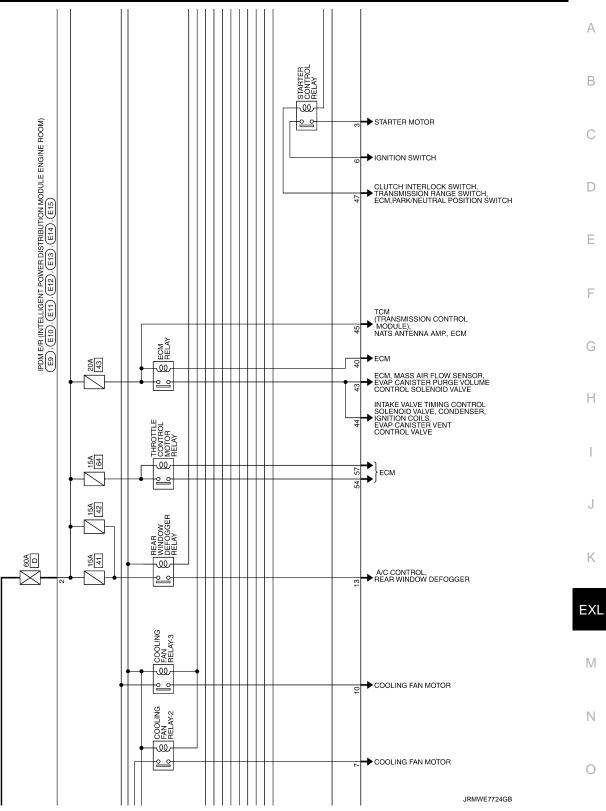
*2: CVT models

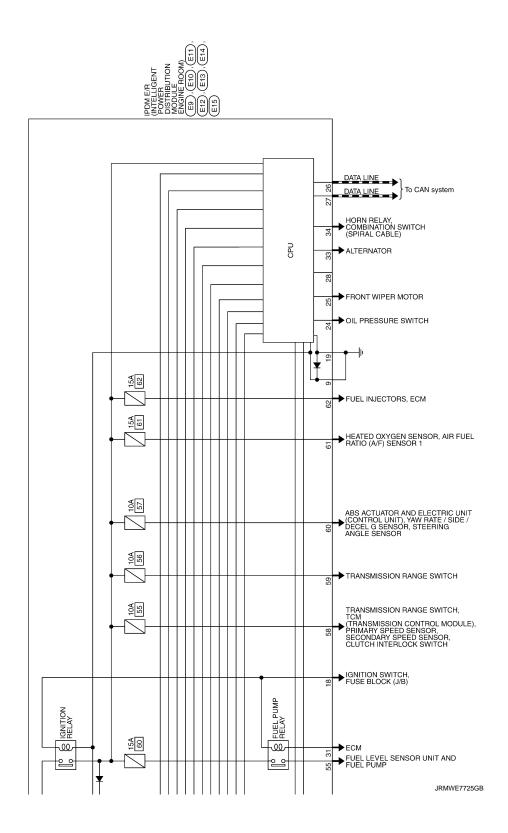
*3: M/T models



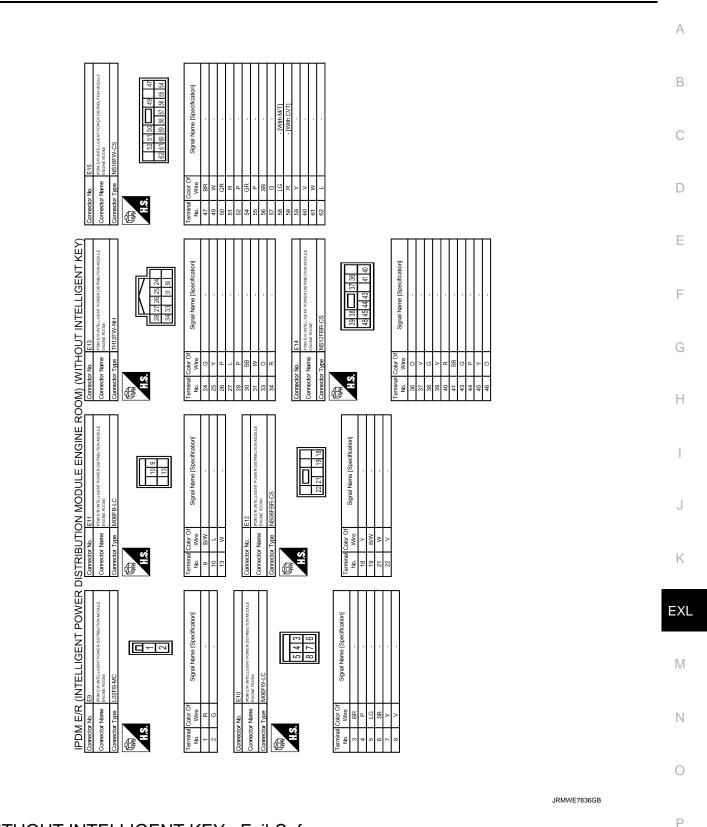
Revision: 2013 October

< ECU DIAGNOSIS INFORMATION >





IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS INFORMATION >



WITHOUT INTELLIGENT KEY : 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

INFOID:000000010249373

< ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation) The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
 Parking lamps Side marker lamps License plate lamps Illuminations Tail lamps 	 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	 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. 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.
Front fog lamps	Front fog lamp relay OFF
Rear window defogger relay	Rear window defogger relay OFF
Horn	Horn OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit of the ignition relay inside and ignition switch status from BCM via CAN communication.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the ignition switch status from BCM via CAN communication.
- 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.

Voltage	judgment			
Ignition relay contact side	Ignition switch status from BCM	IPDM E/R judgment	Operation	
ON	ON	Ignition relay ON normal	_	
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	 Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes 	
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	

FRONT WIPER CONTROL

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

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

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

< ECU DIAGNOSIS INFORMATION >

NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item A "WIP PROT" while the wiper is stopped.

WITHOUT INTELLIGENT KEY : DTC Index

INFOID:0000000010249374

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NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 → 2 ··· 38 → 39 after returning to the normal condition whenever IGN OFF → DON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

	$\times: A$		olicable 🛛 🖂	
CONSULT display	Fail-safe	Refer to		
No DTC is detected. further testing may be required.		_	F	
U1000: CAN COMM CIRCUIT	×	PCS-15		
B2098: IGN RELAY ON CIRC	×	PCS-16	G	
B2099: IGN RELAY OFF CIRC	_	PCS-47		



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EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

INFOID:000000009945193

NOTE:

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

Symptom		Possible cause	Inspection item
Headlamp (HI) is not turned ON.	One side	 Fuse Halogen bulb (HI) Harness between IPDM E/R and the headlamp Harness between headlamp and the ground IPDM E/R 	Headlamp (HI) circuit Refer to <u>EXL-42</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON" Refer to <u>EXL-181</u> .	
High beam indicator lamp [Headlamp (HI) is turned C		Combination meter	 Combination meter Data monitor "HI-BEAM IND" BCM (HEADLAMP) Active test "HEADLAMP"
Headlamp (LO) is not turned ON.	One side	 Fuse Halogen bulb (LO) Harness between IPDM E/R and the headlamp Harness between headlamp and the ground IPDM E/R 	Headlamp (LO) circuit Refer to <u>EXL-44</u> .
	Both sides	Symptom diagnosis	
Headlamp is not turned OFF.	When ignition switch is turned ON.	"BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to <u>EXL-182</u> .	
	When ignition switch is turned OFF.	IPDM E/R	_
Headlamp is not turned ON/OFF with the lighting switch AUTO.		 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-85</u> .
		 Optical sensor Harness between the optical sensor and BCM BCM 	Optical sensor Refer to <u>EXL-53</u> .
Front fog lamp is not turned ON.	One side	 Front fog lamp bulb Harness between IPDM E/R and the front fog lamp Front fog lamp IPDM E/R 	Front fog lamp circuit Refer to <u>EXL-46</u> .
	Both side	Symptom diagnosis	
Front fog lamp is not turned ON.		"BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to <u>EXL-184</u> .	
Parking lamp is not turned ON.		 Parking lamp bulb Harness between IPDM E/R and the parking lamp Front combination lamp assembly IPDM E/R 	Parking lamp circuit Refer to <u>EXL-48</u> .

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

Symp	tom	Possible cause	Inspection item
Tail lamp is not turned ON.		 Tail lamp bulb Harness between IPDM E/R and the rear combination lamp Rear combination lamp assembly 	Tail lamp circuit Refer to <u>EXL-58</u> .
Rear side marker lamp is not turned ON.		 Rear side marker lamp bulb Harness between IPDM E/R and the rear side marker lamp Rear side marker lamp assembly 	Rear side marker lamp circuit Refer to <u>EXL-60</u> .
License plate lamp is not turned ON.		 License plate lamp bulb Harness between IPDM E/R and the license plate lamp License plate lamp assembly 	License plate lamp circuit Refer to <u>EXL-61</u> .
 Parking lamp, tail lamp, rear side marker lamp and license plate lamp are not turned ON. Parking lamp, tail lamp, rear side marker lamp and license plate lamp are not turned OFF. (Each illumination is turned ON/OFF.) 			
Tail lamp indicator is not turned ON. (Parking and tail lamps are turned ON.)		Combination meter	 Combination meter Data monitor "LIGHT IND" BCM (HEADLAMP) Active test "TAIL LAMP"
Turn signal lamp does not blink.	Indicator lamp is nor- mal. (Applicable side per- forms the high flasher activation.)	 Harness between BCM and each turn signal lamp Turn signal lamp bulb 	Turn signal circuit Refer to <u>EXL-50</u> .
	Indicator lamp is includ- ed.	 Combination switch Harness between the combination switch and BCM BCM 	Combination switch Refer to <u>BCS-85</u> (with Intelligent Key) or <u>BCS-153</u> (without Intelligent Key).
Turn signal indicator lamp does not blink. (Turn signal lamp is nor- mal.)	One side	Combination meter	_
	Both sides (Always)	 Turn signal indicator lamp signal BCM Combination meter 	 Combination meter Data monitor "TURN IND" BCM (FLASHER) Active test "FLASHER"
	Both sides (Only when activating hazard warning lamp with the ignition switch OFF.)	 Combination meter power supply and the ground circuit Combination meter 	Combination meter Power supply and the ground circuit Refer to <u>MWI-39</u> .
 Hazard warning lamp do Hazard warning lamp co (Turn signal is normal.) 		 Hazard switch Harness between the hazard switch and BCM BCM 	Hazard switch Refer to <u>EXL-56</u> .

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< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:000000009945195

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS (HI) ARE NOT TURNED ON

< SYMPTOM	DIAGNOSIS >

BOTH SID	E HEADLA	MPS (HI)	ARE NOT	FURNED ON	А
Description				INFOID:00000009945196	
Both side headl	amps (HI) are r	not turned ON w	when setting to t	he lighting switch HI or PASS.	В
Diagnosis P	rocedure			INFOID:00000009945197	
1.COMBINATI	ON SWITCH IN	ISPECTION			С
Check the com tom Table" (with Is the combinat YES >> GO	nout Intelligent H	Key).	85, "Symptom ⁻	Fable" (with Intelligent Key) or <u>BCS-153, "Symp-</u>	D
NO >> Rej	pair or replace t	he malfunctioni	• ·		E
			IAL INPUT		
	HI REQ" of IPD	M E/R data mo	nitor item. he monitor stati	IS.	F
Monitor item	Con	dition	Monitor status		G
HL HI REQ	Lighting switch (2ND)	HI or PASS	ON		
Is the item statu		LO	OFF		Н
YES >> GC NO >> Re	TO 3. place BCM. Re	fer to <u>BCS-88,</u> allation" (withou	"Removal and ut Intelligent Key	<u>Installation</u> " (with Intelligent Key) or <u>BCS-155.</u> /).	I
3.HEADLAMP					
Check the head	1 ()		-42, "Compone	nt Function Check".	J
YES >> Re	place IPDM E/F		ng part.		К
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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description

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

Diagnosis Procedure

INFOID:000000009945199

INFOID:000000009945198

1.CHECK COMBINATION SWITCH

Check the combination switch. Refer to <u>BCS-85, "Symptom Table"</u> (with Intelligent Key) or <u>BCS-153, "Symptom Table"</u> (without Intelligent Key).

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

CONSULT 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	LO REQ Lighting switch	2ND	ON
	Lighting Switch	OFF	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to <u>BCS-88, "Removal and Installation"</u> (with Intelligent Key) or <u>BCS-155,</u> <u>"Removal and Installation"</u> (without Intelligent Key).

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-44, "Component Function Check".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

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

< SYMPTOM [
PARKING, TURNED (PLATE, SI	DE MARKER AND TAIL LAMPS ARE NOT	А
Description			INFOID:00000009945200	В
The parking, lic tion.	ense plate, tail,	rear side mark	er lamps and each illumination are not turned ON in any condi-	D
Diagnosis P	rocedure		INFOID:00000009945201	С
1.COMBINATI Check the com tom Table" (with	bination switch.	Refer to BCS-	85, "Symptom Table" (with Intelligent Key) or BCS-153, "Symp-	D
Is the combinat YES >> GC	-	al?	ing part.	Ε
2.CHECK TAIL	LAMP RELAY	REQUEST SIG	GNAL INPUT	F
	L & CLR REQ"	of IPDM E/R da	ata monitor item. he monitor status.	G
Monitor item	Con	dition	Monitor status	Н
TAIL & CLR REQ	Lighting switch	1ST OFF	ON OFF	
Is the item statu	us normal?			I
NO >> Re	emoval and Inst	<u>allation"</u> (withou	<u>"Removal and Installation"</u> (with Intelligent Key) or <u>BCS-155.</u> ut Intelligent Key).	J
<u>Is the tail lamp</u> YES >> Re	<u>circuit normal?</u> place IPDM E/F	ł.	Component Function Check".	K
NO >> Re	י הטומניה ועוומער	he malfunction		
NO >> Re		he malfunction	ing part.	EXI
NO >> Ke		he malfunction	ng part.	EXI M

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BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description

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

Diagnosis Procedure

INFOID:000000009945203

INFOID:000000009945202

1.CHECK FUSE

Check that the following fuse is fusing.

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	#65	15 A

Is the fuse fusing?

YES >> Repair the applicable circuit. And then replace the fuse.

NO >> GO TO 2.

2.combination switch inspection

Check the combination switch. Refer to <u>BCS-153, "Symptom Table"</u>.

Is the combination switch normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning part.

3.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

CONSULT 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
	(With lighting switch 1ST)	OFF	OFF

Is the item status normal?

YES >> GO TO 4.

NO >> Replace BCM. Refer to <u>BCS-155</u>, "Removal and Installation".

4.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-46. "Component Function Check".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R.

NO >> Repair or replace the malfunctioning part.

< 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 "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that 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 "SRS AIR BAG".
- Never 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:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never 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.

Precautions for Removing of Battery Terminal

 When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
 NOTE:

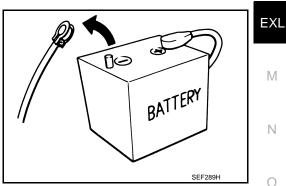
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

• For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch. **NOTE:**

If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
 NOTE:

The removal of 12V battery may cause a DTC detection error.



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PERIODIC MAINTENANCE HEADLAMP AIMING ADJUSTMENT

Description

INFOID:000000009945205

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your own country.
- Perform aiming if the vehicle front body has been repaired and/or the headlamp assembly has been replaced.

Before performing aiming adjustment, check the following.Adjust the tire pressure to the specification.

- Fill with fuel, engine coolant and each oil.
- Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartment and the trunk room.)

NOTE:

Do not remove the temporary tire, jack and on-vehicle tool.

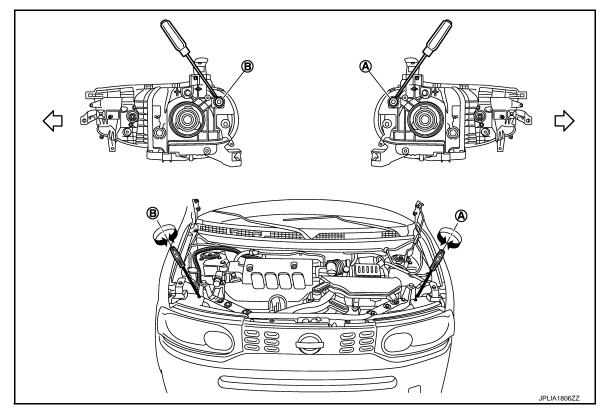
• Wipe out dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

Ride alone on the driver seat.

AIMING ADJUSTMENT SCREW



- Headlamp (RH) UP/DOWN А adjustment screw
- B. Headlamp (LH) UP/DOWN adjustment screw

C: Vehicle center

HEADLAMP AIMING ADJUSTMENT

< PERIODIC MAINTENANCE >

	Adjustment screw	Screw driver rotation	Facing direction	
		Clockwise	DOWN	
`	Headlamp (RH) UP/DOWN	Counterclockwise	UP	
		Clockwise	DOWN	
B Headlamp (LH) UP/DOWN	Counterclockwise	UP		

Aiming Adjustment Procedure

- 1. Place the screen.
 - NOTE:
 - Stop the vehicle facing the wall.
 - Place the board on a plain road vertically.
- 2. Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the headlamp center and the screen.
- 3. Start the engine. Turn the headlamp (LO) ON. NOTE:

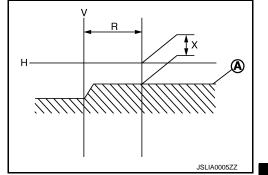
Shut off the headlamp light with the board to prevent from illuminating the adjustment screen. **CAUTION:**

Never cover the lens surface with a tape etc. The lens is made of resin.

4. Measure the distance (X) between the horizontal center line of headlamp (H) and the cutoff line (A) within the light axis measurement range (R) from the vertical center line ahead of headlamp (V).

Light axis measure-	: 350 ± 175 mm (13.78 ± 6.89
ment range (R)	in)

Low beam distribution on the screen



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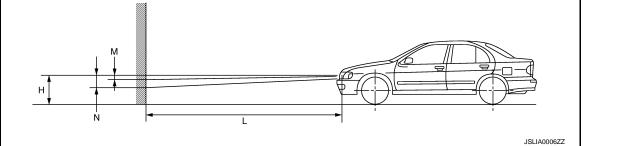
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 Adjust the cutoff line height (X) with the aiming adjustment screw so as to enter in the adjustment range (M–N) according to the horizontal center line of headlamp (H).

		unit: mm (in)	
Horizontal center line of headlamp (H)	Highest cutoff line height (M)	Lowest cutoff line height (N)	M
700 (27.56) or less	4 (0.16)	30 (1.18)	
701(27.60) - 800 (31.50)	4 (0.16)	30 (1.18)	
801 (31.54) or more	17 (0.67)	44 (1.73)	Ν





Distance between the : 10 m (32.8 ft) headlamp center and the screen (L)

FRONT FOG LAMP AIMING ADJUSTMENT

		А
Description	INFOID:000000009945207	
PREPARATION BEFORE ADJUSTING NOTE: • For details, refer to the regulations in your own country.		В
Before performing aiming adjustment, check the following.Adjust the tire pressure to the specification.Fill with fuel, engine coolant and each oil.		С
 Maintain the unloaded vehicle condition. (Remove luggage from the passenger compartme gage room.) NOTE: 	nt and the lug-	D
 Do not remove the temporary tire, jack and on-vehicle tool. Wipe out dirt on the headlamp. CAUTION: 		Е
 Never use organic solvent (thinner, gasoline etc.) Ride alone on the driver seat. 		F
AIMING ADJUSTMENT SCREW		
Turn the aiming adjusting screw for adjustment.	/,	G
A: UP	////	
B: DOWN	////	Н
• For the position and direction of the adjusting screw, refer to the	//	

figure.

A screwdriver or hexagonal wrench [6 mm (0.24 in)] can be used for adjustment.



Aiming Adjustment Procedure

1. Place the screen.

NOTE:

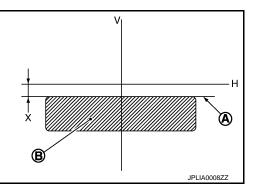
- Stop the vehicle facing the wall.
- Place the board on a plain road vertically.
- Face the vehicle with the screen. Maintain 10 m (32.8 ft) between the front fog lamp center and the screen.
- 3. Start the engine. Illuminate the front fog lamp. CAUTION:

Never cover the lens surface with a tape etc. The lens is made of resin. NOTE:

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

4. Adjust the cutoff line height (A) with the aiming adjustment screw so that the distance (X) between the horizontal center line of front fog lamp (H) and (A) becomes 200 mm (7.87 in).

Front fog lamp light distribution on the screen



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- A : Cutoff line
- B : High illuminance area
- H : Horizontal center line of front fog lamp
- V : Vertical center line of front fog lamp
- X : Cutoff line height

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION FRONT COMBINATION LAMP

Exploded View

REMOVAL

INFOID:000000009945209

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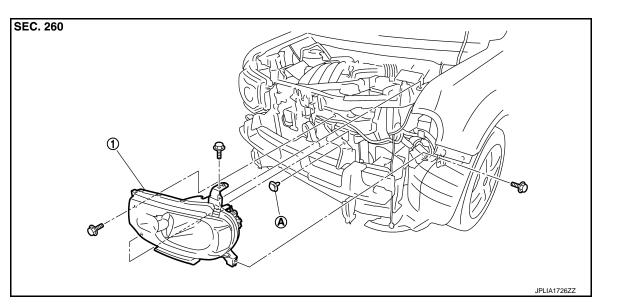
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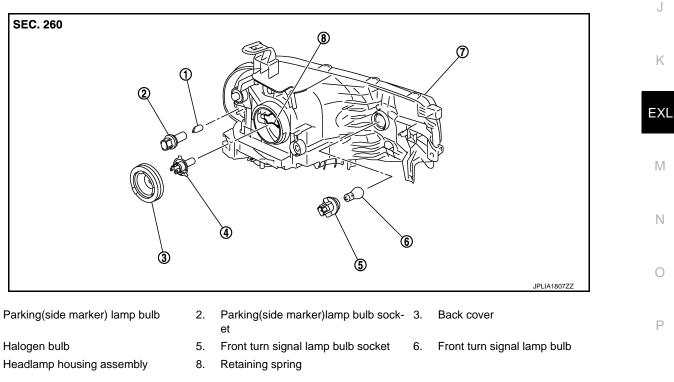
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- 1. Front combination lamp
- A. Air duct clip(only left)

DISASSEMBLY



Removal and Installation

REMOVAL

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EXL-191

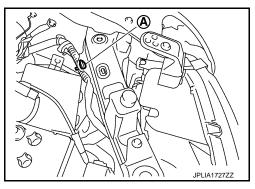
FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

CAUTION:

Disconnect the battery negative terminal or the fuse.

- 1. Remove front bumper fascia. Refer to <u>EXT-11, "Exploded View"</u>.
- Remove the harness clips (A)*.
 *: When replace a left.
- Remove the air duct clip*.
 *: When replace a left.
- 4. Remove the headlamp mounting bolts.
- 5. Pull out the headlamp assembly forward the vehicle.
- Disconnect the connector before removing the headlamp assembly.



INSTALLATION

Install in the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-186, "Description".

Replacement

INFOID:000000009945211

CAUTION:

- Disconnect the battery negative terminal or the fuse.
- After installing the bulb, install the resin cap and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

HEADLAMP BULB

- 1. Disconnect the headlamp bulb connector.
- 2. Remove the back cover.
- 3. Remove the retaining spring lock. And remove the bulb from the headlamp housing assembly.

PARKING(FRONT SIDE MARKER) LAMP BULB

- 1. Remove the fender protector. Refer to <u>EXT-21, "FENDER PROTECTOR : Exploded View"</u>. Keep a service area.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

FRONT TURN SIGNAL LAMP BULB

- 1. Rotate the bulb socket counterclockwise and unlock it.
- 2. Remove the bulb from the bulb socket.

Disassembly and Assembly

DISASSEMBLY

- 1. Remove the back cover.
- 2. Remove the retaining spring lock. And remove the bulb from the headlamp housing assembly.
- 3. Rotate the parking(front side marker) lamp bulb socket counterclockwise and unlock it.
- 4. Remove the bulb from the parking(front side marker) lamp bulb socket.
- 5. Rotate the front turn signal lamp bulb socket counterclockwise and unlock it.
- 6. Remove the bulb from the front turn signal lamp bulb socket.

ASSEMBLY

Assemble in the reverse order of disassembly. **CAUTION:**

EXL-192

FRONT COMBINATION LAMP

< REMOVAL AND INSTALLATION >

After installing the bulb, install the resin cap and the bulb socket securely for watertightness.

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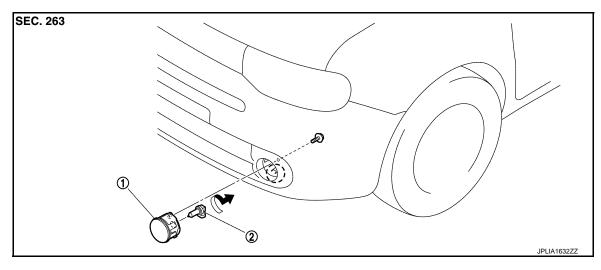
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< REMOVAL AND INSTALLATION >

FRONT FOG LAMP

Exploded View

INFOID:000000009945213



1. Front fog lamp

2. Front fog lamp bulb

(`) : Pawl

Removal and Installation

CAUTION:

Disconnect the battery negative terminal or the fuse.

REMOVAL

- 1. Remove the fender protector. Refer to EXT-21, "FENDER PROTECTOR : Exploded View".
- 2. Remove the front fog lamp connector.
- 3. Remove the front fog lamp mounting bolt.
- 4. While pressing pawls, remove the front fog lamp.

INSTALLATION

Installation is the reverse order of removal.

NOTE:

After installation, perform aiming adjustment. Refer to EXL-189. "Description".

Replacement

INFOID:000000009945215

INFOID:000000009945214

CAUTION:

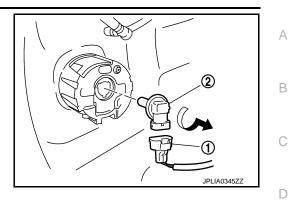
- Disconnect the battery negative terminal or the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

FRONT FOG LAMP BULB

1. Remove the fender protector. Keep the service area.Refer to <u>EXT-21, "FENDER PROTECTOR :</u> <u>Exploded View"</u>.

< REMOVAL AND INSTALLATION >

- 2. Remove the front fog lamp bulb connector (1).
- 3. Rotate the bulb (2) counterclockwise and unlock it.



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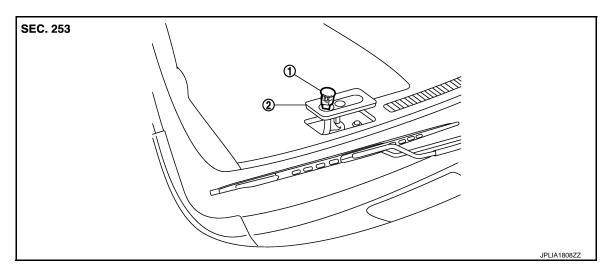
OPTICAL SENSOR

< REMOVAL AND INSTALLATION >

OPTICAL SENSOR

Exploded View

INFOID:000000009945216



1. Optical sensor

2. Instrument mask

Removal and Installation

REMOVAL

- 1. Remove the instrument mask.
- 2. Disconnect the connector. Remove the optical sensor.

INSTALLATION

Install in the reverse order of removal.

LIGHTING & TURN SIGNAL SWITCH

< REMOVAL AND INSTALLATION >	_
LIGHTING & TURN SIGNAL SWITCH	A
Exploded View	
The lighting & turn switch is integrated in the combination switch. Refer to BCS-89, "Exploded View".	В
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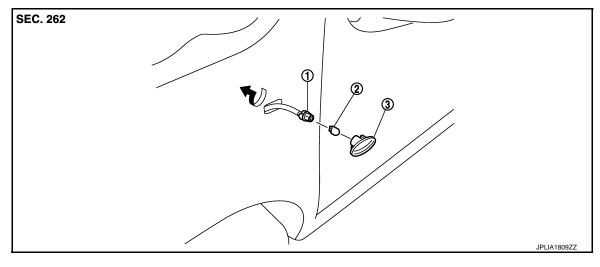
SIDE TURN SIGNAL LAMP

< REMOVAL AND INSTALLATION >

SIDE TURN SIGNAL LAMP

Exploded View

INFOID:000000009945219



- 1. Side turn signal lamp bulb socket
- 2. Side turn signal lamp bulb
- 3. Side turn signal lamp housing

Removal and Installation

CAUTION:

Disconnect battery negative terminal or remove the fuse.

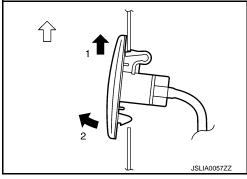
REMOVAL

1. Remove the side turn signal lamp in numerical order shown in the figure.

Installable both direction

 Rotate the bulb socket counterclockwise and unlock it.
 NOTE: Support side turn signal lamp barness with tape so that it was

Support side turn signal lamp harness with tape so that it won't fall into the front fender.



INSTALLATION

- 1. Rotate the bulb socket clockwise and lock it.
- 2. Fix the pawl-side behind the side turn signal lamp housing first, then push the resin clip-side.

Replacement

CAUTION:

- Disconnect battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

SIDE TURN SIGNAL LAMP BULB

- 1. Remove the side turn signal lamp.
- 2. Rotate the bulb socket counterclockwise and unlock it. **NOTE:**

EXL-198

INFOID:000000009945221

SIDE TURN SIGNAL LAMP

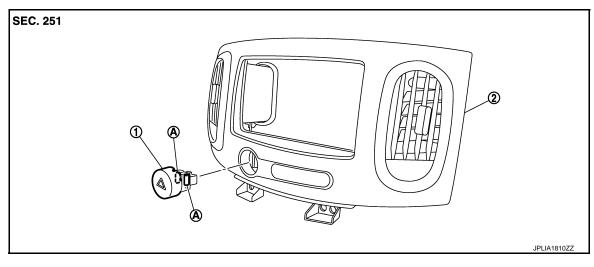
< REMOVAL AND INSTALLATION >

	Support the vehicle-side harness of the side turn signal lamp with tape so that it does not drop inside the front fender.	А
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< REMOVAL AND INSTALLATION > HAZARD SWITCH

Exploded View

INFOID:000000009945222



1. Hazard switch

2. Cluster lid C

A. Pawl

Removal and Installation

REMOVAL

- 1. Remove the cluster lid C. Refer to <u>IP-13, "Exploded View"</u>.
- 2. While pressing pawls, push the hazard switch. And remove it.

INSTALLATION

Install in the reverse order of removal.

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

REAR COMBINATION LAMP

Exploded View

REMOVAL

INFOID:000000009945224

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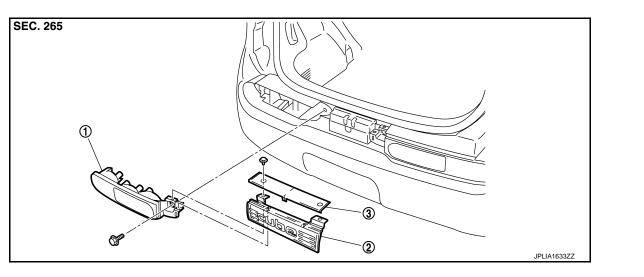
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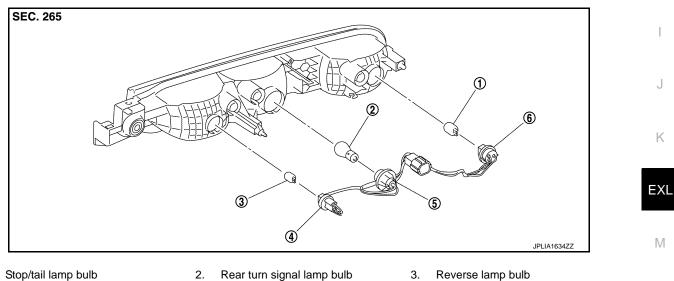
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1. Rear combination lamp 2. Back door finisher 3. Back door finisher cover

DISASSEMBLY



- 1. Reverse lamp bulb socket 4.
- 5. Rear turn signal lamp bulb socket
- Reverse lamp bulb
- 6. Stop/tail lamp bulb socket

Removal and Installation

CAUTION:

- Disconnect the battery negative terminal or the fuse.
- Wrap the tip of remover tool with a cloth to protect the body from damage.

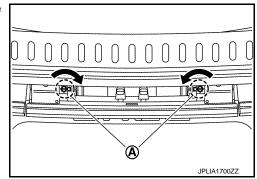
REMOVAL

Remove rear back door finisher cover. 1.

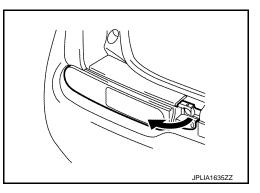
REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >

2. Disengage backdoor finisher mounting fastener (A) to remove the back door finisher.

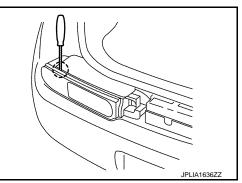


- 3. Remove rear combination lamp mounting bolts.
- 4. Slightly turn the rear combination lamp to leave a clearance.



 Insert an appropriate tool into the clearance between the rear combination lamp and the rear bamper side bracket.
 CAUTION:

Since the rear combination lamp has another clip at the lower center, be careful when removing the outer clip.



- 6. Pull rear combination lamp rearward to remove.
- 7. Disconnect rear combination lamp connector.

INSTALLATION

Install in the reverse order of removal.

NOTE:

The back door finisher mounting fastener remains on the rear combination lamp side after removing the back door finisher. Therefore, be sure to install the mountind fastener on the back door finisher side.

Replacement

CAUTION:

- Disconnect the battery negative terminal or the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

EXL-202

STOP/TAIL LAMP BULB

Revision: 2013 October

- 1. Remove rear combination lamp assembly.
- 2. Rotate the stop/tail lamp bulb socket counterclockwise, and unlock it.
- 3. Remove bulb from the bulb socket.

2014 CUBE

REAR COMBINATION LAMP

< REMOVAL AND INSTALLATION >	
REAR TURN SIGNAL LAMP BULB	
1. Remove rear combination lamp assembly.	A
2. Rotate the rear turn signal lamp bulb socket counterclockwise, and unlock it.	
3. Remove bulb from the bulb socket.	В
BACK-UP LAMP BULB	
1. Remove rear combination lamp assembly.	
2. Rotate the back-up lamp bulb socket counterclockwise, and unlock it.	С
3. Remove bulb from the bulb socket.	
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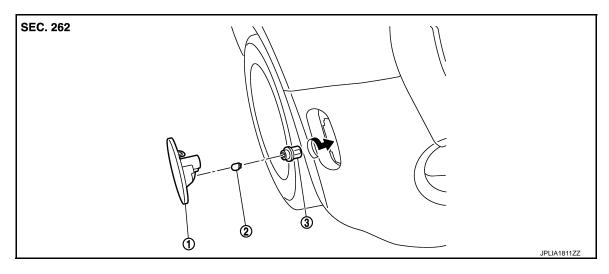
REAR SIDE MARKER LAMP

< REMOVAL AND INSTALLATION >

REAR SIDE MARKER LAMP

Exploded View

INFOID:000000009945227



- 1. Rear side marker lamp housing
- 2. Rear side marker lamp

INFOID:000000009945228

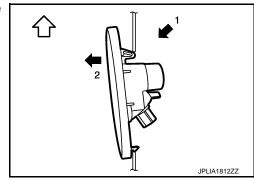
Removal and Installation

REMOVAL

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

- 1. Remove rear bunper closing. Refer to EXT-14, "Exploded View".
- 2. Disconnect rear side marker lamp connector.
- 3. Remove rear side marker lamp in numerical order shown in the figure.



3. Rear side marker lamp socket

INSTALLATION

Install in the reverse order of removal.

Replacement

CAUTION:

- Disconnect battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

REAR SIDE MARKER LAMP BULB

- 1. Remove the rear side marker lamp.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

EXL-204

HIGH-MOUNTED STOP LAMP

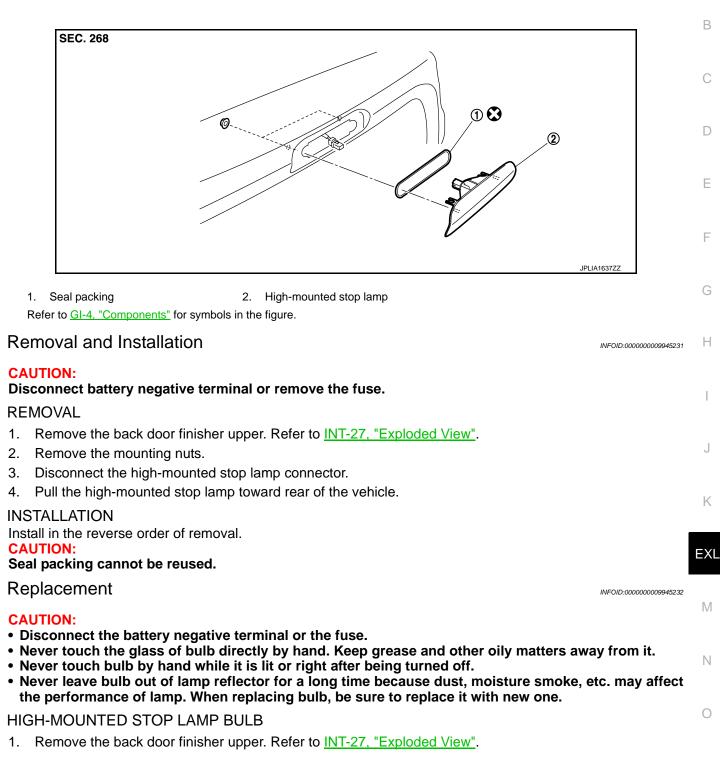
< REMOVAL AND INSTALLATION >

HIGH-MOUNTED STOP LAMP

Exploded View

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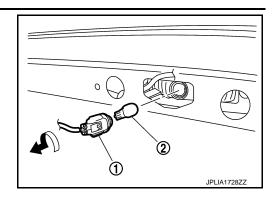


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HIGH-MOUNTED STOP LAMP

< REMOVAL AND INSTALLATION >

- 2. Rotate the bulb socket(1) counterclockwise, and unlock it.
- 3. Remove the bulb from the bulb(2) socket.



< REMOVAL AND INSTALLATION >

LICENSE PLATE LAMP

Exploded View

INFOID:000000009945233

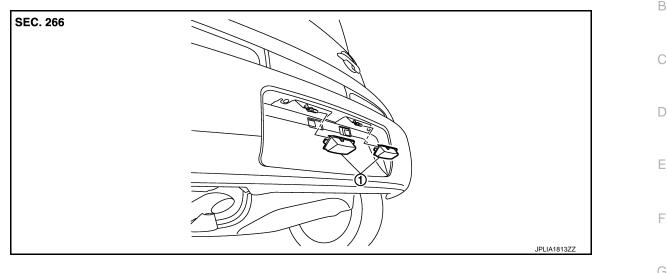
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1. License plate lamp

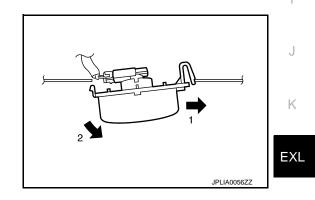
Removal and Installation

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the license plate lamp in numerical order.
- 2. Disconnect the license plate lamp connector.
- 3. Remove the license plate lamp.



INSTALLATION

- 1. Connect the license plate lamp connector.
- 2. Fix the pawl side. And then push the resin clip side.

Replacement

CAUTION:

- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never touch bulb by hand while it is lit or right after being turned off.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc. may affect the performance of lamp. When replacing bulb, be sure to replace it with new one.

LICENSE PLATE LAMP BULB

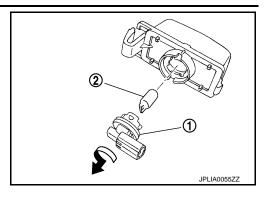
1. Remove the license plate lamp.

EXL-207

LICENSE PLATE LAMP

< REMOVAL AND INSTALLATION >

- 2. Turn the bulb socket (1) counterclockwise and unlock it.
- 3. Remove the bulb (2) from the socket.



SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

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

Bulb Specifications

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Item		Туре	Wattage (W)	
Front combination lamp	Headlamp (HI/LO)	H4	60/55	
	Front turn signal lamp	PY21W (Amber)	21	
	Parking(front side marker) lamp	W5W	5	
Front fog lamp		H8	35	
Side turn signal lamp		WY5W (Amber)	5	
Rear combination lamp	Stop lamp/Tail lamp	W21/5W	21/5	
	Rear turn signal lamp	PY21W	16	
	Back-up lamp	W16W	21	
License plate lamp		W5W	5	
High-mounted stop lamp		W16W		
Rear side marker lamp		W5W	5	

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