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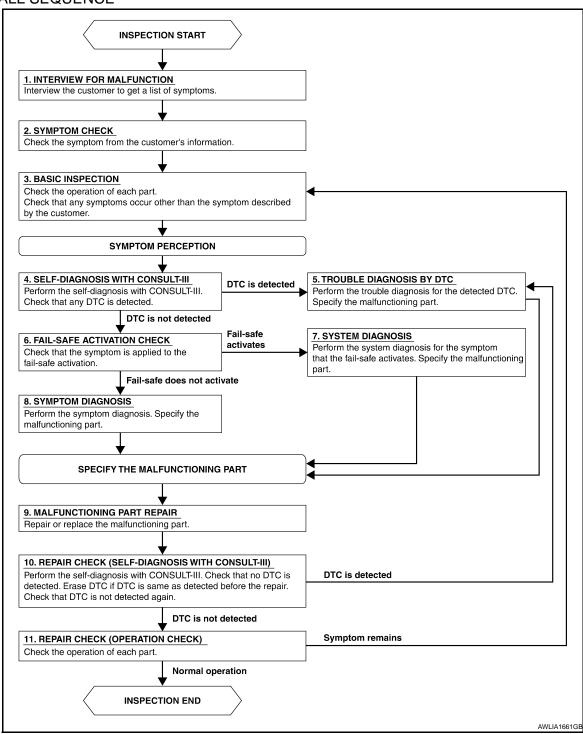
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BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

OVERALL SEQUENCE



DETAILED FLOW

${f 1}$. INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

DIAGNOSIS AND REPAIR WORKFLOW

[XENON TYPE] < BASIC INSPECTION > >> GO TO 2. Α 2.symptom check Verify the symptom from the customer's information. В >> GO TO 3. 3.BASIC INSPECTION Check the operation of each part. Check if any concerns occur other than those mentioned in the customer interview. D >> GO TO 4. 4.SELF-DIAGNOSIS WITH CONSULT-III Е Perform the self diagnosis with CONSULT-III. Check if any DTC is detected. Is any DTC detected? YES >> GO TO 5. NO >> GO TO 6. F TROUBLE DIAGNOSIS BY DTC Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part. >> GO TO 9. 6. FAIL-SAFE ACTIVATION CHECK Н Determine if the customer's concern is related to fail-safe activation. Does the fail-safe activate? >> GO TO 7. YES NO >> GO TO 8. 7.SYSTEM DIAGNOSIS J Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part. K >> GO TO 9. 8.SYMPTOM DIAGNOSIS **EXL** Perform the symptom diagnosis. Specify the malfunctioning part. M >> GO TO 9. 9. MALFUNCTION PART REPAIR Repair or replace the malfunctioning part. Ν >> GO TO 10. 10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III) Perform the self diagnosis with CONSULT-III. Verify that no DTCs are detected. Erase all DTCs which were detected prior to the repair. Perform the self diagnosis with CONSULT-III again. Verify that DTC is not detected again. Is any DTC detected? YES >> GO TO 5. >> GO TO 11. NO 11. REPAIR CHECK (OPERATION CHECK) Check the operation of each part.

DIAGNOSIS AND REPAIR WORKFLOW

[XENON TYPE] < BASIC INSPECTION >

Does it operate normally?

YES >> Inspection End. NO >> GO TO 3.

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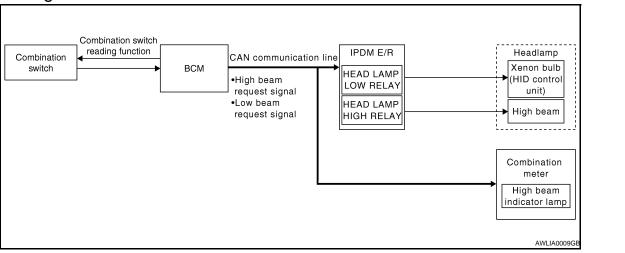
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FUNCTION DIAGNOSIS

HEADLAMP

System Diagram



System Description

INFOID:0000000003898851

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

Component Parts Location

INFOID:0000000003898852



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- 1. IPDM E/R E17, E18, E200, E201
- 2. BCM M16, M17, M18, M19 (view with 3. combination meter removed)
- Combination Switch (lighting and turn signal switch) M28

4. Combination Meter M24

Component Description

INFOID:0000000003898853

XENON HEADLAMP

A Xenon type headlamp is adapted to the low beam headlamps. Xenon bulbs do not use a filament. Instead, they produce light when a high voltage current is passed between two tungsten electrodes through a mixture of Xenon (an inert gas) and certain other metal halides. In addition to added lighting power, electronic control of the power supply gives the headlamps stable quality and tone color.

Following are some of the many advantages of the Xenon-type headlamp.

- The light produced by the headlamps is a white color comparable to sunlight that is easy on the eyes.
- Light output is nearly double that of halogen headlamps, affording increased area of illumination.
- The light features a high relative spectral distribution at wavelengths to which the human eye is most sensitive. This means that even in the rain, more light is reflected back from the road surface toward the vehicle for added visibility.
- Power consumption is approximately 25 percent less than halogen headlamps, reducing battery load.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

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

EXTERIOR LAMP BATTERY SAVER CONTROL

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

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

This setting can be changed by CONSULT-III. Refer to EXL-25, "HEADLAMP: CONSULT-III Function (BCM-HEAD LAMP)".

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DAYTIME RUNNING LIGHT SYSTEM

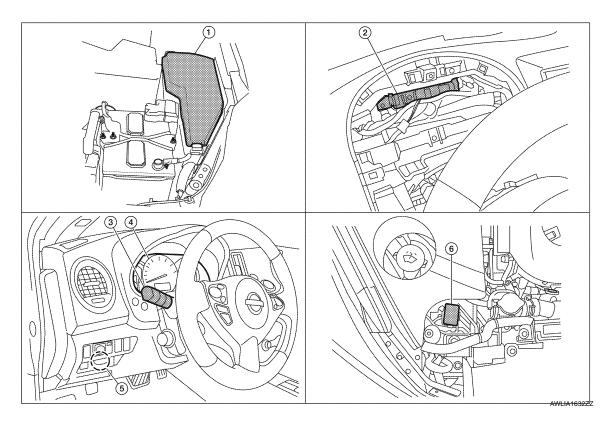
System Diagram

INFOID:0000000003898858 Combination switch reading function Headlamp high Combination CAN communication line IPDM E/R Daytime light request signal Headlamp high RH Daytime CAN communication line **ECM** light всм Engine status signal relay Parking brake switch Combination meter Parking brake switch signal AWLIA0010G

System Description

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

Component Parts Location



- 1. IPDM E/R E17, E18, E200, E201
- 4. Combination meter M24
- 2. BCM M16,M17, M18, M19 (view with combination meter removed)
- 5. Parking brake switch E35
- Combination switch (lighting and turn signal switch) M28
- 6. Daytime light relay E228

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EXL-11

Component Description

INFOID:0000000003898861

After starting the engine with the parking brake released and the lighting switch in the OFF or 1ST position, the headlamp high beam automatically turns on. With the lighting switch in the 2nd position or with autolamps ON, the headlamps function the same as conventional light systems.

OPERATION

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

Engi	ne			V	/ith er	ngine	stopp	ed					V	/ith er	ngine	runni	ng		
Linktin a mitak		OFF 15		1ST 2ND		OFF		1ST		2ND									
Lighting switch		Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р
Headlamp	High beam	-	-	-	-	_	×	×	-	×	•*	•*	×	•*	•*	×	×	-	×
Headiamp	Low beam	-	_	_	-	-	×	×	×	×	-	ı	×	-	ı	×	×	×	×
Tail lamp		-	_	-	×	×	×	×	×	×	-	ı	ı	×	×	×	×	×	×
License and instru	ment illumina-	_	_	_	×	×	×	×	×	×	_	-	-	×	×	×	×	×	×

- Hi: "HIGH BEAM" position
- Lo: "LOW BEAM" position
- P: "FLASH TO PASS" position
- x: Lamp "ON"
- -: Lamp "OFF"
- Eamp dims. (Added functions)
- *: When starting the engine with the parking brake released, the daytime lights will operate.

 When starting the engine with the parking brake applied, the daytime lights will not operate.

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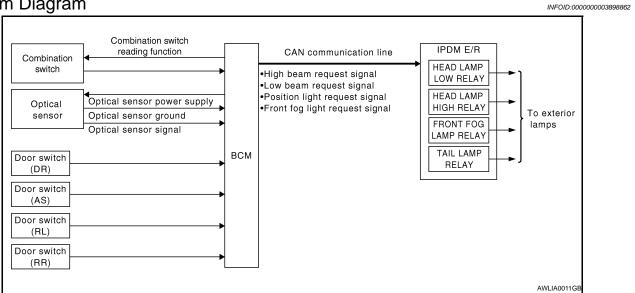
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AUTO LIGHT SYSTEM

System Diagram



System Description

INFOID:0000000003898863

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

OUTLINE

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

When the lighting switch is in AUTO position, it automatically turns ON/OFF the parking, license plate, tail, front fog lamps and headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details of the setting, refer to EXL-25, "HEADLAMP: CONSULT-III Function (BCM-HEAD LAMP)".

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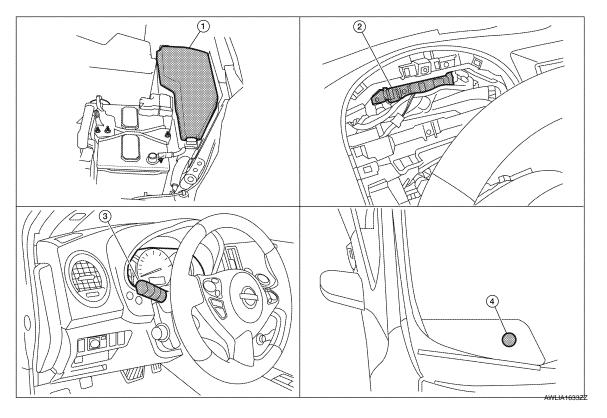
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Component Parts Location

INFOID:0000000003898864



- 1. IPDM E/R E17, E18, E200
- 2. BCM M16, M17, M18, M19, M21 (view 3. with combination meter removed)
 - Combination switch (lighting and turn signal switch) M28

Optical sensor M66

Component Description

INFOID:0000000003898865

AUTO LIGHT OPERATION

Applicable lamps

- Low beam headlamp
- Parking, license plate and tail lamps
- High beam headlamp (with the lighting switch in HIGH BEAM position)
- Front fog lamp (with the lighting switch in front fog lamp ON position)

When the lighting switch is in AUTO position with the ignition switch in ON position, BCM detects the AUTO LIGHT (ON) by BCM combination switch reading function. BCM turns automatically ON/OFF the applicable lamps according to ambient brightness.

NOTE:

Timing for when lamps turn ON/OFF can be changed by the function setting of CONSULT-III. Refer to <u>EXL-25</u>. "HEADLAMP: CONSULT-III Function (BCM-HEAD LAMP)".

[XENON TYPE]

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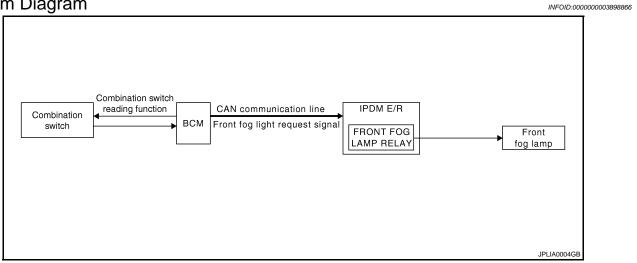
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FRONT FOG LAMP

System Diagram



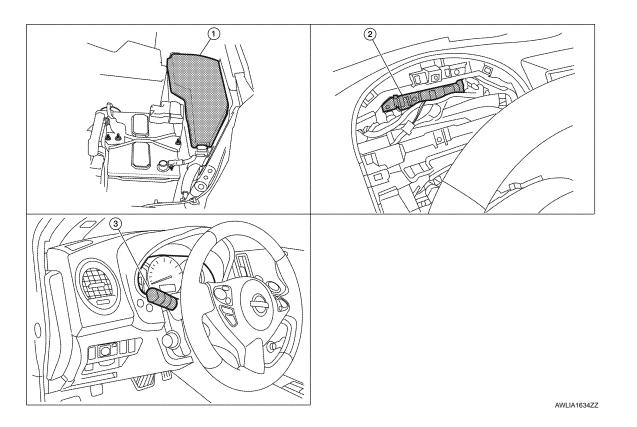
System Description

INFOID:0000000003898867

- BCM (Body Control Module) controls front fog lamp operation.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates front fog lamp according to CAN communication signals from BCM.
- Combination meter operates front fog lamp indicator according to inputs via the CAN communication lines.

Component Parts Location

INFOID:0000000003898868



1. IPDM E/R E17, E18, E200

- 2. BCM M16, M17, M18, M19 (view with 3. combination meter removed)
- Combination switch (lighting and turn signal switch) M28

EXL-15

FRONT FOG LAMP

< FUNCTION DIAGNOSIS >

[XENON TYPE]

Component Description

INFOID:0000000003898869

FRONT FOG LAMP OPERATION

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

The combination meter also receives a front fog lamp request ON signal through the CAN communication lines at which time it turns the front fog indicator ON.

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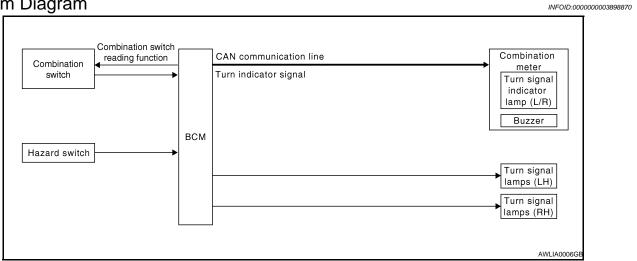
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INFOID:0000000003898872

TURN SIGNAL AND HAZARD WARNING LAMPS

System Diagram



System Description

• BCM (Body Control Module) controls turn signal lamp (RH and LH) and hazard warning lamp operation.

 Combination meter operates turn signal indicator (RH and LH) according to CAN communication signals from BCM.

Component Parts Location

AMILA 1833ZZ

BCM M16, M17, M18, M19 (view with 2. Combination switch (lighting and turn 3. Combination meter M24 combination meter removed)
 signal switch) M28

4. Hazard switch M54

EXL-17

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TURN SIGNAL AND HAZARD WARNING LAMPS

< FUNCTION DIAGNOSIS >

[XENON TYPE]

Component Description

INFOID:0000000003898873

TURN SIGNAL OPERATION

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

HAZARD LAMP OPERATION

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

REMOTE KEYLESS ENTRY OPERATION

The remote keyless entry receiver transmits Intelligent Key signal to BCM, then BCM controls hazard lamps. Refer to SEC-18, "System Description".

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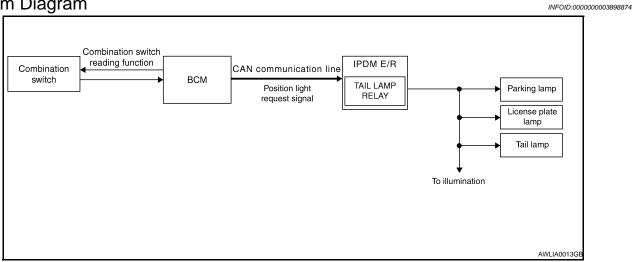
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PARKING, LICENSE PLATE AND TAIL LAMPS

System Diagram



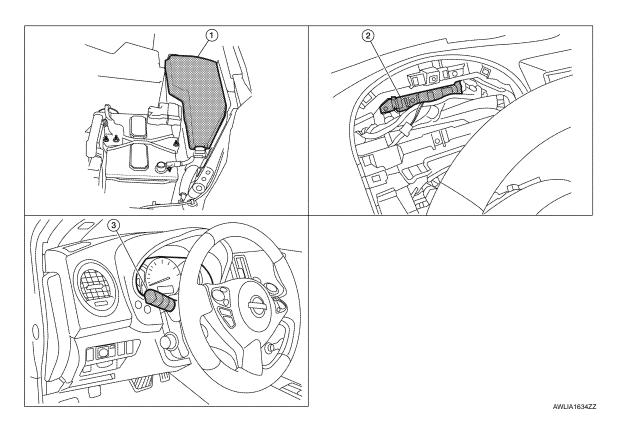
System Description

INFOID:0000000003898875

- BCM (Body Control Module) controls parking, license plate and tail lamps operation.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates parking, license plate and tail lamps according to CAN communication signals from BCM.

Component Parts Location

INFOID:0000000003898876



IPDM E/R E17, E18, E201

- 2. BCM M16, M17, M18, M19 (view with 3. combination meter removed)
- Combination switch (lighting and turn signal switch) M28

PARKING, LICENSE PLATE AND TAIL LAMPS

< FUNCTION DIAGNOSIS >

[XENON TYPE]

Component Description

INFOID:0000000003898877

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

EXTERIOR LAMP BATTERY SAVER CONTROL

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

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

This setting can be changed by CONSULT-III. Refer to <u>EXL-25</u>, "<u>HEADLAMP</u>: <u>CONSULT-III Function</u> (<u>BCM-HEADLAMP</u>)".

[XENON TYPE]

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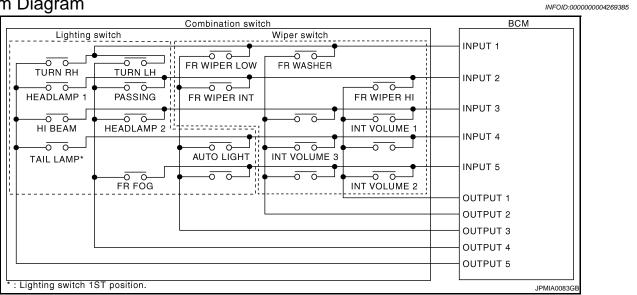
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COMBINATION SWITCH READING SYSTEM

System Diagram



System Description

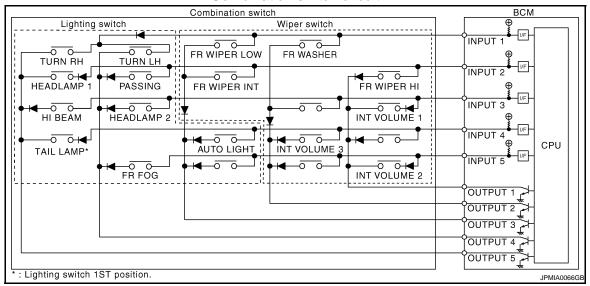
INFOID:0000000004269386

OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM is a combination of 5 output terminals (OUTPUT 1 5) and 5 input terminals (INPUT 1 5). It reads a
 maximum of 20 switch status.

COMBINATION SWITCH MATRIX

Combination switch circuit



Combination switch INPUT-OUTPUT system list

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 1	_	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
INPUT 2	FR WIPER HI	_	FR WIPER INT	PASSING	HEADLAMP 1
INPUT 3	INT VOLUME 1	_	_	HEADLAMP 2	HI BEAM

EXL-21

[XENON TYPE]

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 4	_	INT VOLUME 3	AUTO LIGHT	_	TAIL LAMP
INPUT 5	INT VOLUME 2	_	_	FR FOG	_

NOTE:

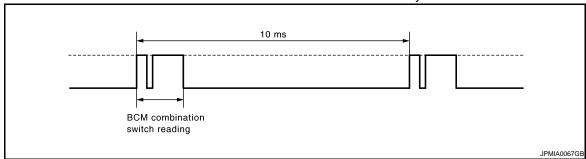
Headlamp has a dual system switch.

< FUNCTION DIAGNOSIS >

COMBINATION SWITCH READING FUNCTION

Description

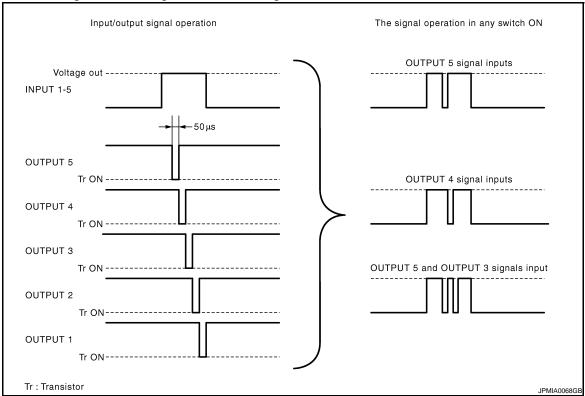
BCM reads the status of the combination switch at 10ms interval normally.



NOTE:

BCM reads the status of the combination switch at 60ms interval when BCM is controlled at low power consumption mode.

- BCM operates as follows and judges the status of the combination switch.
- INPUT 1 5 outputs the voltage waveforms of 5 systems simultaneously.
- It operates the transistor on OUTPUT side in the following order: OUTPUT $5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$.
- The voltage waveform of INPUT corresponding to the formed circuit changes according to the operation of the transistor on OUTPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.



Operation Example

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

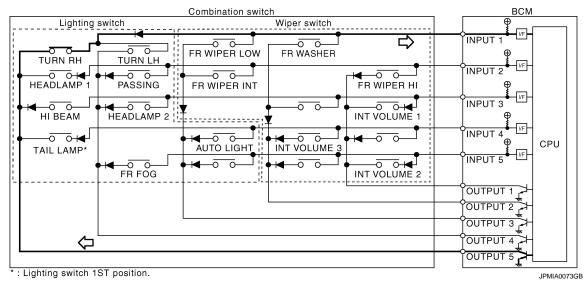
Example 1: When a switch (TURN RH switch) is turned ON

COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

[XENON TYPE]

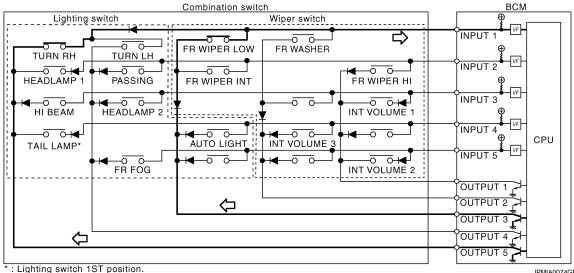
• The circuit between INPUT 1 and OUTPUT 5 is formed when the TURN RH switch is turned ON.



- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.
- Example 2: When some switches (TURN RH switch, FR WIPER LOW switch) are turned ON

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

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



- . Lighting switch 131 position.
- BCM detects the combination switch status signal "1CE" when the signals of OUTPUT 3 and OUTPUT 5 are input to INPUT 1.
- BCM judges that the TURN RH switch and FR WIPER LOW switch are ON when the signal "1CE" is N detected.

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

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COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

[XENON TYPE]

Wiper intermittent dial posi-	Intermittent oper-							
tion	ation delay inter- val	INT VOLUME 1 switch	INT VOLUME 2 switch	INT VOLUME 3 switch				
1	Short	ON	ON	ON				
2	↑	ON	ON	OFF				
3		ON	OFF	OFF				
4		OFF	OFF	OFF				
5		OFF	OFF	ON				
6	\	OFF	ON	ON				
7	Long	OFF	ON	OFF				

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[XENON TYPE]

DIAGNOSIS SYSTEM (BCM)

HEADLAMP

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

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WORK SUPPORT

Service item	Setting item		Setting					
BATTERY SAVER SET	ON*	With the exterior la	With the exterior lamp battery saver function					
BATTERT SAVER SET	OFF	Without the exterior	or lamp battery saver function					
	MODE 1	45 sec.						
	MODE 2	Without the function						
ILL DELAY SET	MODE 3	30 sec.						
	MODE 4	60 sec.	Sets delay timer function timer operation time (All doors closed)					
	MODE 5	90 sec.	(All doors closed)					
	MODE 6	120 sec.						
	MODE 7	150 sec.						
	MODE 8	180 sec.						
	MODE 1*	1* Normal						
CUSTOM A/LIGHT SET-	MODE 2	More sensitive setting than normal setting (Turns ON earlier than normal operation.)						
TING	MODE 3	More sensitive set	ting than MODE 2 (Turns ON earlier than MODE 2.)					
	MODE 4	Less sensitive setting than normal setting (Turns ON later than normal operation.)						

^{*:} Initial setting

DATA MONITOR

Monitor item [Unit]	Description
PUSH SW [ON/OFF]	The switch status input from push-button ignition switch
ENGINE STATE [STOP/STALL/CRANK/RUN]	The engine status received from ECM with CAN communication
VEH SPEED 1 [km/h]	The value of the vehicle speed received from combination meter with CAN communication
KEY SW-SLOT [ON/OFF]	Key switch status input from key slot

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< FUNCTION DIAGNOSIS >

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 funct				
HEAD LAMP SW2 [ON/OFF]					
PASSING SW [ON/OFF]					
AUTO LIGHT SW [ON/OFF]					
FR FOG SW [ON/OFF]					
DOOR SW-DR [ON/OFF]	The switch status input from front door switch LH				
DOOR SW-AS [ON/OFF]	The switch status input from front door switch RH				
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH				
DOOR SW-RL [ON/OFF]	The switch status input from rear door switch LH				
DOOR SW-BK [*] [ON/OFF]	_				
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor				

^{*:} The item is indicated, not monitored.

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	ON	Transmits the Position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	OFF	Stops the tail lamp request signal transmission.
	Н	Transmits the high beam request signal with CAN communication to turn the headlamp (HI)
HEAD LAMP	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 communication to turn the front fog lamp ON.
	OFF	Stops the front fog lights request signal transmission.
DAVTIME DUNINING LIGHT*	ON	
DAYTIME RUNNING LIGHT*	OFF	_
	RH	
CORNERING LAMP*	LH	_
	OFF	

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[XENON TYPE]

Test item	Operation	Description
ILL DIM SIGNAL*	ON	
ILL DIW SIGNAL	OFF	
RR FOG LAMP*	ON	
IXI OG LAWIF	OFF	

^{*:} The item is indicated, not monitored.

FLASHER

FLASHER: CONSULT-III Function (BCM-FLASHER)

INFOID:0000000004269388

WORK SUPPORT

Service item	Setting item	Setting		
	LOCK ONLY*	Activated when locking.		
HAZARD ANSWER	UNLK ONLY	Activated when unlocking.	Sets the hazard warning lamp answer back activation when the door is lock/unlock with the request switch or	
BACK	LOCK/UNLK	Activated when locking/ unlocking	the key fob.	
	OFF	Not activated		

^{*:} Initial setting

DATA MONITOR

Monitor item [Unit]	Description	
REQ SW-DR [ON/OFF]	The switch status input from the request switch (driver side)	
REQ SW-AS [ON/OFF]	The switch status input from the request switch (passenger side)	
PUSH SW [ON/OFF]	The switch status input from the push-button ignition switch	
TURN SIGNAL R [ON/OFF]	Each switch condition that BCM judges from the combination switch reading fu	
TURN SIGNAL L [ON/OFF]	- Each switch condition that BOW judges from the combination switch reading function	
HAZARD SW [ON/OFF]	The switch status input from the hazard warning switch	
RKE LOCK [ON/OFF]	The lock signal status received from the keyless receiver	
RKE UNLOCK [ON/OFF]	The unock signal status received from the keyless receiver	
RKE PANIC [ON/OFF]	The panic alarm signal status received from the keyless receiver	

ACTIVE TEST

Test item	Operation	Description
	RH	Blinks right turn signal lamp.
FLASHER	LH	Blinks left turn signal lamp.
	OFF	Turns turn signal lamps (right and left) OFF.

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DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[XENON TYPE]

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

INFOID:0000000004269389

DATA MONITOR

Monitor item [UNIT]	Description
FR WIPER HI [OFF/ON]	Displays the status of the FR WIPER HI switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER LOW [OFF/ON]	Displays the status of the FR WIPER LOW switch in combination switch judged by BCM with the combination switch reading function.
FR WASHER SW [OFF/ON]	Displays the status of the FR WASHER switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER INT [OFF/ON]	Displays the status of the FR WIPER INT switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER STOP [OFF/ON]	Displays the status of the front wiper stop position signal received from IPDM E/R via CAN communication.
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by BCM with the combination switch reading function
TURN SIGNAL R [OFF/ON]	Displays the status of the TURN RH switch in combination switch judged by BCM with the combination switch reading function.
TURN SIGNAL L [OFF/ON]	Displays the status of the TURN LH switch in combination switch judged by BCM with the combination switch reading function.
TAIL LAMP SW [OFF/ON]	Displays the status of the TAIL LAMP switch in combination switch judged by BCM with the combination switch reading function.
HI BEAM SW [OFF/ON]	Displays the status of the HI BEAM switch in combination switch judged by BCM with the combination switch reading function.
HEAD LAMP SW 1 [OFF/ON]	Displays the status of the HEADLAMP 1 switch in combination switch judged by BCM with the combination switch reading function.
HEAD LAMP SW 2 [OFF/ON]	Displays the status of the HEADLAMP 2 switch in combination switch judged by BCM with the combination switch reading function.
PASSING SW [OFF/ON]	Displays the status of the PASSING switch in combination switch judged by BCM with the combination switch reading function.
AUTO LIGHT SW [OFF/ON]	Displays the status of the AUTO LIGHT switch in combination switch judged by BCM with the combination switch reading function.
FR FOG SW [OFF/ON]	Displays the status of the FR FOG switch in combination switch judged by BCM with the combination switch reading function.

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

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AUTO ACTIVE TEST

Description

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

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Tail lamps
- Front fog lamps (if equipped)
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- · Cooling fans

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 ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.

CAUTION:

Close front door RH.

- 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 ignition switch OFF.

CAUTION:

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-68</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
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	Parking lamps License plate lamps Tail lamps Front fog lamps (if equipped)	10 seconds
4	Headlamps	LO ⇔ HI 5 times
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6*	Cooling fans	MID for 5 seconds → HI for 5 seconds

^{*:} Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

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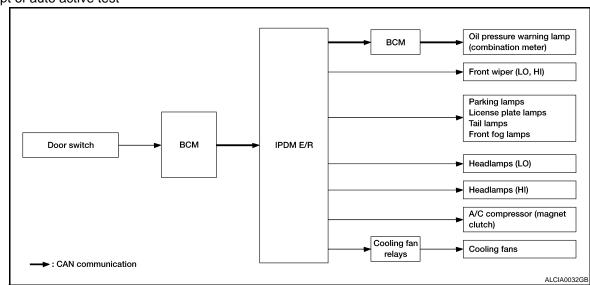
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Concept of auto active test



- 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
Any of the following components do not operate Parking lamps License plate lamps Tail lamps Front fog lamps (if equipped) Headlamp (HI, LO) Front wiper	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 operate?	YES	Combination meter signal input circuit CAN communication signal between combination meter and ECM CAN communication signal between ECM and IPDM E/R
		NO	Magnet clutch Harness or connector between IPDM E/R and magnet clutch IPDM E/R

DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[XENON TYPE]

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Symptom	Inspection contents		Possible cause
	Perform auto active test. Does the oil pressure warning lamp blink?	YES	Harness or connector between IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
Oil pressure warning lamp does not operate		NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and combination meter Combination meter
	Perform auto active test. Does the cooling fan operate?	YES	ECM signal input circuit CAN communication signal between ECM and IPDM E/R
Cooling fan does not operate		NO	Cooling fan Harness or connector between cooling fan and cooling fan relays Cooling fan relays Harness or connector between IPDM E/R and cooling fan relays IPDM E/R

CONSULT - III Function (IPDM E/R)

INFOID:0000000004269414

APPLICATION ITEM

CONSULT-III 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

Refer to EXL-323, "DTC Index".

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [1,2,3,4]	×	Displays the value of the cooling fan speed 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.

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[XENON TYPE]

Monitor Item [Unit]	MAIN SIG- NALS	Description	
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.	
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 CVT shift position 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 /INHI]		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 device (detention switch) judged by IPDM E/R.	
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.	
S/L STATE [LOCK/UNLK/UNKWN]		Displays the status of the electronic steering column lock judged by IPDM E/R.	
DTRL REQ [Off]		NOTE: This item is displayed, but cannot be monitored.	
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.	
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.	
CRNRNG LMP REQ [Off]		NOTE: This item is displayed, but cannot be monitored.	
HOOD SW [Off/On]		NOTE: This item is displayed, but cannot be monitored.	
HL WASHER REQ [Off/On]		NOTE: This item is displayed, but cannot be monitored.	

ACTIVE TEST

Test item

Test item	Operation	Description	
Off			
CORNERING LAMP	LH	NOTE: This item is displayed, but cannot be monitored.	
	RH		
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.	

DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[XENON TYPE]

Test item	Operation	Description	
	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	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.	
MOTOR FAN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.	
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module	
	Off	OFF	
EXTERNAL LAMPS	TAIL	Operates the tail lamp relay.	
	Lo	Operates the headlamp low relay.	
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.	
	Fog	Operates the front fog lamp relay.	
HEAD LAMP WASHER	ON	NOTE: This item is displayed, but cannot be monitored.	

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COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000004269390

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.
1		Н
11	Battery power supply	10
24		7

Is the fuse or fusible link blown?

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

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

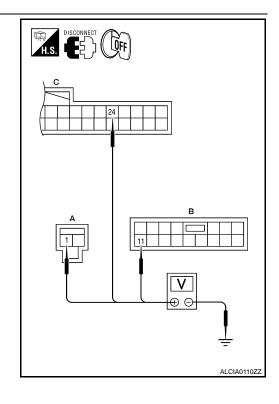
- 1. Turn ignition switch OFF.
- 2. Disconnect BCM.
- 3. Check voltage between BCM harness connector and ground.

(+)	(-)	Voltage
В	СМ		(Approx.)
Connector	Terminal		
M16 (A)	1	Ground	
M17 (B)	11		Battery voltage
M18 (C)	24		

Is the measurement normal?

YES >> GO TO 3

NO >> Repair or replace harness.



3. CHECK GROUND CIRCUIT

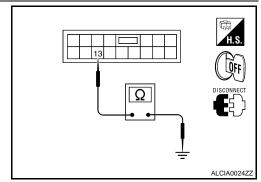
Check continuity between BCM harness connector and ground.

ВС	ВСМ		Continuity	
Connector Terminal		Ground	Continuity	
M17	13		Yes	

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



BCM (BODY CONTROL MODULE): Special Repair Requirement

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1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to BCS-6, "CONFIGURATION (BCM): Special Repair Requirement".

>> Work End.

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

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
1, 2		B, D
	Battery power supply	42
_		43

Is the fuse blown?

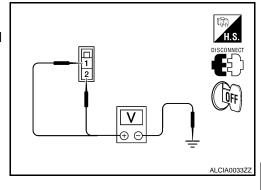
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

$2.\,$ CHECK POWER SUPPLY CIRCUIT

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

(+) IPDM E/R		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
E16	1	Ground	Battery voltage	
L10	2		Ballery Vollage	



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

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

IPDM E/R			Continuity	
Connector	Terminal	Ground	Continuity	
A: E18	12	Ground	Yes	
B: E17	41		ies	

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Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.

[XENON TYPE]

HEADLAMP (HI) CIRCUIT

Description INFOID:000000003898890

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp high relay based on inputs from the BCM over the CAN communication lines. When the headlamp high relay is energized, power flows through fuses 48 and 49, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp high beam.

Component Function Check

INFOID:0000000003898891

1. CHECK HEADLAMP (HI) OPERATION

WITHOUT CONTULT-III

- 1. Start IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. Check that the headlamp switches to the high beam.

NOTE:

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

PCONSULT-III

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

HI: Headlamp switches to the high beam.

OFF : Headlamp OFF

Does the headlamp switch to the high beam?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-36, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003898892

1. CHECK HEADLAMP (HI) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	48	10A
Headlamp HI (RH)	IPDM E/R	49	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

2.CHECK HEADLAMP (HI) OUTPUT VOLTAGE

(P)CONSULT-III ACTIVE TEST

- Turn the ignition switch OFF.
- Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

HEADLAMP (HI) CIRCUIT

< COMPONENT DIAGNOSIS >

[XENON TYPE]

With EXTERNAL LAMP ON, check the voltage between the combination lamp connector and ground.

(+)			(-)	Voltage	
Co	Connector Terminal		(-)	voitage	
RH	E222	3	Ground	Pattony voltago	
LH	E213	3	Giodila	Battery voltage	

DISCONNECT TIS. AWLIA1641ZZ

Is battery voltage present?

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

3.check headlamp (hi) circuit for open

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

	АВ				Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E200	89	E222	3	Yes
LH	E200	90	E213	3	165

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

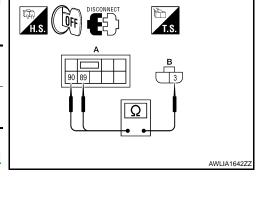
Check continuity between the front combination lamp harness connector terminal and ground.

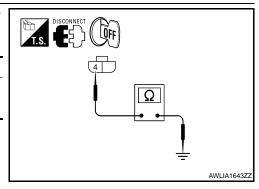
Coni	nector	Terminal	_	Continuity
RH	E222	4	Ground	Yes
LH	E213	4	Ground	103

Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.





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[XENON TYPE]

HEADLAMP (LO) CIRCUIT

Description INFOID:0000000003898898

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM over the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 51 and 52, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp low beam.

Component Function Check

INFOID:0000000003898897

1. CHECK HEADLAMP (LO) OPERATION

NWITHOUT CONSULT-III

- 1. Start IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. Check that the headlamp is turned ON.

NOTE:

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

PCONSULT-III

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

LO : Headlamp ON OFF : Headlamp OFF

Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to EXL-38, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003898898

1. CHECK HEADLAMP (LO) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (LH)	IPDM E/R	51	15A
Headlamp LO (RH)	IPDM E/R	52	15A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

(P)CONSULT-III

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

HEADLAMP (LO) CIRCUIT

< COMPONENT DIAGNOSIS >

[XENON TYPE]

5. With EXTERNAL LAMPS ON, check the voltage between the combination lamp connector and ground.

(+)			(-)	Voltage	
Co	nnector	ctor Terminal		voltage	
RH	E232	1	Ground	Pottony voltago	
LH	E231	1	Giodila	Battery voltage	

DISCONNECT ON T.S. 1 AWLIA0568ZZ

Is battery voltage present?

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

3.check headlamp (lo) circuit for open

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

Α			В	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
RH	E200	83	E232	1	Yes
LH	E200	84	E231	1	165

Does continuity exist?

YES >> Replace the IPDM E/R. Refer to <u>PCS-40</u>, "Removal and Installation".

NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

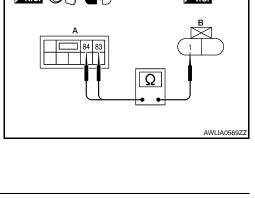
Check continuity between the front combination lamp harness connector terminal and ground.

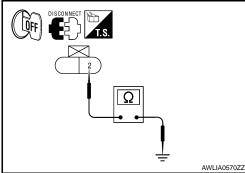
Connector		Terminal	_	Continuity
RH	E232	2	Ground	Yes
LH	E231	2	Giodila	

Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.





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FRONT FOG LAMP CIRCUIT

Description INFOID:000000003898898

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

Component Function Check

INFOID:0000000003898900

1. CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT-III

- 1. Activate IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

(P)CONSULT-III

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. While operating the test item, 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-40, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003898901

1. CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	53	15A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

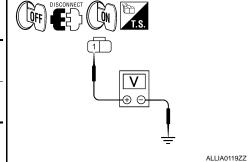
NO >> GO TO 2.

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

@CONSULT-III

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

(+)			(-)	Voltage	
Co	nnector	Terminal		voltage	
LH	E214	1	Ground	Battery voltage	
RH	E227	1	Ground Battery voi		



Is battery voltage present?

YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.

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< COMPONENT DIAGNOSIS >

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

	Α		E	В		
Conr	nector	Terminal	Connector	Terminal	Continuity	
RH	E200	86	E227	1	Yes	
LH	L200	87	E214	1	163	

Does continuity exist?

YES >> Replace the IPDM E/R. Refer to <u>PCS-40, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

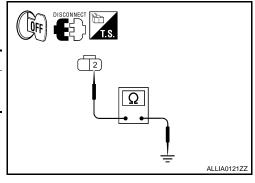
Check continuity between the front fog lamp harness connector terminal and ground.

Со	nnector	Terminal	_	Continuity
RH	E227	2	Ground	Yes
LH	E214	2	Glound	163

Does continuity exist?

YES >> Inspect the fog lamp bulb.

NO >> Repair the harness.



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PARKING LAMP CIRCUIT

Description INFOID:000000003898902

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM over the CAN communication lines. When the tail lamp relay is energized, power flows through fuses 46 and 47, located in the IPDM E/R. Power then flows to the front and rear combination lamps.

Component Function Check

INFOID:0000000003898903

1. CHECK PARKING LAMP OPERATION

WITHOUT CONSULT-III

- 1. Activate IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. Check that the parking lamp is turned ON.

(P)CONSULT-III

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. While operating the test item, 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-42, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000003898904

1. CHECK PARKING LAMP FUSES

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

Unit	Location	Fuse No.	Capacity
Parking lamps (front)	IPDM E/R	46	10A
Parking lamps (rear)	IPDM E/R	47	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

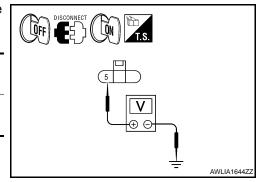
NO >> GO TO 2.

2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

(P)CONSULT-III

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

(+)			(–)	Voltage	
Connector Terminal		(-)			
LH	E217	F	Ground	Battery voltage	
RH	E224	5	Gloulia	Battery voltage	



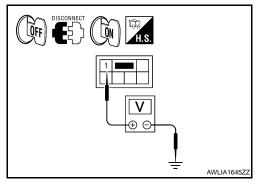
PARKING LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

[XENON TYPE]

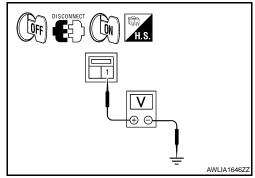
With EXTERNAL LAMPS ON, check the voltage between the rear combination lamp connector and ground.

(+)			(-)	Voltage	
Connector Terminal		(-)			
LH	B30	1	Ground	Battery voltage	
RH	B45		Glound		



7. With EXTERNAL LAMP ON, check the voltage between the license plate lamp connector and ground.

(+)			(-)	Voltage	
Connector Terminal		(-)			
LH	T6	1	Ground	Battery voltage	
RH	T8	I	Gloulia	Dattery Voltage	



Is battery voltage present?

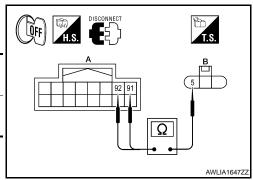
YES >> GO TO 4.

NO >> GO TO 3.

3.check parking lamp circuit (open)

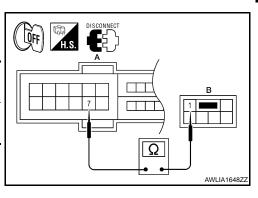
- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between the IPDM E/R harness connector (A) and the front combination lamp harness connector (B).

А				Continuity	
Cor	nector	Terminal	Connector	Terminal	Continuity
LH	E201	92	E217	5	Yes
RH	LZUI	91	E224	5	163



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

А				Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
LH	E10	7	B30	1	Voc
RH	E18	,	7 B45	1	Yes



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

А			E	Continuity	
Cor	nnector	Terminal	Connector	Terminal	Continuity
LH	E18	7	T6	1	Yes
RH	E10	,	Т8	I	ies

Does continuity exist?

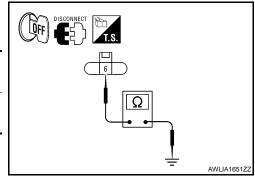
YES >> Replace the IPDM E/R. Refer to <u>PCS-40, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

4. CHECK PARKING LAMP GROUND CIRCUIT

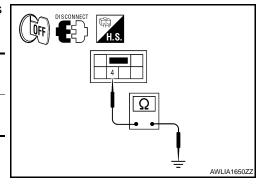
1. Check continuity between the front combination lamp harness connector terminal and ground.

(+)			(-)	Continuity	
Con	Connector Terminal		(-)	Continuity	
LH	E217	6	Ground	Yes	
RH	E224	0	Giouria	165	



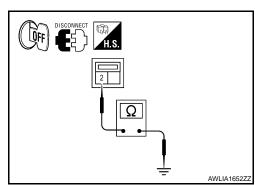
2. Check continuity between the rear combination lamp harness connector terminal and ground.

(+)			()	Continuity
Connector Terminal		(-)	Continuity	
LH	B30	4	Ground	Yes
RH	B45	4	Ground	165



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

(+)			(-)	Continuity	
Con	Connector Terminal		(-)	Continuity	
LH	T6	2	Ground	Yes	
RH	T8	2	Giouna	res	



Does continuity exist?

YES >> Inspect the parking lamp bulb.

NO >> Repair the harness.

[XENON TYPE]

INFOID:0000000003898906

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TURN SIGNAL LAMP CIRCUIT

Description

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

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

NOTE:

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

Component Function Check

1. CHECK TURN SIGNAL LAMP

(P)CONSULT-III

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

2. While operating the test item, check that the turn signal lamp blinks.

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

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-45, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK TURN SIGNAL LAMP BULB

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

Is the bulb OK?

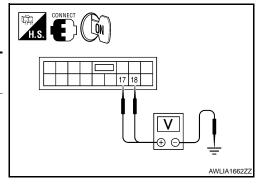
YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

While operating the turn signal switch, check the voltage between the BCM harness connector and the ground.

	(+) Connector Terminal		(-)	Voltage	
Con			(-)		
RH	M17	17		(V) 15 10 10 10 10 10 10 10 10 10 10 10 10 10 1	
LH	M17	18	Ground	5 0 1 s	
				PKID0926E	



Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3. CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.

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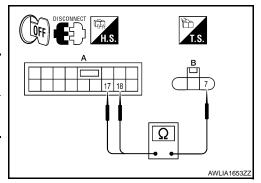
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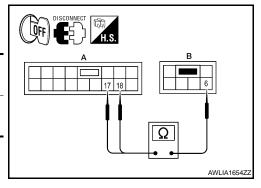
- 2. Disconnect BCM connector, front combination lamp connector, door mirror connector (with turn signal in mirror) and rear combination lamp connector.
- 3. Check continuity between the BCM harness connector (A) and the front combination lamp connector (B).

А			В	Continuity	
Connector		Terminal	Connector	Terminal	
LH	N/17	18	E217	7	Yes
RH	M17	17	E224	,	165



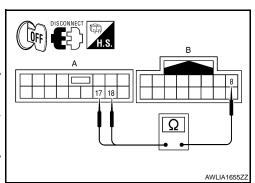
4. Check continuity between the BCM harness connector (A) and the rear combination lamp harness connector (B).

A			Е	Continuity	
Cor	Connector Terminal		Connector	Terminal	Continuity
LH	M17	18	B30	6	Yes
RH	IVIII	17	B45	6	165



 Check continuity between the BCM harness connector (A) and the door mirror connector (B) (if equipped with turn signal in mirror).

	,	A	В		Continuity
Cor	nector	Terminal	Connector	Terminal	Continuity
LH	M17	18	D4	8	Yes
RH	IVIII	17	D107	O	163



Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and ground.

Conr	nector	Terminal	_	Continuity
LH	M17	18	Ground	No
RH	IVI17	17	Ground	140

DISCONNECT H.S. ALLIA0129ZZ

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

TURN SIGNAL LAMP CIRCUIT

< COMPONENT DIAGNOSIS >

[XENON TYPE]

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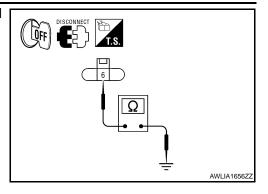
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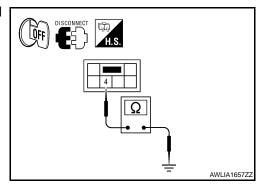
Check continuity between the front combination lamp and ground.

Co	nnector	Terminal	_	Continuity
LH	E217	6	Ground	Yes
RH	E224	0	Ground	163



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

Co	nnector	Terminal	_	Continuity
LH	B30	4	Ground	Yes
RH	B45		Glound	163



3. Check continuity between the door mirror and ground (if equipped with turn signal in mirror).

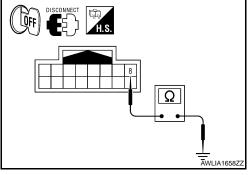
Connector		Terminal	_	Continuity
LH	D4	8	Ground	Yes
RH	D107		Giodila	165



Does continuity exist?

YES >> Replace the front combination lamp, the rear combination lamp or door mirror (if equipped with turn signal in

NO >> Repair the harnesses or connectors.



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OPTICAL SENSOR

OPTICAL SENSOR

Description INFOID:000000003898908

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

Component Function Check

INFOID:0000000003898909

1. CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

(P)CONSULT-III

- Turn the ignition switch ON.
- Select "OPTICAL SENSOR" of BCM (HEAD LAMP) DATA MONITOR item.
- 3. Turn the lighting switch to AUTO.
- 4. While the auto light system is operating, check the monitor status.

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

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

Is the item status normal?

YES >> Optical sensor is normal.

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

Diagnosis Procedure

INFOID:0000000003898910

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

- 1. Turn the ignition switch ON.
- 2. Turn the lighting switch to AUTO.
- Check the voltage between the optical sensor harness connector and ground.

(-	+)	(-)	Voltage	
Connector	Connector Terminal		voltage	
M66	1	Ground	5V	

CONNECT H.S. ALLIA0130ZZ

Is the voltage reading as specified?

YES >> GO TO 2. NO >> GO TO 4.

2. CHECK OPTICAL SENSOR GROUND INPUT

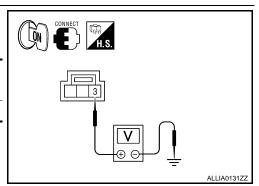
Check the voltage between the optical sensor harness connector and ground.

(+)	(-)	Voltage	
Connector	Connector Terminal		voltage	
M66	3	Ground	Less than 0.2V	

Is the voltage reading as specified?

YES >> GO TO 3. NO >> GO TO 6.

3. CHECK OPTICAL SENSOR SIGNAL OUTPUT

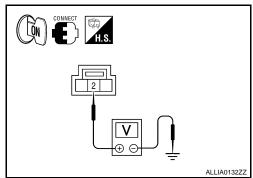


< COMPONENT DIAGNOSIS >

With the auto light system operating, check voltage between the optical sensor harness connector and ground.

(+)		(-)	Condition	Voltage
Connector	Connector Terminal		Condition	voilage
M66	2	Ground	When illuminating	3.1V or more *
			When shutting off light	0.6V or less

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



Is the voltage reading as specified?

YES >> GO TO 7.

NO >> Replace the optical sensor. Refer to EXL-169, "Removal and Installation".

f 4.CHECK OPTICAL SENSOR POWER SUPPLY FOR OPEN CIRCUIT

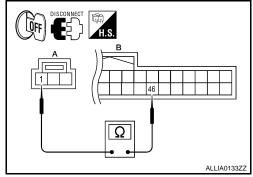
- 1. Turn the ignition switch OFF.
- 2. Disconnect the optical sensor connector and BCM connector.
- 3. Check continuity between the optical sensor harness connector and the BCM harness connector.

-	Α		В		
Connector	Terminal	Connector Terminal		Continuity	
M66	1	M18	46	Yes	

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.



5. CHECK OPTICAL SENSOR POWER SUPPLY FOR SHORT CIRCUIT

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

Connector	Terminal	_	Continuity
M66	1	Ground	No

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM. Refer to <u>BCS-87, "Removal and Installation"</u>

6.check optical sensor ground for open circuit

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

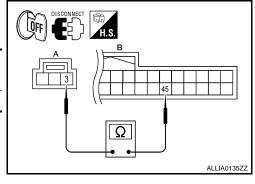
А			Continuity	
Connector	Terminal	Connector Terminal		Continuity
M66	3	M18	45	Yes

Does continuity exist?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL FOR OPEN CIRCUIT



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< COMPONENT DIAGNOSIS >

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

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M66	2	M18	21	Yes

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

$8.\mathsf{CHECK}$ OPTICAL SENSOR SIGNAL FOR SHORT CIRCUIT

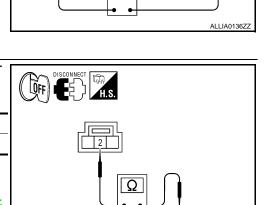
Check the continuity between the optical sensor harness connector and ground.

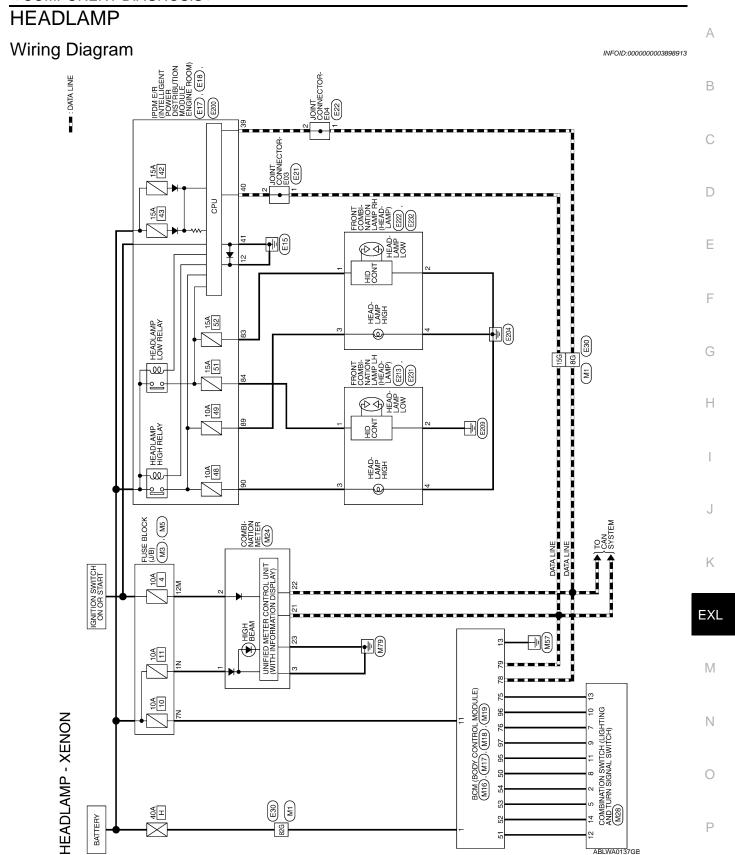
Connector	Terminal	_	Continuity
M66	2	Ground	No

Does continuity exist?

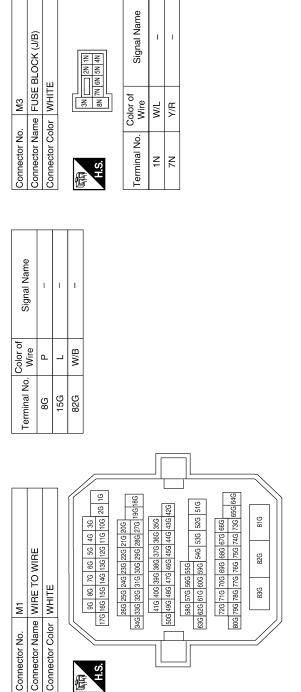
YES >> Repair the harnesses or connectors.

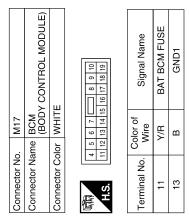
NO >> Replace BCM. Refer to BCS-87, "Removal and Installa-

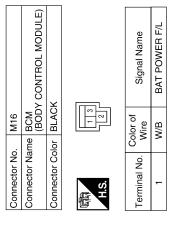


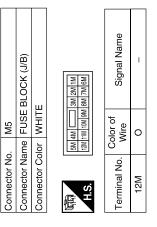


HEADLAMP CONNECTORS - XENON









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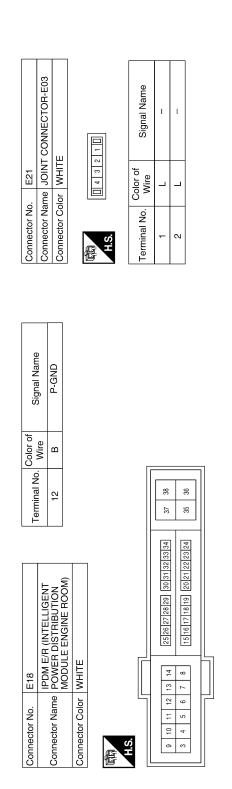
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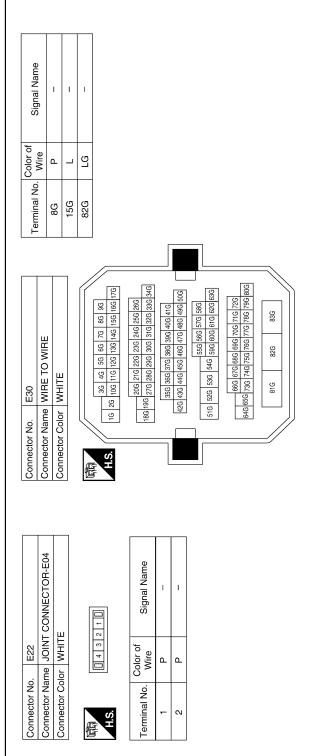
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					40										
	Connector Name COMBINATION METER	ı			10 11 12 13 14 15 16 17 18 19 30 31 32 33 34 35 36 37 38 39	:	Signal Name	BAT	IGN	GND (POWER)	(III) GNB	CAN-H	- NAC	CAIV-L	GND (CIRCUIT)
M24	COMBI				26 27 28 29	Color of	Wire	M/L	c	, a	n a	- د	ا د	L	<u>В</u>
Connector No.	Connector Name			_	1 2 3 4 5 6 21 22 23 24 25 26	:	Terminal No. Wire	-	0	ı m	0 <	7 6	- 2	77	23
					61 60 81 80										
	BCM (BODY CONTROL MODULE)	>			70 69 68 67 66 65 64 63 62 6 90 89 88 87 86 85 84 83 82 8		Signal Name		COMBI SW IN 5	COMBI SW IN 3	CAN-L	CAN-H	COMBI SW IN 1	COMBI SW IN 4	COMBI CWIN 2
M19	BCM (BOD)	BLACK			74 73 72 71 7		Color of	wire	R∕≺	R/G	۵	٦	R/W	P/B	0/0
Connector No.	Connector Name BCM (BOD	Connector Color BLACK	匮	H.S.	79 78 77 76 75 74 73 72 71 99 98 97 96 95 94 93 92 91		Terminal No.	4	75	92	78	62	95	96	20
						1									
	BCM (BODY CONTROL MODULE)	N			30 29 28 27 26 25 24 23 22 21 20 50 49 48 47 46 45 44 43 42 41 40 40		č	Signal Name	COMBI SW OUT 5	COMBI SW OUT 1	COMBI SW OUT 2	COMBLSW OLIT 3	COMBI SW OILT 4		
M18	e BCM (BOD)	r GREEN		[Ľ	28 28 7		Color of	Wire	LG/B	3	G/B	1.6/B)))	5	
Connector No.	Connector Name BCM (BOD	Connector Color		H.S.	39 38 37 36 35 34 33 59 58 58 58 57 56 55 54 53		_	l erminal No.	50	51	52			5	

E/B (INTELLIGENT	Connector Name POWER DISTRIBUTION	ULE ENGINE ROOM)	ш		40 39	44 43		Signal Name	LIVO		CAN-H	S-GND	
No. E17	Name POW		Connector Color WHITE		42 41 40 39	46 45 44 43		No. Wire		L	_	В	
Connector No.	Connector		Connector	ą		H.S.		Terminal No.	c	80	40	4	
Signal Name	OUTPUT 4	OUTPUT 3	INPUT 3	OUTPUT 5	INPUT 2	INPUT 4	INPUT 1	OUTPUT 1	INPUT 5		OUTPUT 2		
Color of Wire	G/Y	LG/R	B/G	LG/B	B/B	P/B	B/W	M	R/Υ		G/B		
Terminal No. Wire	2	5	7	8	6	10	11	12	13		14		
Connector No. M28 Connector Name COMBINATION SWITCH	Connector Color WHITE			/ / \ \	7 8 9 10 11 12 13 14								

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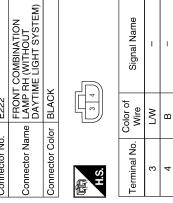


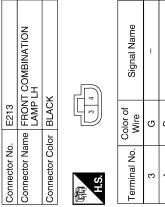


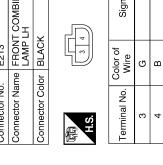
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Connector No.	E222
Connector Name	Connector Name LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM)
Connector Color BLACK	BLACK

J	Signal Name	1	ſ
	Color of Wire	N/I	В
	nal No.		_







Connector No.). E200	0
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	壨
H.S.	88 08	89 88 87 86
Terminal No.	Color of Wire	Signal Name
83	R/Y	HEADLAMP LO RH
84	٦	HEADLAMP LO LH
89	M/I	HEADLAMP HI RH
06	g	HEADLAMP HI LH

0.	FRONT COMBINATION LAMP RH (WITH XENON HEADLAMP SYSTEM)	١.		Signal Name
E232		or GRA		Color of Wire
Connector No.	Connector Name	Connector Color GRAY	দৌনী H.S.	Terminal No.

	FRONT COMBINATION LAMP LH (WITH XENON HEADLAMP SYSEM)			Signal Name	I	
E231		GRAY		Color of Wire	Т	
Connector No.	Connector Name	Connector Color GRAY	崎 H.S.	Terminal No.	1	

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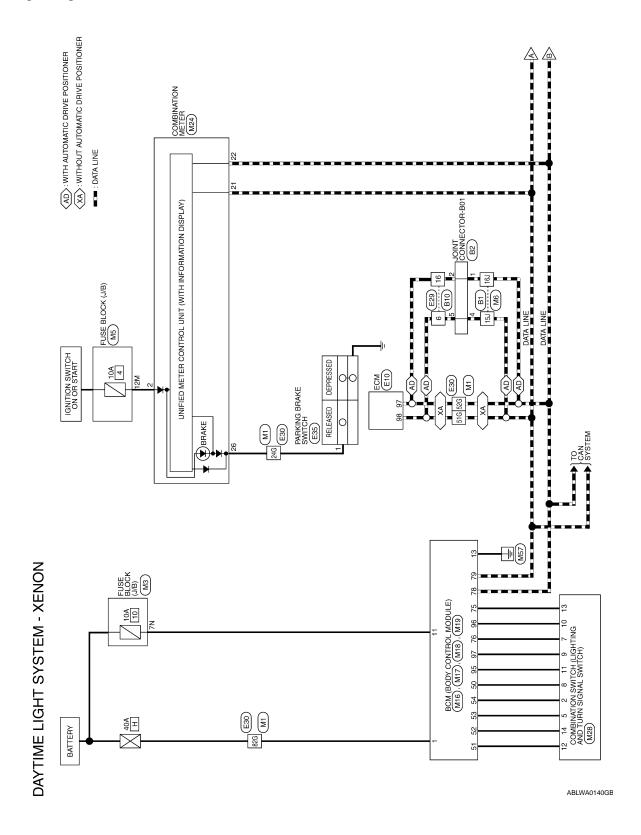
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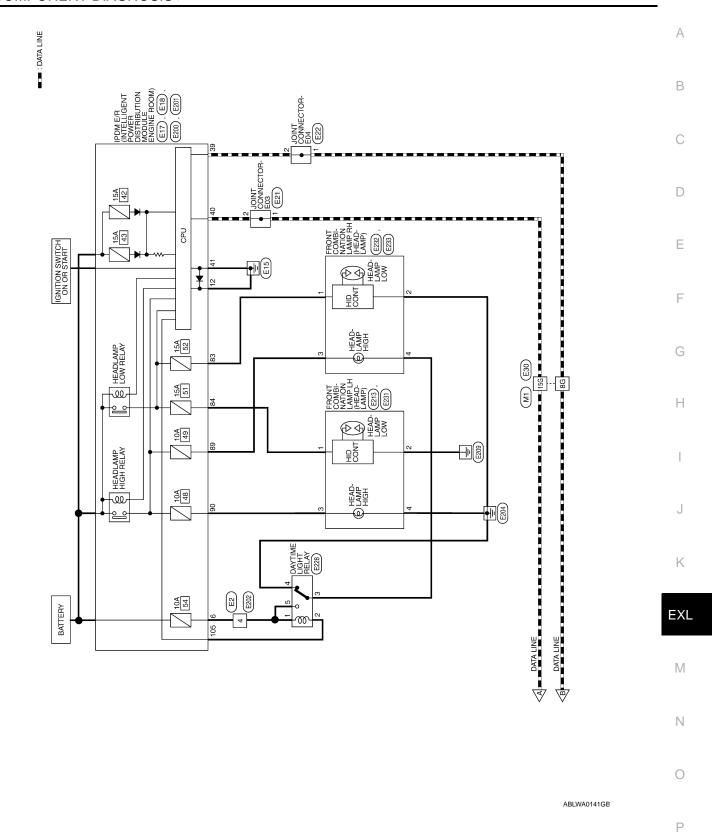
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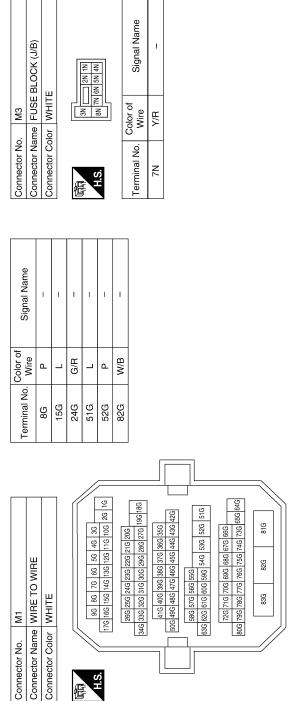
DAYTIME RUNNING LIGHT SYSTEM

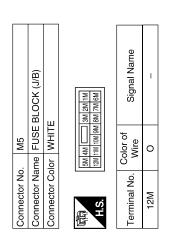
Wiring Diagram





DAYTIME LIGHT SYSTEM CONNECTORS - XENON





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		А
WODULE) ame ER F/L	lame	В
M16 BCM BCDY CONTROL MODULE) BLACK In a Signal Name V/B BAT POWER F/L	Signal Name COMBI SW OUT 5 COMBI SW OUT 1 COMBI SW OUT 2 COMBI SW OUT 3 COMBI SW OUT 3	С
	Color of Wire LG/B LG/R G/Y G/Y	D
Connector No. Connector Color H.S. Terminal No. V	50 50 51 53 53 54	Е
	(E) (2) (2) (4) (4) (4) (4) (4) (4) (4) (4) (4) (4	F
Signal Name	Connector Name BCM (BODY CONTROL MODULE) Connector Color GREEN H.S. 19 28 37 36 35 34 33 32 31 30 29 38 27 36 36 34 33 32 31 30 39 38 37 36 36 35 36 35 36 35 36 36 36 36 36 36 36 36 36 36 36 36 36	G
	M18 BCM (BODY CONT GREEN GREEN GREEN GREEN	Н
No. Color of Wire	No. M18 No. M18 No. M38 No. M3	I
Terminal No.	Connector No. Connector Name Connector Color H.S. 18 38 37 38 38 34 38 34 38 38 37 38 38 37 38 38 34 38 38 34 38 38 38 38 38 38 38 38 38 38 38 38 38	J
		K
WIRE TO WIRE	M17 BCM (BODY CONTROL MODULE) WHITE 14 15 16 17 18 19 Or of Signal Name Nire Signal Name MR BAT BCM FUSE BAT	EXL
M6 MHE TO WIITE MH		N
Connector No. M6 Connector Name WIRE TO WIRE Connector Color WHITE Sol So	Connector No. Connector Name Connector Color H.S. H.S. Terminal No. V. V. 11	0
	ABLIA0500GB	D

Signal Name

Color of Wire

Terminal No.

Signal Name

Terminal No. Wire

CAN-L

Д

97

CAN-L CAN-H S-GND

_ | _

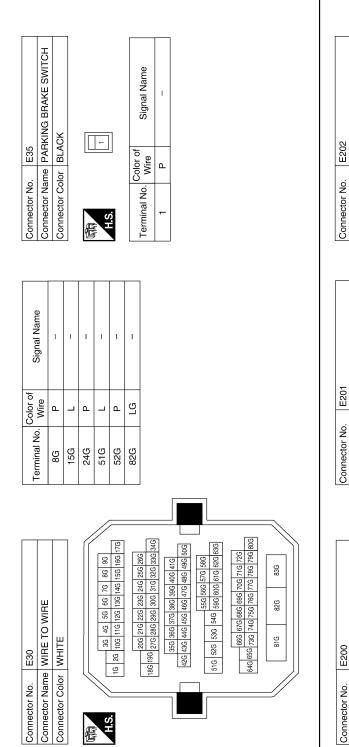
39 40 41

Connector No. Connector Name		M19 BCM (BODY CONTROL MODULE) BI ACK	Connector No. Connector Name Connector Color	-	M24 COMBINATION METER WHITE	Connector No. Connector Name Connector Color		M28 COMBINATION SWITCH WHITE
H.S.	┥		H.S.			所.S.H.S.	1 2 7 8	0 0 0 1 1 1 1 2 5 6 1 4 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
79 78 77 76 75 74 73 99 98 97 96 95 94 93		72 71 70 69 68 67 66 65 64 63 62 61 69 99 91 90 89 88 87 86 85 84 83 89 81	1 2 3 4 5 60 80	6 7 8 9 26 27 28 29	10 11 12 13 14 15 16 17 18 19 20 3 0 31 32 33 34 35 36 37 38 39 40	Terminal No.	Color of Wire	f Signal Name
				Color of		2	G/Y	OUTPUT 4
Terminal No.	Color of Wire	f Signal Name	Terminal No.	Wire	Signal Name	2	LG/R	OUTPUT 3
75	M	COMBI SW IN 5	2 5	0 -	IGN H-NAC	Γ α	R/G	OUTPUT 5
92	R/G	COMBI SW IN 3	22	- L	CAN-L	o o	B/B	INPUT 2
78	۵	CAN-L	26	G/R	PKB	10	P/B	INPUT 4
79	_					Ξ	₽.	INPUT 1
95	W.					12	3	OUTPUT 1
96	P/B					13	₽⁄A	INPUT 5
97	R/B	COMBI SW IN 2				14	G/B	OUTPUT 2
Connector No.). E2		Connector No.	. E10		Connector No.	lo. E17	7
nnector Na	ame WIR	Connector Name WIRE TO WIRE	Connector Name ECM	-		Connector Name		IPDM E/R (INTELLIGENT
Connector Color	olor WHITE	ITE	Connector Color	lor BLACK	X			MODULE ENGINE ROOM)
				٦		Connector Color		WHITE
(内内 H.S.	4 5	8 2 8 8 2 8	H.S.		89 93 97 101 105 109 90 94 98 102 106 110 91 95 99 103 107 111		4 4	
Terminal No.	Color of Wire	Signal Name		R4 88 92 96 10	88 92 96 100104 108 112	ė.	\$	45 42 44 43

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		А
4-E03		В
Signal Name		С
E21		D
Connector No. E21		Е
		F
	VIRE Signal Name	G
Signal Name DTRL P-GND	Color of Signa S	Н
Color of Wire B B	Connector No. E29 Connector Name WIRE TO WIRE Connector Color WHITE This 1 1 1 1 1 1 1 1 1	I
72 88 37 88 38 38 38 38 38 38 38 38 38 38 38 38	Connector No. Connector Color Connector Color H.S. Terminal No. V 6 6 16	J
		K
E18 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) WHITE 13 14 7 8 15 15 15 15 15 17 18 19 20 21 22 23 24	Signal Name	EXL
POWER DISTR MODULE ENG WHITE	WHITE Sign Wire P	M
	Connector No. E22	N
Connector No. Connector Color H.S. 10 11 12 3 4 5 6	Connector No. Connector Name Connector Color H.S. Terminal No. Co	0
	ABLIA0502GB	

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E202	Connector Name WIRE TO WIRE	or WHITE		3		Solor of Signal N		- BS		
Connector No.	Connector Nan	Connector Color WHITE	4	SI		Terminal No. Wiro		4		
				1						
_	M E/R (INTELLIGENT	Connector Name POWEH DISTRIBUTION MODULE ENGINE ROOM)	TE TE		98 97 96 95 94 93 92 91	106 105 104 103 102 101 100 99		Signal Name	DTRL RLY	
E201	<u>B</u>	# <u>M </u>	or WH		96 26 86	106 105 104 1	John of	Wire	^	
Connector No.		Connector Na	Connector Color WHITE		U			Terminal No. Wire	105	

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

Connector Name

Connector Color | WHITE

Signal Name

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HEADLAMP LO RH HEADLAMP LO LH HEADLAMP HI RH HEADLAMP HI LH

Signal Name

Color of Wire R/Υ

Terminal No. 83 84 8 8

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DAYTIME RUNNING LIGHT SYSTEM

< COMPONENT DIAGNOSIS >

[XENON TYPE]

Connector No.	E231
connector Name	Sonnector Name LAMP LH (WITH XENON HEADLAMP SYSTEM)
Connector Color GRAY	GRAY

E228

Connector No.

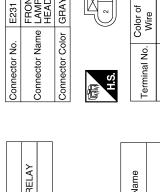
Connector Name FRONT COMBINATION LAMP LH

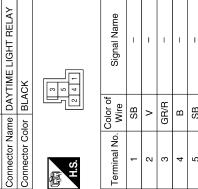
E213

Connector No.

Connector Color BLACK

THEOREM INC.		
onnector Name		FRONT COMBINATION LAMP LH (WITH XENON HEADLAMP SYSTEM)
onnector Color	lor GRAY	۲.
Ġ. E		
erminal No.	Color of Wire	Signal Name
-	٦	-
2	В	ı





Signal Name	ı	ı	ı	ı	I
Color of Wire	SB	>	GR/R	В	SB
Terminal No.	-	2	က	4	5

Signal Na	I	I	I	I	I	
Color of Wire	SB	۸	GR/R	В	SB	
Terminal No.	ļ	2	က	4	5	
						•

	Signal Name	1	I	
<u> </u>	Color of Wire	G	В	
H.S.	Terminal No.	3	4	

Connector No.	. E233	
Connector Name		FRONT COMBINATION LAMP RH (WITH DAYTIM LIGHT SYSTEM)
Connector Color	lor BLACK	>
雨 H.S.	E .	
Terminal No.	Color of Wire	Signal Name
က	L/W	I
4	GR/R	1

Connector No.	. E232	
Connector Name		FRONT COMBINATION LAMP RH (WITH XENON HEADLAMP SYSTEM)
Connector Color	lor GRAY	
原动 H.S.	2	
Terminal No.	Color of Wire	Signal Name
1	R/Υ	l
2	В	ı

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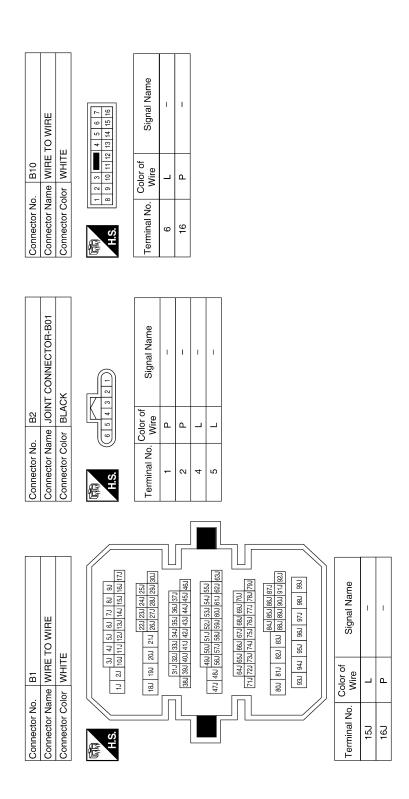
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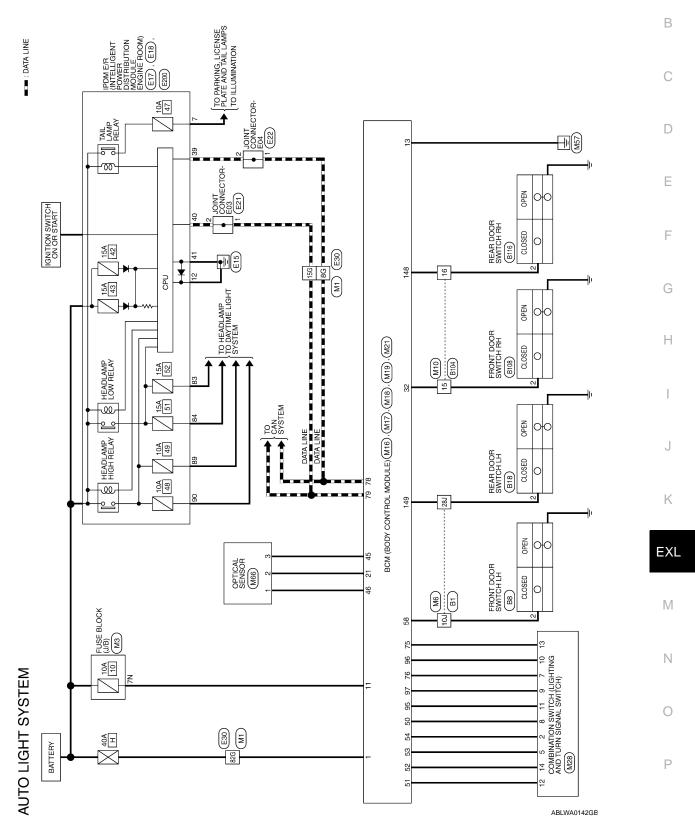
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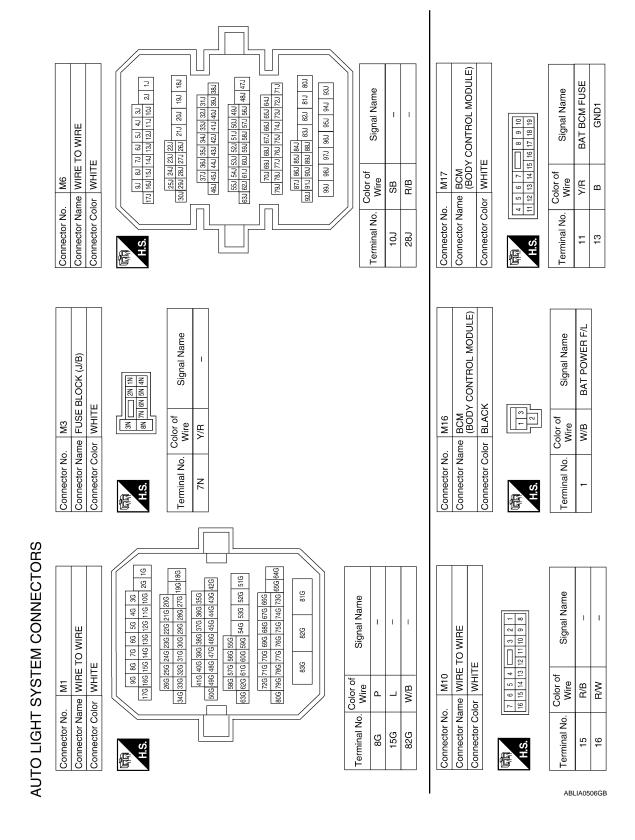


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AUTO LIGHT SYSTEM

Wiring Diagram





Connector No.	. M19		
Connector Name		BCM (BODY CONTROL MODULE)	
Connector Color	lor BLACK	X	
僵			
H.S.			
79 78 77 76 75	74 73 72 71	70 69 68 67 66 65 64 63 62 61	8
99 98 97 96 95	94 93 92 91	90 89 88 87 86 85 84 83 82 8	81
Terminal No.	Color of Wire	Signal Name	
75	R/∀	COMBI SW IN 5	
9/	R/G	COMBI SW IN 3	
78	۵	CAN-L	
79	_	CAN-H	
95	B/W	COMBI SW IN 1	
96	P/B	COMBI SW IN 4	
26	B/B	COMBI SW IN 2	

Signal Name	A/L SIGNAL TYPE 1	AS DOOR SW	GND RF2 A/L	A/L POWER SUPPLY 5V	COMBI SW OUT 5	COMBI SW OUT 1	COMBI SW OUT 2	COMBI SW OUT 3	COMBI SW OUT 4	DR DOOR SW
Color of Wire	P/B	B/B	۵	W/N	LG/B	M	G/B	LG/R	G/Y	SB
Terminal No.	21	35	45	46	20	51	52	23	54	58

	_			26 25 24 23 22 21 20	42 41 40
	<u>(ii</u>			প্র	42
	💆			g	43
				24	44
	Ĭ			22	45
				56	46
	BCM (BODY CONTROL MODULE)			28 27	54 53 52 51 50 49 48 47 46 45 44
	5		/	88	48
				53	49
	>	z		စ္က	50
_∞	ΣŔ	Ш		31	51
M18		떒		33 32 31	52
-	0	Ĕ		33	53
	Ĕ	ō		8	54
2	g	ပိ		35	55
5	ō	ō		36 35	26
덩	忘	SC	16	37	25
Ē	Ē	Ě	H.S.	88	28
Connector No.	Connector Name BCM (BOD	Connector Color GREEN	唇兰	89	59

Signal Name	OUTPUT 4	OUTPUT 3	INPUT 3	OUTPUT 5	INPUT 2	INPUT 4	INPUT 1	OUTPUT 1	INPUT 5	OUTPUT 2
Color of Wire	G/Y	LG/R	R/G	LG/B	R/B	P/B	R/W	MΠ	R/Y	G/B
Terminal No.	2	5	7	æ	6	10	11	12	13	14

M28	or Name COMBINATION SWITCH	WHITE		1 2 5 6	7 8 9 10 11 12 13 14
or No.	or Name	or Color	L		



onnector No.	M21
onnector Name BCM (BOD	BCM (BODY CONTROL MODULE)
onnector Color GRAY	GRAY

-			,			
	13 112	134 133 132				
	117 116 115 114 113	ੜ ਲ				Γ
	12					
	92	136 135		ο	≥	
	12	37		Signal Name	RR DOOR SW	
	138	138 137		ž	9	
	119	139		nal	8	
117	125 124 123 122 121 120	143 142 141 140) jg	l H	
IV.	121	#		0,	Œ	
IN.	122	142				
	23	#		—		H
	124	#		Color of Wire	>	
	55	146 145		olor o Wire	₩	
	129 128 127 126	46		0		L
	127	148 147		Terminal No.		
	128	5		<u>=</u>	<u>_</u>	
H.S.	130	150 149		j.	148	
厚工		151		l		
	13	7		<u> </u>		L

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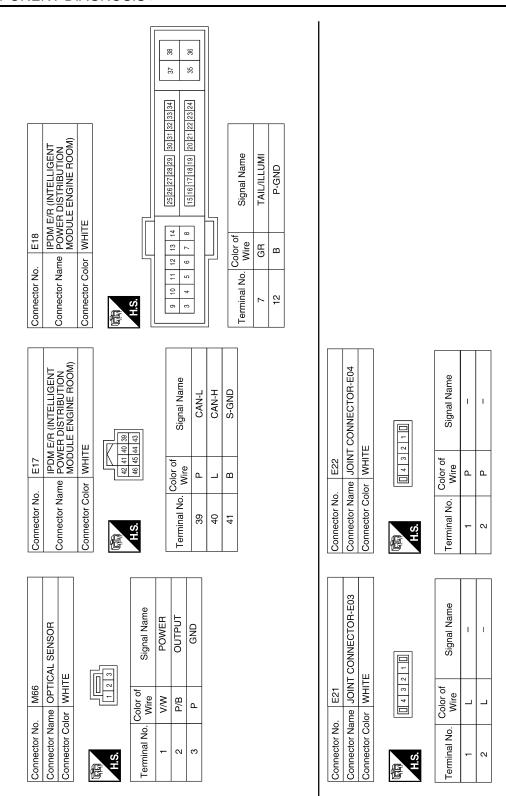
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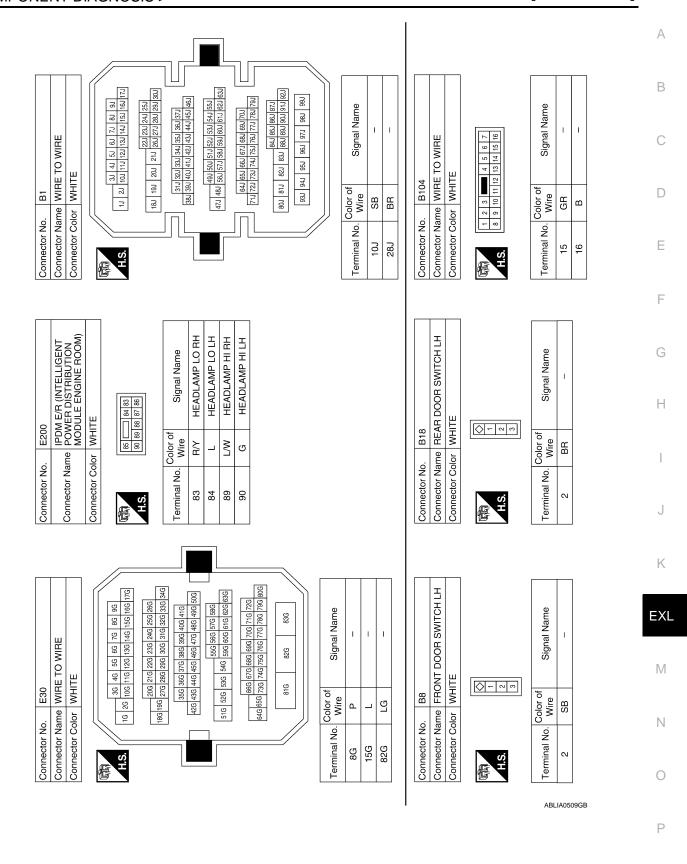
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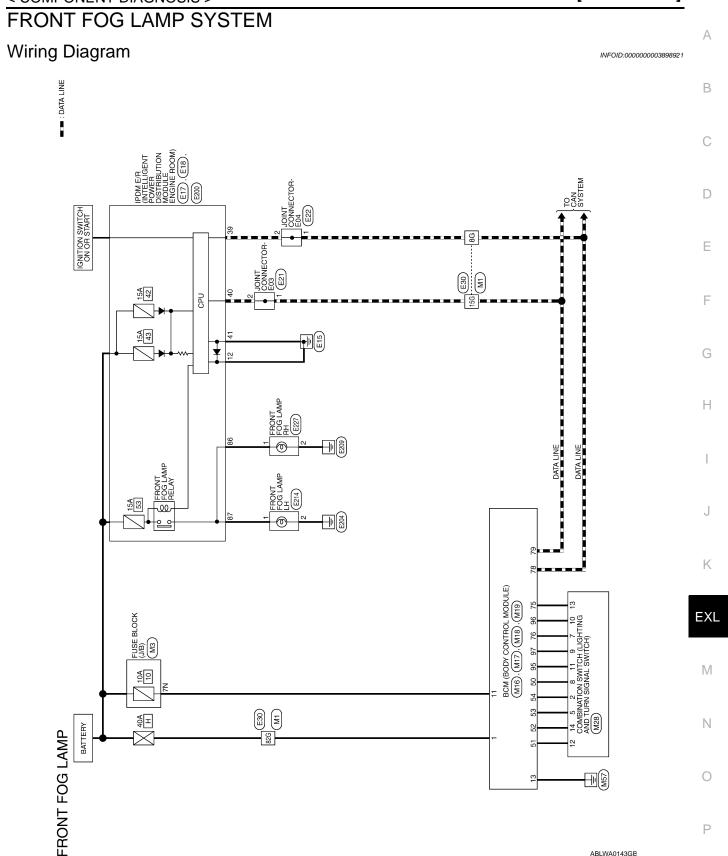


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Connector No.). B116	9
Connector Na	ıme RE/	Connector Name REAR DOOR SWITCH RH
Connector Color WHITE	olor WH	ΠE
雨 H.S.		
Terminal No.	Color of Wire	Signal Name
2	В	ı

Connector No.). B108	8
Connector Name	ame FRC	FRONT DOOR SWITCH RH
Connector Color WHITE	olor WHI	TE
赋 H.S.		
Terminal No.	Color of Wire	Signal Name
2	GR	ı

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OL MODULE)

COMBI SW OUT 5

LG/B Γ/M G/B LG/R G/Υ

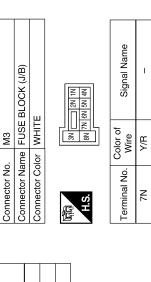
Signal Name

COMBI SW OUT 2 COMBI SW OUT 3 COMBI SW OUT 4

50 52 53 54

COMBI SW OUT 1

FRONT FOG LAMP CONNECTORS



Connector No. M3 Connector Name FUSE BLOCK (J.) Connector Color WHITE	Terminal No. Wire Signa 7/8	Connector No. M18 Connector Name BCM (BODY CONTRO Connector Color GREEN	是 H.S.
or of Signal Name		Connector No. M17 Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE	11 12 13 14 15 16 17 18 19
Terminal No. Wire 8G P	82G W/B	Connector No. Connector Name ((Connector Color V)	H.S. 11 12 13
Connector Name WIRE TO WIRE Connector Color WHIE	176 166 146 136 156 146 36 46 36 16 106 26 16 16 166	Connector No. M16 Connector Name BCM (BODY CONTROL MODULE) Connector Color BLACK	1 3 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2

Terminal No. BAT BCM FUSE Signal Name GND1 Color of Wire Y/R Δ Terminal No. = 5

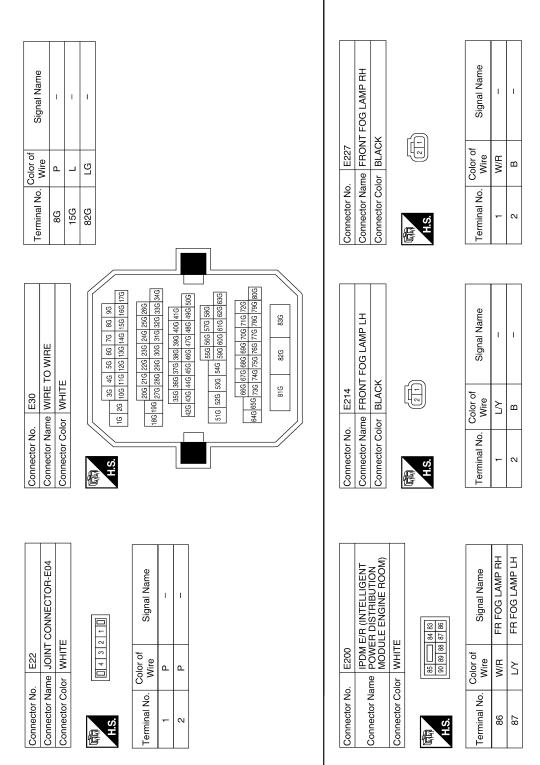
> BAT POWER F/L Signal Name

Color of Wire W/B

Terminal No.

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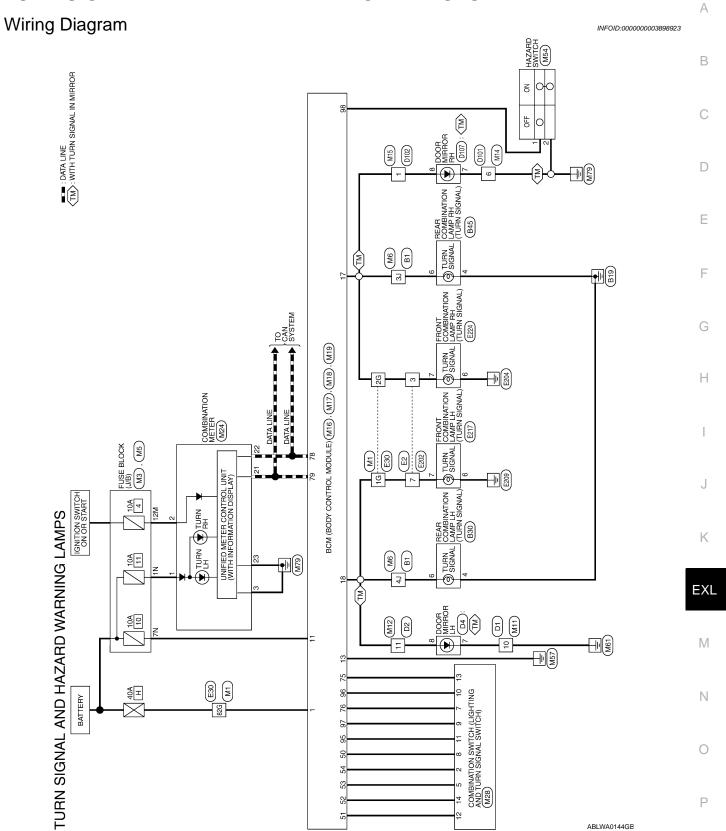
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	TE		44 43		Signal Name	CAN-L	CAN-H	S-GND								Connector NameIOINT CONNECTOR-E03	TE		3 2 1 🔲		Signal Name	1	ı		
	lor WHI	14	46 45 44		Color of Wire	۵	_	В							E21	IOI.	olor WHITE		4 3		Color of		_		
Connector Name	Connector Color WHITE	E	H.S.		Terminal No.	39	40	41							Connector No.	Connector Na	Connector Color	é		ć.	Terminal No.	1	2		
	1		Г								ı	ı	ı												
Connector Name COMBINATION SWITCH Connector Color WHITE		5 6 13 14 14 14 14 14 14 14 14 14 14 14 14 14]	Signal Name	OUTPUT 4	OUTPUT 3	INPUT 3	OUTPUT 5	INPUT 2	INPUT 4	INPUT 1	OUTPUT 1	INPUT 5	OUTPUT 2		Signal Name	P-GND								
MBINAT		9 10 11 12 13 14)																	
ame CC		1 2 8		Color of Wire	Ğ√	LG/R	R/G	LG/B	B/B	P/B	₽/W	<u>N</u>	₽	G/B	\sqcup		В								
Connector Name COMBII		H.S.		Terminal No.	2	2	7	8	6	10	1	12	13	41		l erminal No.	12					37 38	35 36		
				61 60	00																	33 34	23 24		
BCM (BODY CONTROL MODULE)				69 68 67 66 65 64 63 62 80 88 87 86 85 84 83 83	03 00 07 00 03 04 03 05	Signal Name		COMBI SW IN 5	COMBI SW IN 3	CAN-L	CAN-H	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2		/R (INTELLIGENT	POWER DISTRIBUTION MODULE ENGINE ROOM)					25 26 27 28 29 30 31 32 33 34	15 16 17 18 19 20 21 22 23 24		
	BLACK			73 72 71 70	35 31	Color of	wire	<u>}</u>	ָב באַ	ւ .	_	W/H !	P/B	B/B	E18			-				13 14	7		
Connector Name	Connector Color		П.Э.	79 78 77 76 75 74 73	97 90 93	Terminal No.				8/			96	97	Connector No.		Connector Name	Connector Color		N FI		8 11 11 12	4 5		



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[XENON TYPE]

TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

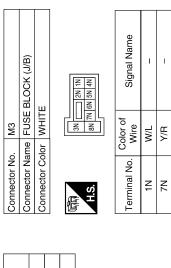


TURN SIGNAL AND HAZARD WARNING LAMPS CONNECTORS

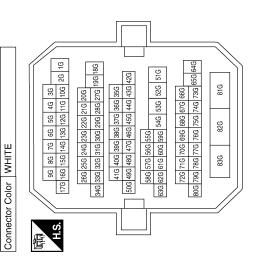
Connector Name | WIRE TO WIRE

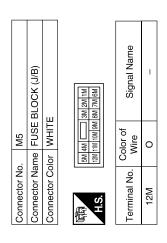
Ε

Connector No.



Signal Name	ı	_	_	
Color of Wire	G/Y	G/B	M/B	
Terminal No.	1G	2G	82G	

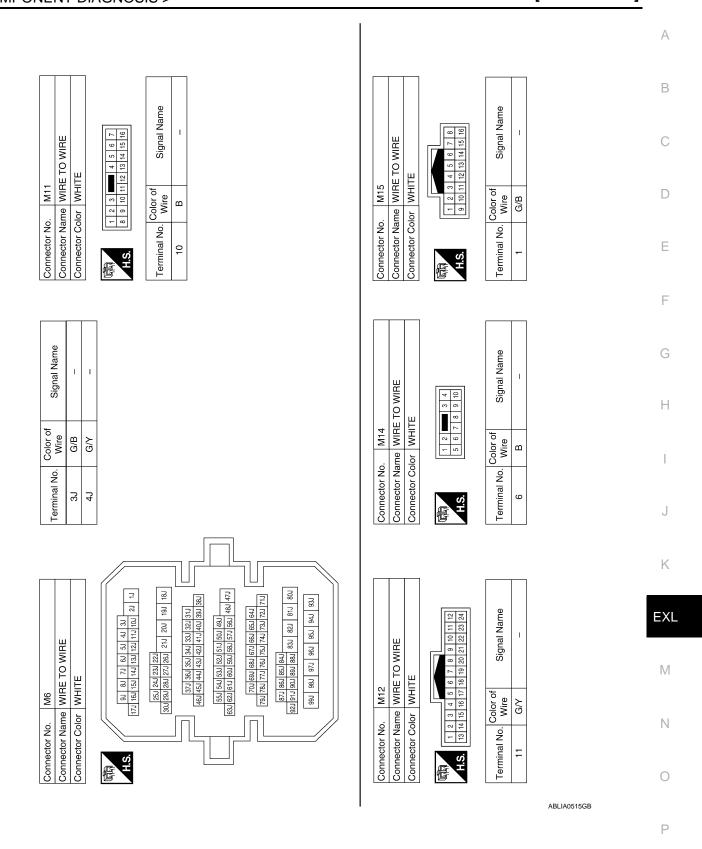




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< COMPONENT DIAGNOSIS >

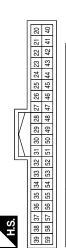
[XENON TYPE]



< COMPONENT DIAGNOSIS >

[XENON TYPE]





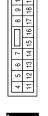
59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40							
2 41							١
13		COMBI SW OUT 5	-	-2	33	4	
4	e l	Ž	Ž	7	2	2	
5	ar	0	0	7	0	0	
46	Signal Name	S	COMBI SW OUT 1	COMBI SW OUT 2	COMBI SW OUT 3	COMBI SW OUT 4	
47	guí	B	面	В	B	圖	
8	S.	I≅	∣⋛	\leq	\geq	∣⋛	
\$		ŏ	8	ö	ö	8	
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2	₽				~-		
25	Color of Wire	LG/B	\mathbb{N}	G/B	LG/R	ďΥ	
23	∣হ়≶∣	\	┙	9	\preceq	ဗ	
24							
55	9						
29	=						
27	Terminal No.	50	21	52	53	54	
82	15						
29	≝						

Connector No.	M24
Connector Name	Connector Name COMBINATION METER
Connector Color WHITE	WHITE

				1		
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		19	39	l —	_	
		18	38			
		17	37			
		16	36	8	ย	
		15	35	Ome IV leaving	פ	_
		14	34	=	_ 	BAT
,		13	33	}	5	-
١	17	12	32	ਹ	5	
$\ $	V	Ξ	31			
	Λ	9	30			
١	$ \rangle$	7 8 9 10 11 12 13 14 15 16 17 18 19 20	29	=		
ı		- ∞	28	Color of	Wire	M/L
		7	27	ĕ	≥	≥
		9 9	26			
		5	25	ے ا	j.	
		4	24	3	_	
	•	က	23	2	<u> </u>	-
ĝ	1	2	21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	CIA Icaiana	≣	
•	1	-	21	[מ	

Signal Name	BAT	NDI	GND (POWER)	GND (ILL)	CAN-H	CAN-L	GND (CIRCUIT)
Color of Wire	M/L	0	В	В	Τ	۵	В
Terminal No.	1	2	က	4	21	22	23

Connector Name BCM (BODY CONTROL MODULE) Connector Color WHITE	Connector No.	M17
Connector Color WHITE	Connector Name	BCM (BODY CONTROL MODULE)
	Connector Color	WHITE

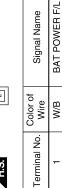




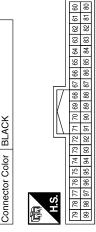
Terminal No.	Color of Wire	Signal Name
75	R/Υ	COMBI SW IN 5
9/	R/G	COMBI SW IN 3
78	Ы	CAN-L
62	٦	CAN-H
95	R/W	COMBI SW IN 1
96	B/B	COMBI SW IN 4
26	B/B	COMBI SW IN 2
98	0/5	HAZARD SW

M16	BCM (BODY CONTROL MODULE)	BLACK	
Connector No.	Connector Name BCM (BOD	Connector Color BLACK	





Connector No.	M19
Connector Name BCM (BOD	BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK



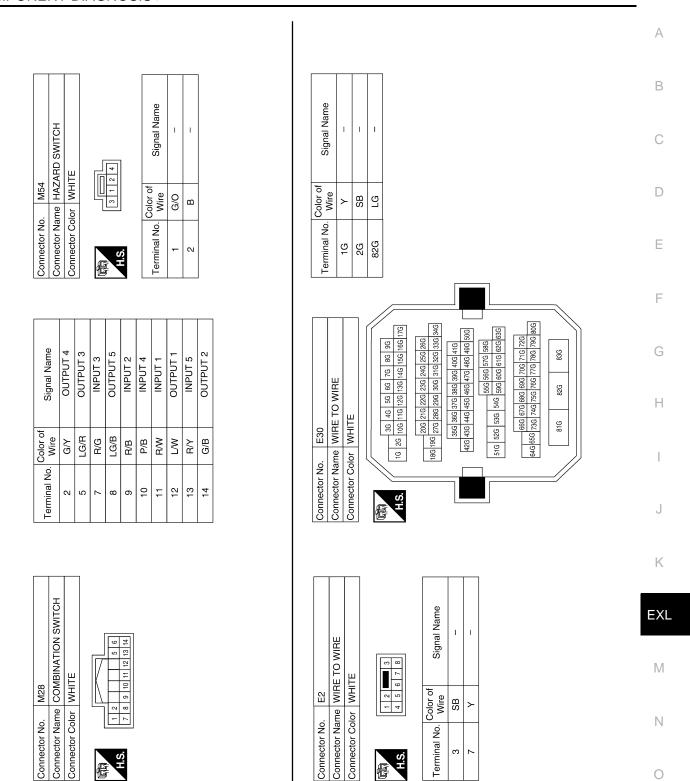
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< COMPONENT DIAGNOSIS >

[XENON TYPE]

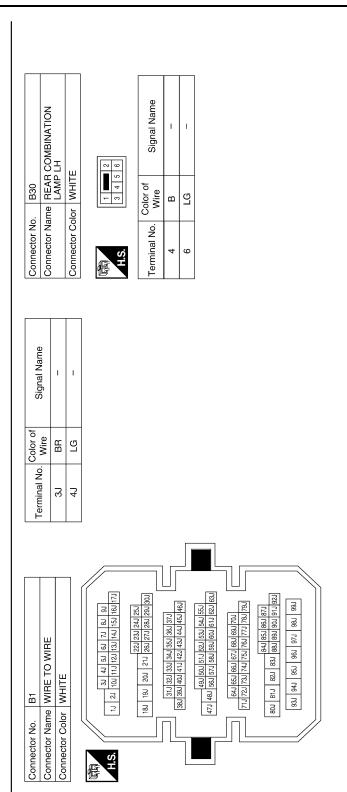
ABLIA0517GB

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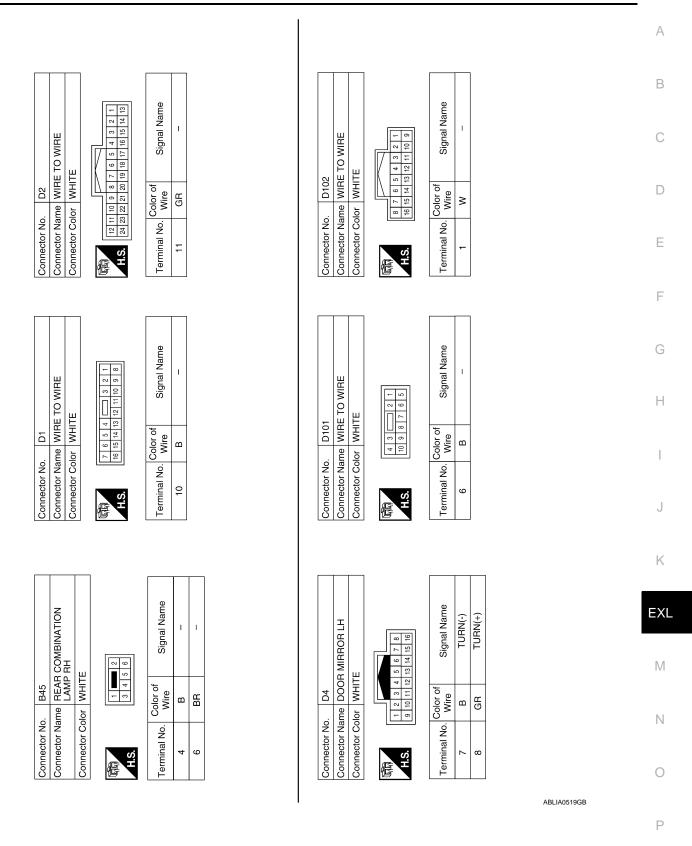
EXL-79

vo. Name	Connector No. E202 Connector Name WIRE TO WIRE	Connector No. E217 Connector Name FRON	Connector No. E217 Connector Name FRONT COMBINATION	Connector No.	Connector No. E224 Connector Name FRONT COMBINATION
Jolor L	Connector Color WHITE		LAMP LH		LAMP RH
500	J	Connector Color GRAY	r GRAY	Connector Color GRAY	GRAY
لتنا	3	E SH		唇 S.H	
Colo					
Terminal No. Wire	re Signal Name	Color of	olor of Signal Name	Torming! No Color of	olor of Signal Maga
G/B	- L			ם מו	
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5	-	7	> 0		- U



< COMPONENT DIAGNOSIS >

[XENON TYPE]

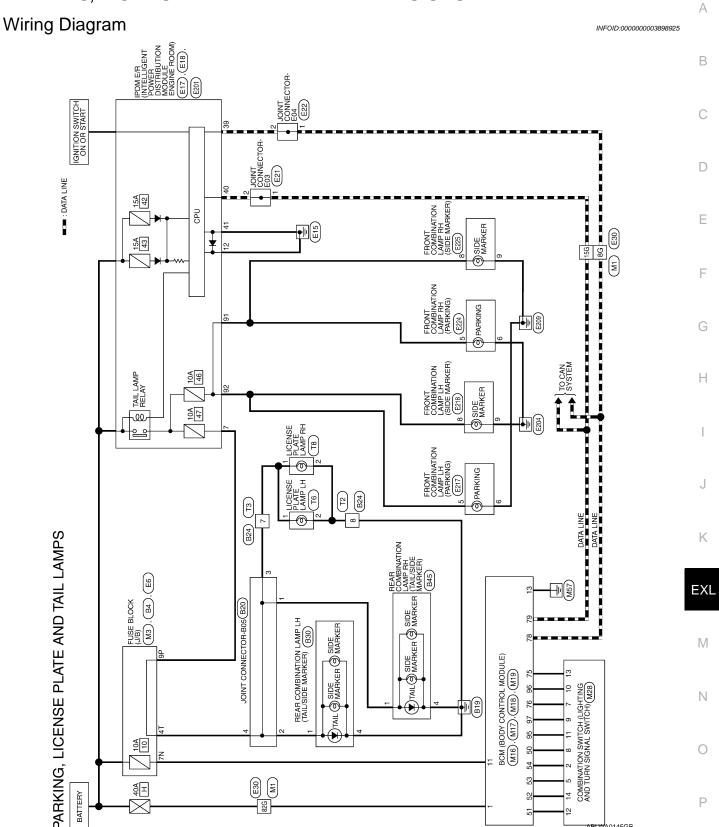


7	Connector Name DOOR MIRROR RH	TE	9 10 11 12 13 14 15 16	Signal Name	TURN(-)	TURN(+)
. D107	me DOC	lor WHI	9 10 11	Color of Wire	В	W
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No.	7	8

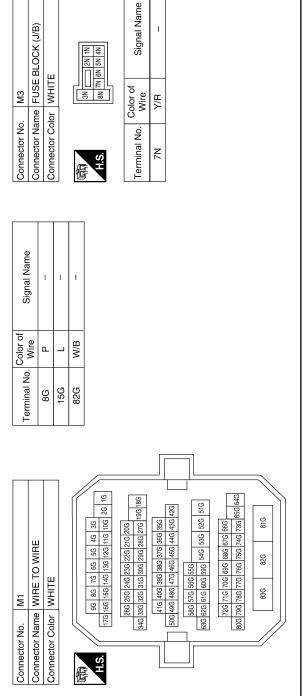
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[XENON TYPE]

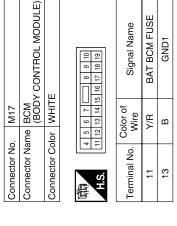
PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM



PARKING, LICENCE PLATE AND TAIL LAMPS CONNECTORS



Connector No.	M18		
Connector Name		BCM (BODY CONTROL MODULE)	
 Connector Color	or GREEN	Z	
 南 H.S.		<u> </u>	
39 38 37 36 35 3 59 58 57 56 55 8	34 33 32 31 3 54 53 52 51 8	30 29 28 27 26 25 24 23 22 21 50 49 48 47 46 45 44 43 42 41	50 40
Terminal No.	Color of Wire	Signal Name	
50	LG/B	COMBI SW OUT 5	
51	<u>~</u>	COMBI SW OUT 1	
52	G/B	COMBI SW OUT 2	
53	LG/R	COMBI SW OUT 3	
54	G/Y	COMBI SW OUT 4	



Connector Name | BCM | (BODY CONTROL MODULE)

M16

Connector No.

BLACK

Connector Color

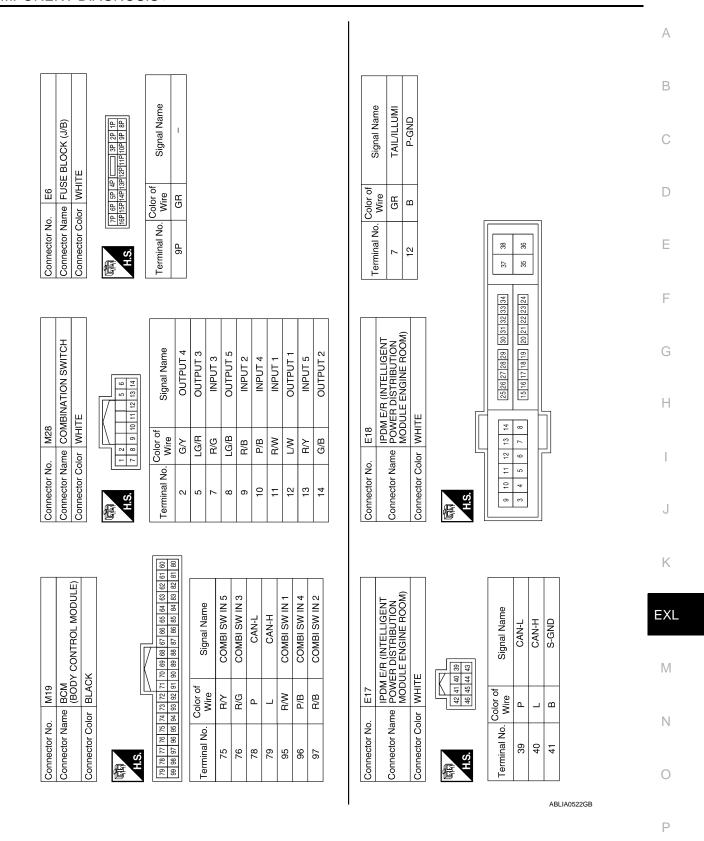
Signal Name	BAT POWER F/L	
Color of Wire	M/B	
Terminal No.	-	

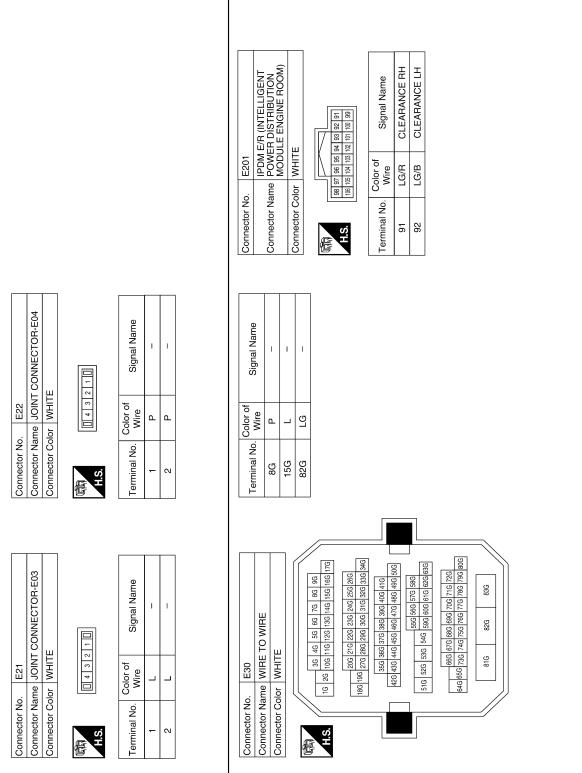
ABLIA0521GB

PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< COMPONENT DIAGNOSIS >

[XENON TYPE]





PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< COMPONENT DIAGNOSIS >

[XENON TYPE]

Connector No.	E218		Connector No.	E224	
Connector Nar	ne FRON LAMP	Connector Name FRONT COMBINATION LAMP LH	Connector Name FRONT COMBINATION LAMP RH	FRONT COME	SINATION
Connector Color GRAY	or GRAY		Connector Color GRAY	GRAY	
南 H.S.	69		E H.S.	7 6 5	
Terminal No. Wire	Color of Wire	Signal Name	Terminal No.	Color of Sig	Signal Name
80	LG/B	ı	2	LG/R	1
6	В	ı	9	В	1

Signal Name

Color of Wire

Terminal No.

LG/B

2

В

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Connector Name | FRONT COMBINATION | LAMP LH

E217

Connector No.

GRAY

Connector Color

	Connector No. B20	Connector Name JOINT CONNECTOR-B05	Connector Color BLUE		10 9 8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13 12 11 H.S.
	Connector No. B4	Connector Name FUSE BLOCK (J/B)	Connector Color BROWN		
		NT COMBINATION	I	γ.	

Signal Name

Color of Wire

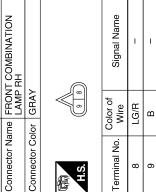
Terminal No.

Signal Name

Terminal No. Wire 4⊤ \neg

7 က 4

E225	Connector Name FRONT COMBINATION LAMP RH	GRAY
Connector No.	Connector Name	Connector Color GRAY



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PARKING, LICENSE PLATE AND TAIL LAMPS SYSTEM

< COMPONENT DIAGNOSIS >

[XENON TYPE]

Connector No.). B45	
Connector Name		REAR COMBINATION LAMP RH
Connector Color	olor WHITE	E
明.S.	- w	\[\times \omega \omeg
Terminal No.	Color of Wire	Signal Name
1	T	I
4	В	1

Connector No.	. B30	
Connector Na	me REAR LAMP	Connector Name REAR COMBINATION LAMP LH
Connector Color WHITE	lor WHITI	
雨 H.S.	- 8 4 5	2 9
Terminal No.	Color of Wire	Signal Name
1	٦	ı
_	۵	ı

Connector No.	٦.	B24	
Connector Name WIRE TO WIRE	ıme	W	RE TO WIRE
Connector Color WHITE	lor	M	TE TE
H.S.	- 4	2 5	C
Terminal No.	Color of Wire	or of re	Signal Name
7	٦_		I
8	В	_	1

Connector No.	. 78	
Connector Na	ame LIC	Connector Name LICENSE PLATE LAMP RH
Connector Color BROWN	olor BF	NMO
雨 H.S.	<u></u> 2	
Terminal No.	Color of Wire	of Signal Name
1	٦	-
2	В	I

Connector No.). T6	
Connector Na	ıme LICEN	Connector Name LICENSE PLATE LAMP LH
Connector Color BROWN	olor BROV	Ŋ
师 H.S.	2 1	
Terminal No.	Color of Wire	Signal Name
1	Г	1
2	В	Î

	TO WIRE	ш	5 2 4	Signal Name	_	_
T2	ne WIRE	or WHIT	3 7 6	Color of Wire	٦	В
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	原.S.H	Terminal No.	7	8

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STOP LAMP

Wiring Diagram

INFOID:0000000003898929

⟨RS⟩: WITH REAR SUNSHADE
⟨RT⟩: WITHOUT REAR SUNSHADE
⟨SP⟩: WITH REAR SPOILER

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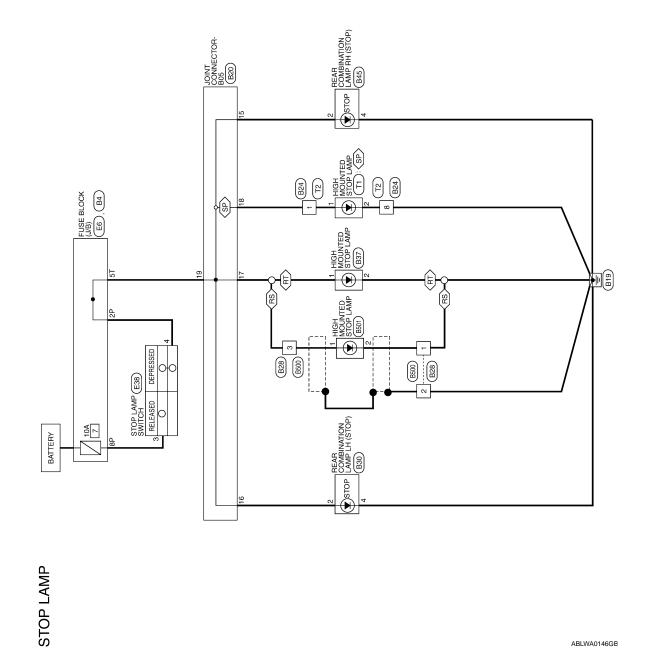
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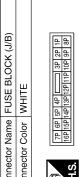
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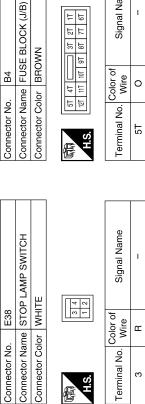
B4

STOP LAMP CONNECTORS

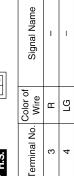
Connector No.	E6
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE



3P 2P 1P 1P 1P 1P 1P 1P 1	Signal Name	-	_
7P 6P 5P 4P	Color of Wire	ГG	۵
H.S.	Terminal No.	2P	αa



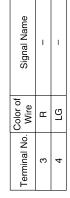
5T 4T 7 3T 2T 1T 1T 10T 9T 8T 7T 6T



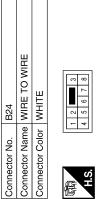
Signal Name

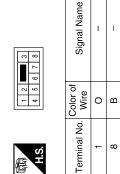
Color of Wire

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B28	WIRE TO WIRE	WHITE	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	





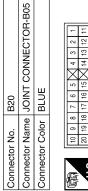
Signal Name

Color of Wire

Terminal No.

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14 13 12 11	Signal Name	_	-	-	-	-
19 18 17 16 15	Color of Wire	0	0	0	0	0
H.S.	Terminal No.	15	16	17	18	19

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	T		7				
	Connector Name REAR COMBINATION LAMP RH			2 9 Q	Signal Name	ı	ı
. B45	me REAR LAMP	lor WHITE		3 4 5	Color of Wire	0	В
Connector No.	Sonnector Na	Connector Color WHITE		H.S.	Terminal No.	2	4
	10		J				
	Connector Name LAMP (WITHOUT REAR	HADE)	111		Signal Name	ı	ı
. B37	HIGH I	SONS	lor WHITE	1	Color of Wire	0	В
Connector No.	Connector Na		Connector Color WHITE	哥 H.S.	Terminal No.	-	2
	COMBINATION LH			0 5	Signal Name	ı	I
B30	ne REAR CO LAMP LH	or WHITE		3 4 5	Color of Wire	0	В
Connector No.	Connector Name REAR COMBINAT LAMP LH	Connector Color WHITE		H.S.	Terminal No.	2	4

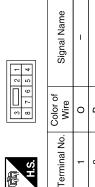
11	Connector Name HIGH MOUNTED STOP LAMP (WITH REAR SPOILER)	BROWN		2 1	or of Signal Name	- 0	I B	
Connector No.	Connector Name	Connector Color BROWN		原 H.S.	Terminal No. Wire	-	2	
	HIGH MOUNTED STOP Connector Name LAMP (WITH REAR	(ADE)			Signal Name	+	1	
o. B501	HIGH I	SUNS	olor GRAY		Color of Wire	0	В	
Connector No.	Connector Na		Connector Color GRAY	雨 H.S.	Terminal No. Wire	1	2	
							ı	
	TO WIRE				Signal Name	ı	1	
B500	ne WIRE	or WHITE			Color of Wire	8	В	
Connector No. B500		Connector Color WHITE		H.S.	Terminal No. Wire	- B	S B	

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Signal Name	1	1
Color of Wire	0	В
Terminal No.	1	8

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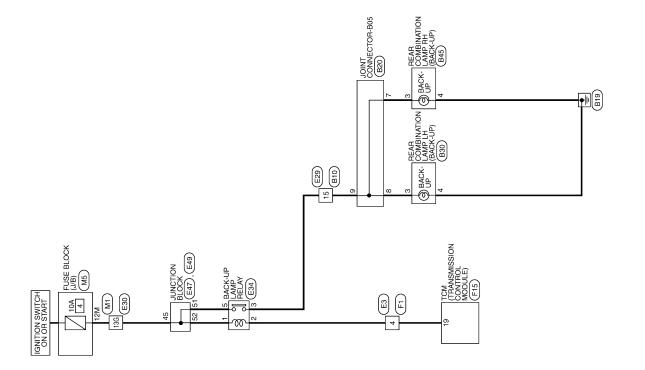
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BACK-UP LAMP

BACK-UP LAMP

Wiring Diagram



EXL-93

BACK-UP LAMP CONNECTORS

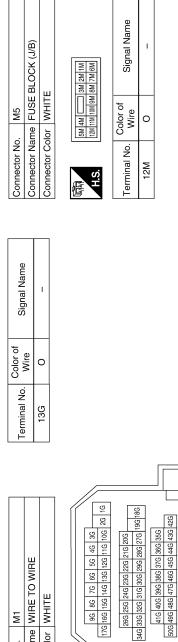
Connector Name | WIRE TO WIRE

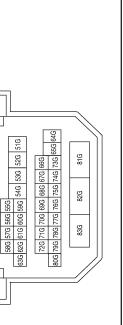
Ε

Connector No.

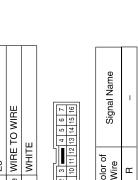
Connector Color WHITE

H.S.









Signal Name

Color of Wire

Terminal No.

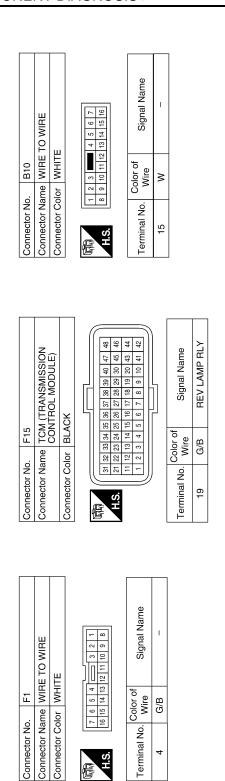
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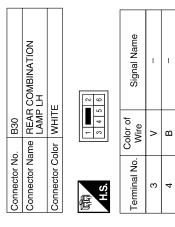
Connector Name WIRE TO WIRE 1 2 3 **— 4** 5 6 7 8 9 10 11 12 13 14 15 16 Connector Color WHITE Color of Wire E3 Connector No. Terminal No. 4 6

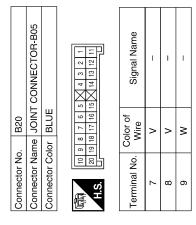
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Pe Pe		В
Connector No. E34 Connector Name BACK-UP LAMP RELAY Connector Color BLUE H.S. E2 State 2 R		С
Solution of the state of the st		D
Connector No. E34 Connector Name BACK. Connector Color BLUE H.S. E34 Connector No. BACK. Terminal No. Wire 1 0 1 0 2 R 3 W 3 W 5 LG		Е
		F
Signal Name	BLOCK Signal Name	G
	NOIT:	Н
No. Wire of Wire BR		I
Terminal No.	Connector No. Connector Name Connector Color H.S. Terminal No. V 51 1	J
		K
76 86 96 146 176 146 176 146 176 146 176 146 176 146 176 146 176 146 176 146 176 146 1	Name KK	EXL
Connector No. E30 Connector Name WIRE TO WIRE Connector Color WHITE 36 46 56 66 76 86 96 16 26 106 116 120 136 146 156 166 176 26 216 226 236 246 256 286 186 199 270 286 286 306 316 326 336 346 36 386 376 386 376 386 386 406 416 26 436 446 456 466 466 466 626 636 516 226 536 546 586 606 616 626 636 616 626 636 736 746 776 786 776 786 986 816 826 826 736 776 786 776 786 986	Connector No. E47 Connector Name JUNCTION BLOCK Connector Color WHITE A.S. Refer to the signal Name 45 BR	M
Connector No. E30 Connector Name WIRE T Connector Color WHITE 16 26 106 16 26 57 16 26 57 16 26 57 16 26 57 16 26 57 17 18 16 26 57 18 16 26 57 18 16 26 57 18 16 26 57 18 16 26 57 18 16 26 57 18 16 26 57	Connector No. E47 Connector Name JUN Connector Color WH LS. Color of WH AS BR	Ν
Connec Connec H.S.	Connector No. Connector Cold	0
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	Connector Name REAR COMBINATION LAMP RH	ш	0 S S	Signal Name	_	_
. B45	me REAR CO LAMP RH	or WHITE	<u>-</u> €	Color of Wire	۸	В
Connector No.	Connector Nar	Connector Color	原 H.S.	Terminal No.	3	4
		•	<u> </u>			





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ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

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VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	_ `
ED WIDER III	Other than front wiper switch HI	OFF	_
FR WIPER HI	Front wiper switch HI	ON	
ED WIDED LOW	Other than front wiper switch LO	OFF	
FR WIPER LOW	Front wiper switch LO	ON	
ED WASHED SW	Front washer switch OFF	OFF	_ [
FR WASHER SW	Front washer switch ON	ON	
FR WIPER INT	Other than front wiper switch INT	OFF	
FR WIFER INT	Front wiper switch INT	ON	_
FR WIPER STOP	Front wiper is not in STOP position	OFF	_
FR WIPER STOP	Front wiper is in STOP position	ON	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position	_
TURN SIGNAL R	Other than turn signal switch RH	OFF	_ -
TURN SIGNAL R	Turn signal switch RH	ON	
TUDNI SIONAL I	Other than turn signal switch LH	OFF	
TURN SIGNAL L	Turn signal switch LH	ON	
TAIL LAMP CVV	Other than lighting switch 1ST and 2ND	OFF	
TAIL LAMP SW	Lighting switch 1ST or 2ND	ON	
LILDEAM CM	Other than lighting switch HI	OFF	_ `
HI BEAM SW	Lighting switch HI	ON	
LIEAD LAMB CW/4	Other than lighting switch 2ND	OFF	-
HEAD LAMP SW 1	Lighting switch 2ND	ON	
HEAD LAMP SW 2	Other than lighting switch 2ND	OFF	_
HEAD LAIVIP SVV 2	Lighting switch 2ND	ON	
PASSING SW	Other than lighting switch PASS	OFF	
PASSING SW	Lighting switch PASS	ON	
AUTO LIGHT SW	Other than lighting switch AUTO	OFF	
AUTO LIGHT SW	Lighting switch AUTO	ON	_
ED EOC SW	Front fog lamp switch OFF	OFF	
FR FOG SW	Front fog lamp switch ON	ON	_
DOOR SW-DR	Driver door closed	OFF	(
DOOK SW-DK	Driver door opened	ON	
DOOR SW AS	Passenger door closed	OFF	
DOOR SW-AS	Passenger door opened	ON	_ [
DOOD OW DD	Rear door RH closed	OFF	_
DOOR SW-RR	Rear door RH opened	ON	_
DOOR SW DI	Rear door LH closed	OFF	_
DOOR SW-RL	Rear door LH opened	ON	_

Monitor Item	Condition	Value/Status
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.	OFF
ODL LOOK OW	Other than power door lock switch LOCK	OFF
CDL LOCK SW	Power door lock switch LOCK	ON
001 1011 0017 017	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
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.	OFF
LAZADD CW	When hazard switch is not pressed	OFF
HAZARD SW	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
TD CANCEL CW	Trunk lid opener cancel switch OFF	OFF
TR CANCEL SW	Trunk lid opener cancel switch ON	ON
TD/DD ODEN OW	Trunk lid opener switch OFF	OFF
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON
TONIC/LIAT MAITO	Trunk lid closed	OFF
TRNK/HAT MNTR	Trunk lid opened	ON
DKE LOCK	When LOCK button of Intelligent Key is not pressed	OFF
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	OFF
RRE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
IXIC-11/DD	When TRUNK OPEN button of Intelligent Key is pressed	ON
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	OFF
RRE-PAINIC	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
RRE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
MAL-MODE ONG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V
OF FIGHE GENOOR	When outside of the vehicle is dark	Close to 0 V
REQ SW-DR	When front door request switch is not pressed (driver side)	OFF
<u>.</u>	When front door request switch is pressed (driver side)	ON
REQ SW-AS	When front door request switch is not pressed (passenger side)	OFF
TIES OW-NO	When front door request switch is pressed (passenger side)	ON
REQ SW-RL	When rear door request switch is not pressed (driver side)	OFF
INEW OVV-INE	When rear door request switch is pressed (driver side)	ON
REQ SW-RR	When rear door request switch is not pressed (passenger side)	OFF
IVER OW-IVIV	When rear door request switch is pressed (passenger side)	ON

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS > [XENON TYPE]

Condition	Value/Status	
When trunk request switch is not pressed	OFF	
When trunk request switch is pressed	ON	
When engine switch (push switch) is not pressed	OFF	
When engine switch (push switch) is pressed	ON	
Ignition switch OFF or ACC	OFF	
Ignition switch ON	ON	
Ignition switch OFF	OFF	
Ignition switch ACC or ON	ON	
NOTE: This item is displayed, but cannot be monitored.	OFF	
When the brake pedal is not depressed	ON	
When the brake pedal is depressed	OFF	
When selector lever is in P position	OFF	
When selector lever is in any position other than P	ON	
When selector lever is in any position other than P or N	OFF	_
When selector lever is in P or N position	ON	
	OFF	
-	ON	
	OFF	
-	ON	
-	OFF	
	ON	
	OFF	
	ON	
When engine switch (push switch) is not pressed	OFF	
	ON	
·		
2.1		_
· ·		
·		_
•		
F 11		
		_
_		
Electronic steering column lock UNLOCK status Electronic steering column lock UNLOCK status	OFF	
	UPP	
	When trunk request switch is not pressed When engine switch (push switch) is not pressed When engine switch (push switch) is pressed Ignition switch OFF or ACC Ignition switch OFF Ignition switch ACC or ON NOTE: This item is displayed, but cannot be monitored. When the brake pedal is not depressed When the brake pedal is not depressed When the brake pedal is depressed When selector lever is in P position When selector lever is in any position other than P or N When selector lever is in P or N position Electronic steering column lock LOCK status Electronic steering column lock UNLOCK status Electronic steering column lock LOCK status Ignition switch OFF or ACC Ignition switch ON Driver door UNLOCK status When engine switch (push switch) is not pressed When engine switch (push switch) is pressed Ignition switch OFF or ACC Ignition switch ON When selector lever is in P position When selector lever is in P position When selector lever is in P position When selector lever is in any position other than P When selector lever is in any position other than P When selector lever is in any position other than P When selector lever is in any position other than P When selector lever is in any position other than P When selector lever is in any position other than P When selector lever is in P position When selector lever is in P position When selector lever is in N position Engine stopped While the engine stalls At engine cranking Engine running Electronic steering column lock LOCK status	When trunk request switch is not pressed When trunk request switch is pressed When engine switch (push switch) is not pressed OFF When engine switch (push switch) is pressed OR When engine switch (push switch) is pressed OR Ignition switch OFF or ACC Ignition switch OFF Ignition switch OFF Ignition switch OFF Ignition switch ACC or ON NOTE: This item is displayed, but cannot be monitored. OFF When the brake pedal is not depressed ON When the brake pedal is depressed OFF When selector lever is in apposition other than P When selector lever is in any position other than P on When selector lever is in any position other than P on Electronic steering column lock LOCK status Electronic steering column lock UNLOCK status Electronic steering column lock UNLOCK status Electronic steering column lock UNLOCK status OFF Electronic steering column lock UNLOCK status Ignition switch OFF or ACC Ignition switch OF Driver door UNLOCK status OFF ON ON Driver door UNLOCK status OFF ON ON ON ON ON ON ON ON O

Monitor Item	Condition	Value/Status
C/I DELAY DEO	Ignition switch OFF or ACC	OFF
S/L RELAY-REQ	Ignition switch ON	ON
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
	Driver door LOCK status	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
	Passenger door LOCK status	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
ID OK ELAC	Ignition switch ACC or ON	RESET
ID OK FLAG	Ignition switch OFF	SET
DDMT ENC CTAT	When the engine start is prohibited	RESET
PRMT ENG STAT	When the engine start is permitted	SET
PRMT RKE STAT	NOTE: This item is displayed, but cannot be monitored.	RESET
KEY OW OLOT	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key
CONFERMIDALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
CONFRM ID ALL	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIDM ID (The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
CONFIRM ID4	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIDMIDO	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
CONFIRM ID3	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	YET
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
CONFIRMIDI	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth key is not registered to BCM	YET
16 4	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	YET
irs	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	YET
11 4	The ID of second key is registered to BCM	DONE

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS > [XENON TYPE]

Monitor Item	Condition	Value/Status	
TP 1	The ID of first key is not registered to BCM	YET	_
IF I	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 REGST FL1	When ID of front LH tire transmitter is registered	DONE	
ID REGOT FLT	When ID of front LH tire transmitter is not registered	YET	
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE	
ID REGOT FRI	When ID of front RH tire transmitter is not registered	YET	
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE	
ID REGOT KKT	When ID of rear RH tire transmitter is not registered	YET	
ID DECCE DI 4	When ID of rear LH tire transmitter is registered	DONE	
ID REGST RL1	When ID of rear LH tire transmitter is not registered	YET	
WARNING LAMP	Tire pressure indicator OFF	OFF	
WARNING LAWP	Tire pressure indicator ON	ON	
DUZZED	Tire pressure warning alarm is not sounding	OFF	
BUZZER	Tire pressure warning alarm is sounding	ON	—

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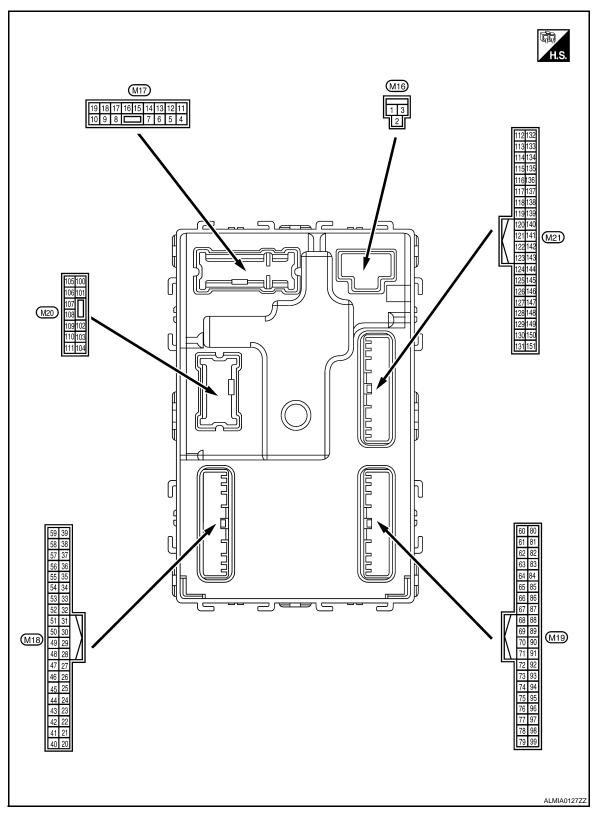
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Terminal Layout

INFOID:0000000004269393



Physical Values

	inal No.	Description				Value	Δ
(Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage	Е
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFF		Battery voltage	(
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage	
4	Cround	Interior room lamp	Output	After passing the ir er operation time	nterior room lamp battery sav-	OV	
(P/W)	Ground	power supply	Output	Any other time after lamp battery save	er passing the interior room roperation time	Battery voltage	Е
5	O manufacture d	Front door RH UN-	0	Front does DII	UNLOCK (actuator is activated)	Battery voltage	
(G)	Ground	LOCK	Output	Front door RH	Other than UNLOCK (actuator is not activated)	ov	F
7	Ground	Step lamp	Output	Step lamp	ON	0V	
(R/W)	Giouria	эсер каптр	Output	Step lattip	OFF	Battery voltage	(
8	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage	
(V)	(V) Glound		All doors LOCK	Output	7 til ddold	Other than LOCK (actuator is not activated)	OV
9	9	Front door LH UN- LOCK	ront door LH UN-	Front door LH	UNLOCK (actuator is activated)	Battery voltage	
(L) Ground	Ground		Output	A FIGHT GOOF EFF	Other than UNLOCK (actuator is not activated)	ov	
10	Ground	Rear door RH and rear door LH UN-	Output Rear	Rear door RH	UNLOCK (actuator is activated)	Battery voltage	,
(G)	Giodila	LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	OV	ŀ
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage	
13 (B)	Ground	Ground	_	Ignition switch ON		0V	E
					OFF	OV	
14 (GR/ W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position (V) 10 0 2 ms JSNIA0010GB	11
15	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage	F
(Y/L)				J : 2	ACC or ON	0V	

Term	inal No.	Description				
(Wire color)		Input/		Condition		Value
(+)	(-)	Signal name	Output			(Approx.)
					Turn signal switch OFF	OV
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
					Turn signal switch OFF	OV
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(Y)	Ground	control	Output	lamp	ON	OV
21	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehi- cle is bright	Close to 5V
(P/B)	Oround	Optical scrisor signal	прис		When outside of the vehi- cle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
26	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is not depressed)	ov
(O/L)					ON (brake pedal is depressed)	Battery voltage
27 (O)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB
					UNLOCK status	OV
29	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot		Battery voltage
(Y)	Ground	Noy Siot Switch	iiiput	When Intelligent Key is not inserted into k		0V
30	Ground	ACC feedback signal Inp	Input Ignition	Ignition switch	OFF	0
(V/Y)	2.odild			-g	ACC or ON	Battery voltage
31	Ground	Rear window defog- ger feedback signal	Inniit	Rear window de-	OFF	0V
(G)			ger teedback signal		fogger switch	ON

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS > [XENON TYPE]

Terminal No. (Wire color)		Description		.		Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	А
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB	B C
					ON (when front door RH opens)	0V	_
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB	E F G
					ON	OV	
38		Rear window defog-		Rear window de-	OFF	5V	Н
(GR/ W)	(GR/ Ground ger O	ger ON signal	Input	fogger switch	ON	0V	
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms JPMIA0013GB	J K
				Ignition switch OF	F or ACC	OV	
				Engine switch	ON	5.5V	EX
41 (W)	Ground	Engine switch (push switch) illumination	Output	(push switch) illu-			
-				mination	OFF	0V	N
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON OFF	0V Rattory voltage	
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		Battery voltage 0V	Ν
46	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF ACC or ON	0V 5.0V	C

	inal No.	Description				Value
(VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)
47	7 Ground Tire pressure receiv- Input/	Tire pressure receiv- Input/ Ignition switch	Standby state	(V) 6 4 2 0 		
(G/O)				er signal	Output	
48	Ground	Selector lever P/N	Input	Selector lever	P or N position	12.0V
(R/G)	Ground	position signal	iliput	Selector level	Except P and N positions	OV
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	ON Blinking	(V) 15 10 5 0 JPMIA0014GB
					OFF	Battery voltage
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF Lighting switch 1ST Lighting switch high-beam Lighting switch 2ND Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0031GB
					All switch OFF (Wiper intermittent dial 4)	10.7V
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	Front wiper switch HI (Wiper intermittent dial 4) Any of the conditions below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3 Wiper intermittent dial 6 Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0032GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS > [XENON TYPE]

Terminal No. (Wire color)		Description			On a distant	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	OV
					Front washer switch ON (Wiper intermittent dial 4)	(V)
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	15 10 5 0 2 ms JPMIA0033GB
					All quitab OFF	10.7V
					All switch OFF Front wiper switch INT	0V
					Front wiper switch LO	(V)
53 (LG/ Grou R)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	15 10 5 0 2 ms JPMIA0034GB
					All switch OFF	OV
				Combination switch (Wiper intermittent dial 4)	Front fog lamp switch ON	
					Lighting switch 2ND	(V)
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output		Lighting switch flash-to- pass	10 5 0
						Turn signal switch LH
57 (W)	Ground	Tire pressure warning check switch	Input		_	5V
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (front door LH OPEN)	OV
59	Ground	Rear window defog-	Output	Rear window de-	Active	Battery voltage
(G/R)	Ciouna	ger relay	Caiput	fogger	Not activated	0V

	inal No.	Description				Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
60	Ground	Front console antenna 2 (-)	Output	Output Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(B/R)	Clound				When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
61 (W/R)	Ground	Center console antenna 2 (+)	Output	the passenger compartment Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s 1 s
			Сара	ÖFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 11 1 s JMKIA0063GB
62 (V)		Front outside handle RH antenna (-) Output When the front door RH reques switch is operated with ignition switch OFF	Output		When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 S S S S S S S S S
	Ground		switch is operat- ed with ignition	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	

< ECU DIAGNOSIS > [XENON TYPE]

Term	ninal No.	Description				
	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
63		Front outside handle		When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(P)	Ground	RH antenna (+)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
64	0	Front outside handle	0.4-4	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	Ground	LH antenna (-)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
65	Crown	Front outside handle	Outrait	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
(P)	Ground	LH antenna (+)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

	inal No. e color)	Description	ı			Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
66	Ground	Instrument panel an-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 JMKIA0062GB
(R)	Clound	tenna (-)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
67	Cround Instrument panel an-		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	
(G)	Ground	tenna (+)	Output	ŎFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 con-	Output	Ignition switch	OFF or ACC	0V Pottor violtogo
(17/0)	trol Calput Igillion Silicin		ON	Battery voltage		

< ECU DIAGNOSIS > [XENON TYPE]

	ninal No. e color)	Description			O Pri	Value	А
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	/ \
71		Remote keyless entry	Input/	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB	B C
(L/O)	Ground	receiver signal	Output	When operating either button on Intelligent Key		(V) 15 10 5 0 1 ms JMKIA0065GB	E F
		Combination switch INPUT 5	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V	G H
75 (R/Y)	Ground				Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB	J K
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms	M

	inal No.	Description				Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
(.)	()	Combination switch INPUT 3	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V
76	Ground				Lighting switch high-beam (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V
(R/G)					Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 2 ms JPMIA0037GB
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB
77	Ground	Engine switch (push	Input	Engine switch	Pressed	OV
(BR) 78		switch)	Input/	(push switch)	Not pressed	Battery voltage
(P)	Ground	CAN-L	Output		_	_
79 (L)	Ground	CAN-H	Input/ Output		_	_
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumina- tion	OFF	OV (V) 15 10 5 U JPMIA0015GB 6.5V
					ON	Battery voltage

< ECU DIAGNOSIS > [XENON TYPE]

	inal No. e color)	Description	T		0 100	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
81 (Y/L)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF ACC or ON	0V Battery voltage
84 (Y/R)	Ground	A/T device	Output		_	Battery voltage
85		Electronic steering		Electronic steer-	Lock status	0V
(L/O)	Ground	column lock condition No. 1	Input	ing column lock	Unlock status	Battery voltage
86	Ground	Electronic steering column lock condition	Input	Electronic steer-	Lock status	Battery voltage
(G/R)	Ground	No. 2	Input	ing column lock	Unlock status	0V
87	Ground	Selector lever P posi-	Input	Selector lever	P position	0V
(G/B)	Giound	tion switch	Input	Selector level	Any position other than P	Battery voltage
88 (R)	Ground	Front door RH request switch	Input	Front door RH request switch	ON (pressed) OFF (not pressed)	0V (V) 15 10 5 0 10 ms JPMIA0016GB 1.0V
					ON (pressed)	0V
89 (R)	Ground	Front door LH request switch	Input	Front door LH request switch	OFF (not pressed)	(V) 15 10 10 ms 1.0V
90	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0V
(Y)		lay control	•		ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFI	F	Battery voltage
94	Ground	Steering wheel lock	Output	Ignition switch	OFF or ACC	Battery voltage
(G/Y)	Giouria	unit power supply	Output	ignition switch	ON	0V

EXL-113

	inal No. e color)	Description				Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB	
	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB	
95 (R/W)					Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V	
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB	
					Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB	

[XENON TYPE] < ECU DIAGNOSIS >

Terminal N		Description				Value
(Wire colo	·	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms
96 (P/B) Gro		Combination switch INPUT 4	Input	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	1.3V (V) 15 10 5 0 JPMIA0039GB

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	inal No.	Description				Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB
					Lighting switch flash-to- pass	(V) 15 10 5 0 2 ms 1.3V
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 5 2 ms JPMIA0036GB
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB
					Pressed	0 V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB

< ECU DIAGNOSIS > [XENON TYPE]

	inal No. e color)	Description				Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
					LOCK status	Battery voltage	
99 (L/Y)	Ground	Electronic steering column lock unit communication	Input/ Output	Electronic steer- ing column lock	LOCK or UNLOCK	(V) 15 10 50 ms JMKIA0066GB	
					For 15 seconds after UN- LOCK	Battery voltage	
					15 seconds or later after UNLOCK	ov	
103	Crownsi	Trupk lid on oning	Outtook	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage	
(V)		Output	Trunk lid	Close (trunk lid opener actuator is not activated)	ov		
110	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V	
(V/W)	Giodila	Trank room lamp	Output	Trunk room lamp	OFF	Battery voltage	
114		Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB	
(B)	Ground	1 (-)	Output	OFF			
					When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB	

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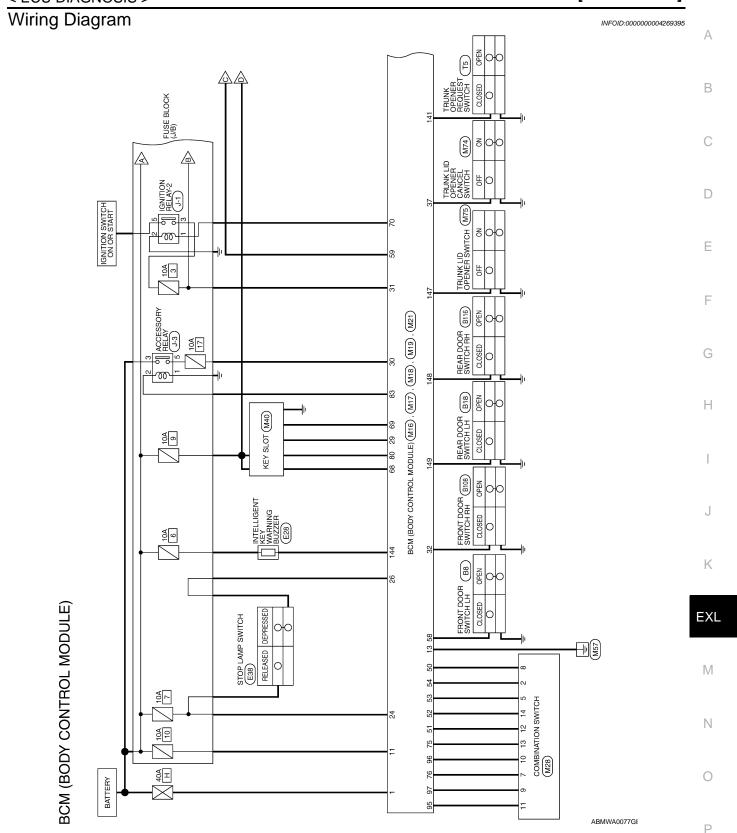
	inal No. e color)	Description	1		0 111	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
115	Ground	Ground Trunk room antenna Output Ignition swi		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(W)	Glouliu		OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB	
118	Ground	Rear bumper anten-	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(L/O)	Ground	na (-)			When Intelligent Key is not in the antenna detection area	(V) 15 10 5 11 1 s JMKIA0063GB
119 (BR/	Ground	Rear bumper antenna (+)		When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(BR/ W)			Output		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

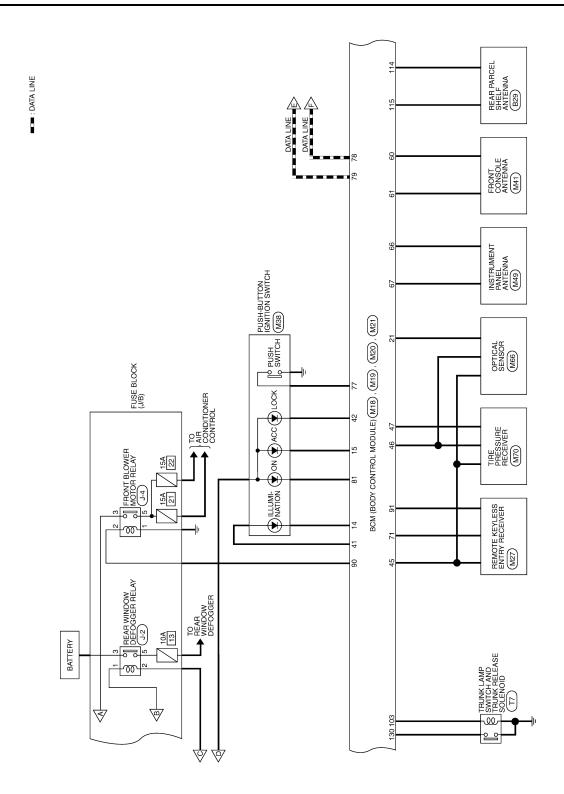
< ECU DIAGNOSIS > [XENON TYPE]

	inal No.	Description	1			Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
127 (BR/	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	Battery voltage
W)		E/R) control	'	ŭ	ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 10 10 ms JPMIA0011GB
					ON (trunk is open)	11.8V
				Ignition switch OFF (M/T vehi-	When the clutch pedal is depressed	Battery voltage
				cle)	When the clutch pedal is not depressed	ov
132 (R)	Ground	Starter motor relay control	Output	Ignition switch	When selector lever is in P or N position and the brake is depressed	Battery voltage
				ON (other than M/ T vehicle)	When selector lever is in P or N position and the brake is not depressed	ov
					ON (pressed)	0V
141 (BR)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
144	Ground	Request switch buzz-	Output	Request switch	Sounding	OV
(GR)		er		buzzer	Not sounding	Battery voltage
147 (L/R)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed Not pressed	0V Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (when rear door RH opens)	11.8V 0V

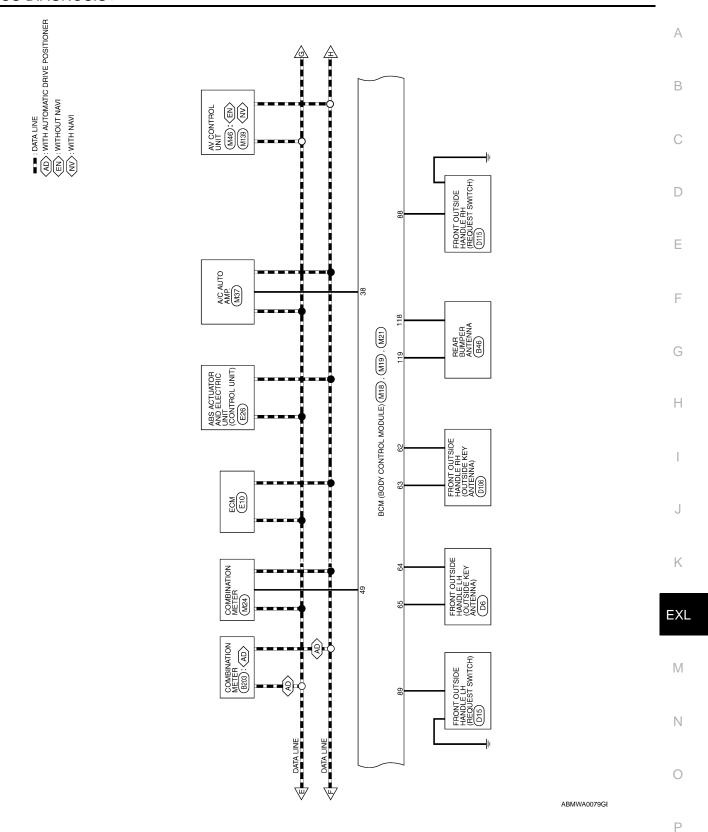
[XENON TYPE] < ECU DIAGNOSIS >

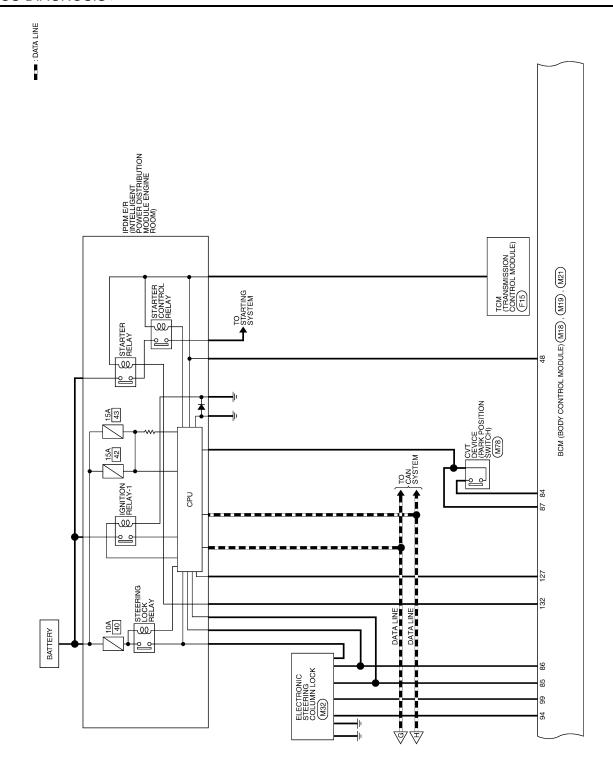
	inal No.	Description				Value	
(VVire	e color)	Signal name	Input/		Condition	(Approx.)	
(+)	(-)	olghai hame	Output			(11 - /	
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB	
					ON (when rear door LH opens)	0V	





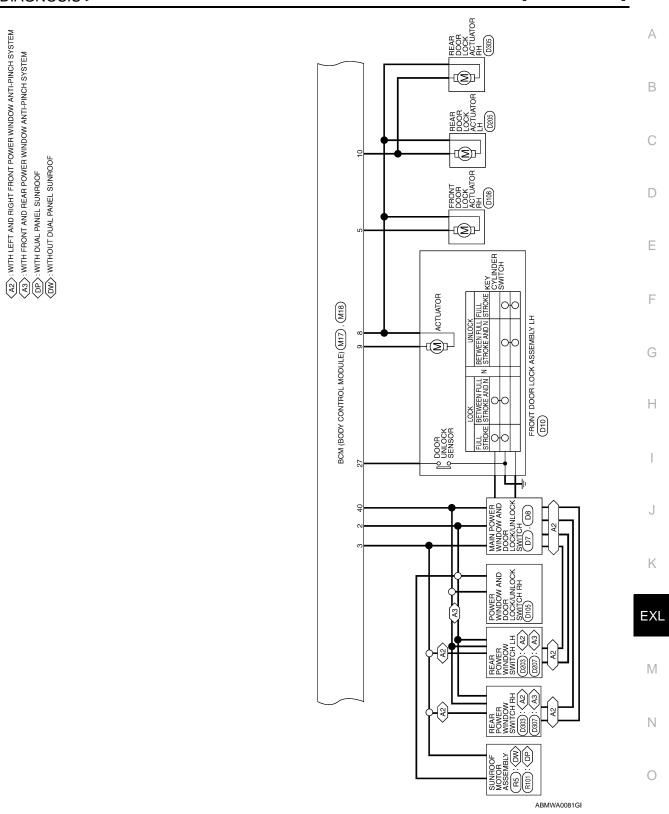
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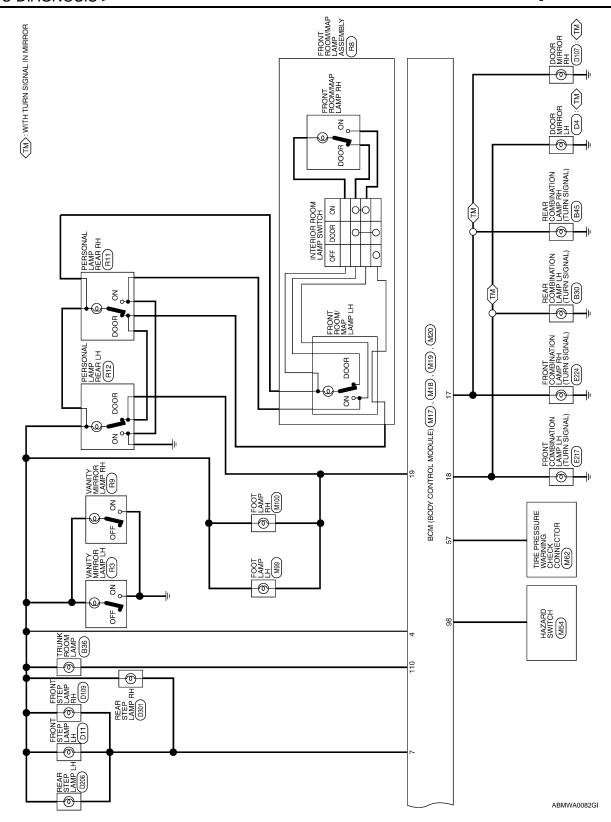




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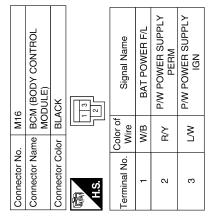
BCM (BODY CONTROL MODULE) CONNECTORS

		Terminal No. Wire	Color of	Signal Name	
TROL	1	10	g	DOOR UNLOCK OUTPUT (RR/RL)	
		11	Y/R	BAT BCM FUSE	
		12	ı	ı	
		13	В	GND1	
,					
ame		4	GR/W	GR/W LOW SIDE PUSH LED	
		4	//	ACCLED	
SUPPLY		6	1/1	000	
700		16	ı	ı	
r AS		17	G/B	FR FLASHER	
		18	G/Y	FL FLASHER	
P CONT		19	>	ROOM LAMP CONT	
LOCK	1				

		νРГΥ	INAL	rral	JRITY	T 5	Т 1	T 2	Т3	T 4				~	H H
Signal Name	GND RF2 A/L	A/L POWER SUPPLY 5V	RF2 TUNER SIGNAL	SHIFT N/P/ NEUTRAI SW	IMMO LED (SECURITY INDICATOR)	COMBI SW OUT 5	COMBI SW OUT 1	COMBI SW OUT 2	COMBI SW OUT 3	COMBI SW OUT 4	I	I	TPMS MODE	DR DOOR SW	REAR DEFOGGER
Color of Wire	۵	N/W	G/0	R/G	0/1	LG/B	L/W	G/B	LG/R	G/Y	1	1	M	SB	G/R
Terminal No.	45	46	47	48	49	50	51	52	53	53	54	55	99	58	59

	BCM (BODY CONTROL MODULE)	里	7 8 9 10	11 12 13 14 15 16 17 18 18	Signal Name	R/L POWER SUPPL	DOOR UNLOCK OUTPUT AS	_	STEP LAMP CON1	DOOR UNLOCK OUTPUT ALL	DOOR UNLOCK OUTPUT (DR/FL)	
. M17		lor WHITE	4 5 6	11 12 13	Color of Wire	P/W	9	_	B/W	^	_	
Connector No.	Sonnector Name	Connector Color		H.S.	erminal No.	4	5	9	7	8	6	

Signal Name	DOOR LOCK STATUS DR	ı	FOB IN SW 1	ACC F/B	IGN F/B	AS DOOR SW 1	I	I	I	ı	TRUNK CANCEL SW	REAR DEFOGGER SW	I	PW K-LINE	PUSH LED	S/L LOCK LED	-	1
Color of Wire	0	1	>		g	B/B	1	1	ı	ı	0	GR/W	ı	Y/G	>	œ	-	-
Terminal No.	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44



	BCM (BODY CONTROL MODULE)	N		30 29 28 27 26 25 24 23 22 21 20 50 49 48 47 46 45 44 43 42 41 40	Signal Name	ı	A/L SIGNAL TYPE 1	I	ı	BRAKE SW1	ı	BRAKE SW2
M18		or GREEN		4 33 32 31	Color of Wire	ı	P/B	-	-	W/A	-	O/L
Connector No.	Connector Name	Connector Color	(南) H.S.	39 38 37 36 35 34 59 58 57 56 55 54	Terminal No.	20	21	22	23	24	25	26

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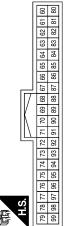
EXL-127

Signal Name	AT DEVICE OUT	S/L CONDITION 1	S/L CONDITION 2	SHIFT P/ASCD CANCEL SW	AS REQUEST SW	DR REQUEST SW	BLOWER FAN RELAY	RF POWER SUPPLY 12V	ı	ı	S/L POWER SUPPLY 12V	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2	HAZARD SW	S/L K-LINE
Color of Wire	Y/R	9	G/R	G/B	æ	æ	\	L/R	1	1	G/Y	B/W	P/B	B/B	9/0	Γ
Terminal No.	84	85	98	87	88	68	06	91	92	93	94	92	96	26	86	66

Signal Name	ROOM ANT 1 A	FOB READER CLOCK	FOB READER DATA	IGN REL OUTPUT 2	RF1 TUNER SIGNAL	ı	_	ı	COMBI SW IN 5	COMBI SW IN 3	ENG START SW	CAN-L	CAN-H	FOB SLOT ILLUMINATION	IGN ON LED	_	ACC CONT
Color of Wire	g	G/O	0	B/B	0/1	ı	_	1	R/Υ	B/G	BR	Ь	L	B/L	Y/L	_	L
Terminal No.	29	89	69	70	71	72	23	74	75	9/	22	78	79	80	81	82	83

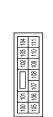
	Signal Name	I	Ι	I	ı	ı	I	TRUNK LAMP CON	Ι
	Color of Wire	_	_	1	1	1	1	W/V	_
	Terminal No.	104	105	106	107	108	109	110	111

Connector No.	M19
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK



Signal Name	ROOM ANT 2 B	ROOM ANT 2 A	AS DOOR ANT B	AS DOOR ANT A	DR DOOR ANT B	DR DOOR ANT A	ROOM ANT 1 B
Color of Wire	B/R	W/R	^	۵	^	Ь	œ
Terminal No.	09	61	62	63	64	9	99

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



TRUNK LAMP CONT

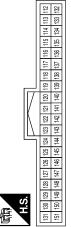
Signal Name	ı	1	ı	CDL BACK TRUNK
Color of Wire	1	-	ı	^
Terminal No. Wire	100	101	102	103

ABMIA0178GB

Signal Name	_	I	-	I	1	TRUNK REQUEST SW	_	ı	BUZZER	ı	ı	BACK TRUNK OPENER	RR DOOR SW	RL DOOR SW	_	_
Color of Wire	ı	1	1	ı	ı	BR	-	1	GR	ı	1	L/R	B/W	R/B	1	_
Terminal No.	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151

Color of Wire	Signal Name
BR/W	BACK DOOR ANT A
1	I
ı	1
ı	1
ı	1
ı	1
1	_
ı	ı
BR/W	IGN RELAY OUTPUT
1	_
ı	1
>	TRUNK SW
-	_
В	ST RELAY OUTPUT
_	_
ı	_
_	_
	Wire BR/W BR/W W W W W W W W W W W W W W W W W W W

Connector No.	M21
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color GRAY	GRAY



Signal Name	I	ı	TRUNK ANT 1 B	TRUNK ANT 1 A	ı	I	BACK DOOR ANT B
Color of Wire	I	1	В	>	1	-	Γ/0
Terminal No. Wire	112	113	114	115	116	117	118

ABMIA0179GB

Fail Safe INFOID:0000000004269396

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC

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Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
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	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal
B2562: LO VOLTAGE	Inhibit engine cranking Inhibit electronic steering column lock	100 ms after the power supply voltage increases to more than 8.8 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	500 ms after the following signal reception status becomes consistent • Selector lever P position switch signal • P range signal (CAN)
B2602: SHIFT POSITION	Inhibit electronic steering column lock	5 seconds after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 km/h or more
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit electronic steering column lock	500 ms after any of the following BCM recognition conditions is fulfilled • Ignition switch is in the ON position - Power position: IGN - Selector lever P/N position signal: Except P and N positions (0 V) - Interlock/PNP switch signal (CAN): OFF • Status 2 - Ignition switch is in the ON position - Selector lever P/N position signal: P or N position (battery voltage) - PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)

< ECU DIAGNOSIS > [XENON TYPE]

Display contents of CONSULT	Fail-safe	Cancellation		
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN) 		
B2609: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When the following electronic steering column lock conditions agree BCM electronic steering column lock control status Electronic steering column lock condition No. 1 signal status Electronic steering column lock condition No. 2 signal status		
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal) 		
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)		
B2612: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When any of the following conditions is fulfilled Electronic steering column lock unit status signal (CAN) is received normally The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)		
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal		
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal		
B2619: BCM	Inhibit engine cranking	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal		
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)		

DTC Inspection Priority Chart

o following priority

INFOID:0000000004269397

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

Priority	DTC	
1	B2562: LO VOLTAGE	
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)	
3	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM	

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< ECU DIAGNOSIS > [XENON TYPE]

Priority	DTC
4	B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY B2601: SHIFT POSITION B2602: SHIFT POSITION B2602: SHIFT POSITION B2603: SHIFT POSI STATUS B2604: PNP SW B2606: S/L RELAY B2606: S/L RELAY B2606: S/L RELAY B2607: S/L RELAY B2608: STASTER RELAY B2608: STERING LOCK UNIT B2609: S/L STATUS B2600: STEERING LOCK UNIT B2600: STEERING LOCK UNIT B2607: S/L STATUS B2612: S/L STATUS B2612: S/L STATUS B2615: BLOWER RELAY CIRC B2615: BLOWER RELAY CIRC B2616: GN RELAY CIRC B2617: STARTER RELAY CIRC B2618: BCM B2619: BCM B2614: PUSH-BTN IGN SW B2619: BCM B2619: BCM B2611: ENG STATE NO RECIV C1729: VHCL SPEED SIG ERR
5	U0415: VEHICLE SPEED SIG 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 C1711: [NO DATA] RL C1711: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] FR C1715: [CHECKSUM ERR] RR C1715: [PRESSDATA ERR] FL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1721: [CODE ERR] FR C1722: [CODE ERR] FR C1722: [CODE ERR] RR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RR C1734: CONTROL UNIT
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	-	_	_	BCS-37
U1010: CONTROL UNIT (CAN)	_	_	_	BCS-38
U0415: VEHICLE SPEED SIG	_	_	_	BCS-39
B2013: ID DISCORD BCM-S/L	×	_	_	SEC-30
B2014: CHAIN OF S/L-BCM	×	_	_	SEC-31
B2190: NATS ANTENNA AMP	×	_	_	<u>SEC-34</u>
B2191: DIFFERENCE OF KEY	×	_	_	SEC-37
B2192: ID DISCORD BCM-ECM	×	_	_	SEC-38
B2193: CHAIN OF BCM-ECM	×	_	_	<u>SEC-39</u>
B2553: IGNITION RELAY	_	_	_	PCS-54
B2555: STOP LAMP	_	_	_	SEC-40
B2556: PUSH-BTN IGN SW	_	×	_	SEC-42
B2557: VEHICLE SPEED	×	×	_	SEC-44
B2560: STARTER CONT RELAY	×	×	_	<u>SEC-45</u>
B2562: LOW VOLTAGE	_	_	_	BCS-40
B2601: SHIFT POSITION	×	×	_	SEC-46
B2602: SHIFT POSITION	×	×	_	SEC-49
B2603: SHIFT POSI STATUS	×	×	_	SEC-51
B2604: PNP SW	×	×	_	<u>SEC-54</u>
B2605: PNP SW	×	×	_	<u>SEC-56</u>
B2606: S/L RELAY	×	×	_	SEC-58
B2607: S/L RELAY	×	×	_	SEC-59
B2608: STARTER RELAY	×	×	_	SEC-61
B2609: S/L STATUS	×	×	_	SEC-63
B260A: IGNITION RELAY	×	×	_	PCS-56
B260B: STEERING LOCK UNIT	_	×	_	<u>SEC-67</u>
B260C: STEERING LOCK UNIT	_	×	_	<u>SEC-68</u>
B260D: STEERING LOCK UNIT	_	×	_	<u>SEC-69</u>
B260F: ENG STATE SIG LOST	×	×	_	<u>SEC-70</u>
B2612: S/L STATUS	×	×	_	<u>SEC-72</u>
B2614: ACC RELAY CIRC	_	×	_	PCS-58
B2615: BLOWER RELAY CIRC	_	×	_	PCS-61
B2616: IGN RELAY CIRC	_	×	_	PCS-64
B2617: STARTER RELAY CIRC	×	×	_	PCS-64
B2618: BCM	×	×	_	PCS-67

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EXL-133

[XENON TYPE]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2619: BCM	×	×	_	<u>SEC-78</u>
B261A: PUSH-BTN IGN SW	_	×	_	<u>SEC-79</u>
B2621: INSIDE ANTENNA	_	_	_	<u>DLK-57</u>
B2622: INSIDE ANTENNA	_	_	_	DLK-60
B2623: INSIDE ANTENNA	_	_	_	<u>DLK-63</u>
B26E1: ENG STATE NO RES	×	×	_	<u>SEC-71</u>
C1704: LOW PRESSURE FL	_	_	×	<u>WT-48</u>
C1705: LOW PRESSURE FR	_	_	×	<u>WT-48</u>
C1706: LOW PRESSURE RR	_	_	×	<u>WT-48</u>
C1707: LOW PRESSURE RL	_	_	×	<u>WT-48</u>
C1708: [NO DATA] FL	_	_	×	<u>WT-13</u>
C1709: [NO DATA] FR	_	_	×	<u>WT-13</u>
C1710: [NO DATA] RR	_	_	×	<u>WT-13</u>
C1711: [NO DATA] RL	_	_	×	<u>WT-13</u>
C1712: [CHECKSUM ERR] FL	_	_	×	<u>WT-15</u>
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-15</u>
C1714: [CHECKSUM ERR] RR	_	_	×	<u>WT-15</u>
C1715: [CHECKSUM ERR] RL	_	_	×	<u>WT-15</u>
C1716: [PRESSDATA ERR] FL	_	_	×	<u>WT-17</u>
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-17</u>
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-17</u>
C1719: [PRESSDATA ERR] RL	_	_	×	<u>WT-17</u>
C1720: [CODE ERR] FL	_	_	×	<u>WT-15</u>
C1721: [CODE ERR] FR	_	_	×	<u>WT-15</u>
C1722: [CODE ERR] RR	_	_	×	<u>WT-15</u>
C1723: [CODE ERR] RL	_	_	×	<u>WT-15</u>
C1724: [BATT VOLT LOW] FL	_	_	×	<u>WT-15</u>
C1725: [BATT VOLT LOW] FR	_	_	×	<u>WT-15</u>
C1726: [BATT VOLT LOW] RR	_	_	×	<u>WT-15</u>
C1727: [BATT VOLT LOW] RL	_	_	×	<u>WT-15</u>
C1729: VHCL SPEED SIG ERR	_	_	×	<u>WT-18</u>
C1734: CONTROL UNIT	_	_	×	<u>WT-19</u>

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

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	C	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
TAIL 0.01 D. D.F.O.	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or A	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
		Front fog lamp switch OFF	Off
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	 Front fog lamp switch ON Daytime running light activated (Only for Canada models) 	On
		Front wiper switch OFF	STOP
FR WIP REQ	Innition quitab 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 operation	BLOCK
ION DIVI DEO	Ignition switch OFF or ACC		Off
IGN RLY1 -REQ	Ignition switch ON		On
ION DIV	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
DI ICI I CW	Release the push-button ignition	switch	Off
PUSH SW	Press the push-button ignition sv	vitch	On
INITED/ND OW	Ignition switch ON	CVT selector lever in any position other than P or N	Off
INTER/NP SW	Ignition switch ON	CVT selector lever in P or N position	On
CT DLV CONT	Ignition switch ON		Off
ST RLY CONT	At engine cranking		On
IUDT DLV DEO	Ignition switch ON		Off
IHBT RLY -REQ	At engine cranking		On

Monitor Item	Con	ndition	Value/Status		
	Ignition switch ON		Off		
	At engine cranking	ST →INHI			
ST/INHI RLY	The status of starter relay or starter of the battery voltage malfunction, etc. starter control relay is OFF	UNKWN			
DETENT SW	Ignition switch ON	 Press the selector button with CVT selector lever in P position CVT selector lever in any position other than P 			
	Release the CVT selector button wi	ith CVT selector lever in P position	On		
	None of the conditions below are pr	resent	Off		
S/L RLY -REQ	seconds)	the driver door after the ignition switch is turned OFF (for a few			
	Steering lock is activated	LOCK			
S/L STATE	Steering lock is deactivated	UNLK			
	[DTC B210A] is detected	UNKWN			
DTRL REQ	NOTE: This item is displayed, but cannot b	Off			
OII P SW	Ignition switch OFF, ACC or engine	Open			
OIL P SW Ignition switch ON			Close		
	Not operated Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM				
THFT HRN REQ					
HORN CHIRP	Not operated	Off			
HONN CHIRP	Door locking with Intelligent Key (ho	On			
CRNRNG LMP REQ	NOTE: This item is displayed, but cannot b	Off			
HOOD SW	NOTE: This item is displayed, but cannot b	On			
HL WASHER REQ	NOTE: This item is displayed, but cannot b	e monitored.	On		

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [XENON TYPE]

< ECU DIAGNOSIS >

TERMINAL LAYOUT H.S. 106 98 105 97 104 96 103 95 102 94 101 93 100 92 99 91 (E201) (E17) 38 36 37 35 82 80 81 79 78 68 77 67 76 66 75 65 74 64 21 20 (E18) 73 63 72 62 71 61 70 60 69 59 (F10) 14 8 13 7 12 6 11 5 10 4 9 3 (E200) 1 2 E16

PHYSICAL VALUES

Terminal No. (Wire color)		Description				Value
		Signal name	Input/ Output	Condition		(Approx.)
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4	Ground			Ignition	Front wiper switch OFF	0 V
(LG)	Ground	Ground Front wiper LO O	Output	switch ON	Front wiper switch LO	Battery voltage
5	Crowned Front wines III	Output	tput Ignition switch ON	Front wiper switch OFF	0 V	
(Y) Ground	Front wiper HI			Front wiper switch HI	Battery voltage	
6 (L)	Ground	Daytime light relay power supply (Canada models only)	Output	Ignition switch OFF		Battery voltage
7	Ground	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V
(GR)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
10 (BR) Ground			Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V	
	ound ECM relay power supply Output		(More that	witch ON witch OFF an a few seconds after turn- on switch OFF)	Battery voltage	

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	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output	Condition		value (Approx.)
			<u> </u>	Ignition switch OFF	A few seconds after opening the driver door	Battery voltage
11 (O)	Ground	Ind lock power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage
				Ignition switch ACC or ON		0 V
12 (B)	Ground	Ground	_	Ignition sw	itch ON	0 V
13					tely 1 second or more after ignition switch ON	0 V
(SB)	Ground	Fuel pump power supply	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage
15	Ground	Ignition relay-1 power sup-	Output	Ignition sw	itch OFF	0 V
(W)	Orodina	ply	- Catput	Ignition sw		Battery voltage
16	0		_	Ignition	Front wiper stop position	0 V
(R)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage
19	Ground	Ignition relay-1 power sup-	Output	Ignition switch OFF Ignition switch ON		0 V
(Y)		ply				Battery voltage
20 (L)	Ground	Ambient sensor ground	_	Ignition switch ON		0V
21 (LG)	Ground	Ambient sensor	_	Ignition switch ON		5V
22 (SB)	Ground	Refrigerent pressure sensor ground	_	Ignition switch ON		OV
23 (GR)	Ground	Refrigerent pressure sensor	_	Ignition switch ON (READY) Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
24 (G)	Ground	Refrigerent pressure sensor power supply	_	Ignition sw	itch ON	5V
25	Ground	Ignition relay-1 power sup-	Output	Ignition sw		0 V
(GR)		ply		Ignition sw		Battery voltage
27 (W)	Ground	Ignition relay monitor	Input		itch OFF or ACC	Battery voltage
				Ignition switch ON		0 V
28 (SB)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch Release the push-button ignition switch		Battery voltage
30				CVT selector lever in any position other than P or N (ignition switch ON)		0 V
(BR)	Ground	Starter relay control	Input	CVT selector lever P or N (ignition switch ON)		Battery voltage
32		Electronic steering column		Electronic steering column lock is activated		0 V
(P)	Ground	Ground lock unit condition-1	Input	Electronic steering column lock is deactivated		Battery voltage

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

[XENON TYPE] < ECU DIAGNOSIS >

Terminal No. (Wire color)					Value	
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
33 (G)	Ground	Electronic steering column lock condition-2	Input	vated	steering column lock is acti- steering column lock is deac-	Battery voltage 0 V
34 (O)	Ground	Cooling fan relay-3 control	Input	Ignition swi	itch OFF or ACC	0 V 0.7 V
35 (P)	Ground	Cooling fan motor control	Output		itch OFF or ACC	0 V 0.7 V
36 (G)	Ground	Battery power supply	Input	Ignition swi		Battery voltage
38 (GR)	Ground	Cooling fan motor control	Output	Ignition swi	itch OFF or ACC	0 V 0.7 V
39 (P)	_	CAN - L	Input/ Output	igination out	_	
40 (L)	_	CAN - H	Input/ Output		_	_
41 (B)	Ground	Ground	_	Ignition switch ON		0 V
42 (SB)	Ground	Cooling fan relay-2 control	Input	Ignition switch OFF or ACC Ignition switch ON		0 V 0.7 V
43 (Y)	Ground	CVT device (Detention switch)	Input	Ignition switch ON	Press the CVT selector button (CVT selector lever P) CVT selector lever in any position other than P Release the CVT selector button (CVT selector lever P)	Battery voltage 0 V
44 (W)	Ground	Horn relay control	Input	The horn is	s deactivated s activated	Battery voltage 0 V
45 (GR)	Ground	Anti theft horn relay control	Input	The horn is	s deactivated	Battery voltage 0 V
46 (BR)	Ground	Starter relay control	Input	than P or N	or lever in any position other I (ignition switch ON) for lever P or N (ignition	0 V Battery voltage
48 (W)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF A/C switch ON (A/C compressor is operating)	0 V Battery voltage
49 R/G)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF) • Ignition switch ON • Ignition switch OFF (More than a few seconds after turn-		0 V Battery voltage
51 (LG)	Ground	Ignition relay power supply	Output	ing ignition switch OFF) Ignition switch OFF Ignition switch ON		0 V Battery voltage

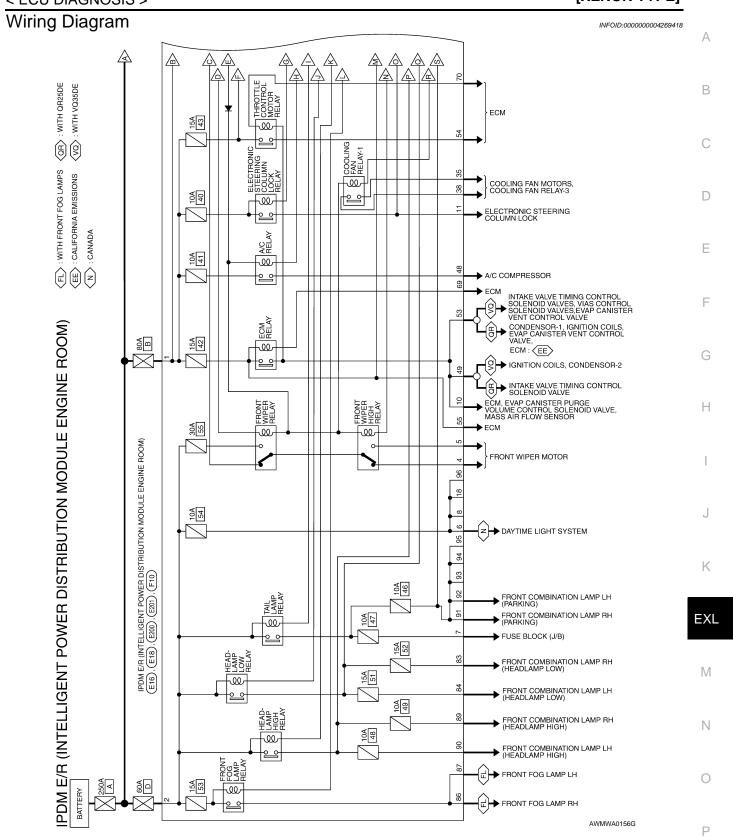
	inal No.	Description				Value	
+ (VVire	e color)	Signal name	Input/ Output		Condition	(Approx.)	
52	0	d lanition relevance output		Ignition switch OFF		0 V	
(Y/G)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage	
F2				Ignition swi (For a few s switch OFF	econds after turning ignition	0 V	
53 (R/W)	Ground	ECM relay power supply	Output	 Ignition switch ON Ignition switch OFF (More than a few seconds after turning ignition switch OFF) 		Battery voltage	
54		Thurstille control motors to		Ignition swi (For a few s switch OFF	econds after turning ignition	0 V	
(G/W)	Ground	Ground Throttle control motor relay power supply	Output			Battery voltage	
55 (W/L)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage	
56	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
(R/Y)	Giodila			Ignition switch ON		Battery voltage	
57	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
(O)	0.00	ig.iii.oi. roia) potroi cappi)		Ignition swi	tch ON	Battery voltage	
58	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
(Y)		3, ,	1	Ignition swi	tch ON	Battery voltage	
60				Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage	
69 (W/B)	Ground	ECM relay control	Output	Ignition s (More that	witch ON witch OFF an a few seconds after turn- on switch OFF)	0 - 1.5 V	
		Throttle control motor re- lay control				0 -1.0 V	
70 (O)	Ground		Output	Ignition switch ON → OFF		↓ Battery voltage ↓	
				Ignition switch ON		0 V	
-				ignition swi	CVT selector lever in P or	0 - 1.0 V	
72		PNP switch signal	Input	Ignition switch ON	N position	Battery voltage	
(R/B)	Ground				CVT selector lever in any position other than P or N position	0 V	
75	Ground	Oil pressure switch	Input	Ignition	Engine stopped	0 V	
(LG)	Ground			switch ON	Engine running	Battery voltage	

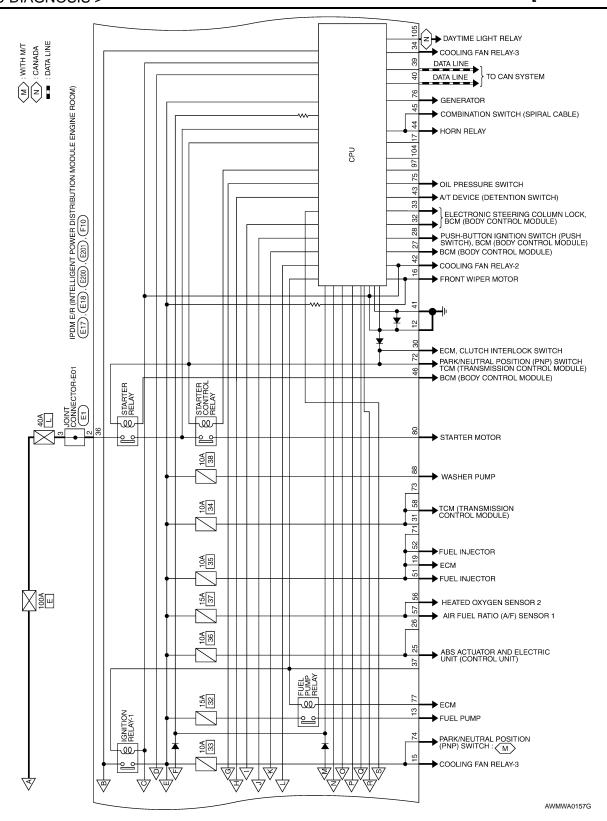
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS > [XENON TYPE]

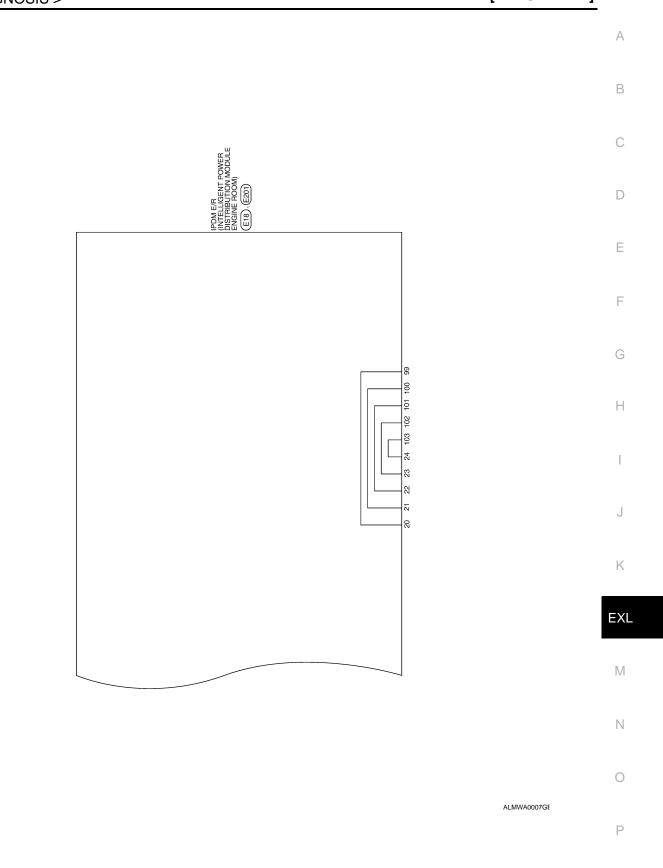
Terminal No. (Wire color)		Description				Value	
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	
76 (SB) Ground				Ignition switch ON 40% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 → 2 2ms JPMIA0001GB	
	Ground	Power generation command signal	Output			(V) 64 2 0 2 ms JPMIA0002GB 3.8 V	
				80% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2 2 ms JPMIA0003GB	
77 (GR)	Ground	Fuel pump relay control	Output	Approximately 1 second after turning the ignition switch ON Engine running Approximately 1 second or more after turning the ignition switch ON		0 - 1.0 V Battery voltage	
80 (B/W)	Ground	Starter motor	Output	At engine of	ranking	Battery voltage	
83 (R/Y)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF Lighting switch 2ND	0 V Battery voltage	
84 (L)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF Lighting switch 2ND	0 V Battery voltage	
86 (W/R)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada models) 	Battery voltage	
87 (L/Y)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch OFF Front fog lamp switch ON Daytime running light activated (Only for Canada models) Front fog lamp switch OFF	0 V Battery voltage	
88 (R/W)	Ground	Washer pump power supply	Output	Front fog lamp switch OFF Ignition switch ON		Battery voltage	

	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HI Lighting switch PASS	Battery voltage
(L/VV)				SWILCH ON	Lighting switch OFF	0 V
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition	Lighting switch HI Lighting switch PASS	Battery voltage
(G)				switch ON	Lighting switch OFF	0 V
91		D 1: 1 (D1)	0	Ignition	Lighting switch 1ST	Battery voltage
(LG/ R)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch OFF	0 V
92			.	Ignition	Lighting switch 1ST	Battery voltage
(LG/ B)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch OFF	0 V
99 (BR/ W)	Ground	Ambient sensor ground	_	Ignition switch ON		0V
100 (SB)	Ground	Ambient sensor	_	Ignition switch ON		5V
101 (W)	Ground	Refrigerent pressure sensor ground	_	Ignition switch ON		OV
102 (R)	Ground	Refrigerent pressure sensor	_	Ignition switch ON (READY) Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
103 (P)	Ground	Refrigerent pressure sensor power supply	_	Ignition switch ON		5V
105	Ground	Ground Daytime light relay control (Only for Canada models)	Output	Ignition Daytime light system acswitch ON tive		Battery voltage
(V) G100	Siound		Output	Ignition switch ON	Daytime light system inactive	0 V





IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS > [XENON TYPE]



IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [XENON TYPE]

< ECU DIAGNOSIS >

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INE ROOM)	Connector No.
DULE ENG	
INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	E16
OWER DIS	Connector No.
IGENT I	
(INTELL	
1 E/R CONNECTORS (I	E1
1 E/R CON	Connector No.

Connector No.	E1	Connector No. E16	E16
Connector Name	Connector Name JOINT CONNECTOR-E01		IPDM E/R (INTELLIGE
Connector Color WHITE	WHITE	Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE RC

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

E17

Connector Name

WHITE

Connector Color



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Signal Name F/L_MAIN F/L_USM

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Signal Name	,	1	_
Color of	מ	5 (5
Terminal No.	c	7 6	0

Signal Name	PD_SENS_SIG-E/R	PD_SENS PWR-E/R	ABS_ECU	ı	IGN_SIGNAL	PUSH_START_SW	ı	CLUTCH_I/L_SW	_	SL_CONDITION_1	SL_CONDITION_2	MOTOR_FAN_RLY_HI	MOTOR_FAN_LO	F/L_IGNSW	_	F/L_MOTOR_FAN
Color of Wire	B/R	BR/W	GR	ı	BR/W	BR	ı	B/B	I	0/7	G/R	O/L	L/B	G	ı	R/W
Terminal No.	23	24	25	56	27	28	53	30	31	32	33	34	32	96	28	38

Signal Name	ı	ı	ECM_VB	ESCL	P-GND	FUEL_PUMP	ı	START_IG-E/R	WIPER_AUTOSTOP	1	ı	BCM_IGNSW	AMB_SENS_GND-E/R	AMB_SENS_SIG-E/R	PD_SENS_GND-E/R
Color of Wire	_	ı	R/B	P/L	В	M	_	G/W	۲	-	-	$\Gamma \mathcal{N}$	B/Y	O/B	W/R
Terminal No.	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22

Connector No.	o. E18	
Connector Name		IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	olor WHITE	ПЕ
H.S.		
9 10 11 12 13 3 4 5 6 7	8 8	37 38 38 39 39 39 39 39 39
Terminal No.	Color of Wire	Signal Name
3	-	_
4	L/R	FR_WIPER_LO
5	L/B	FR_WIPER_HI
9	S.	DTRI

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

[XENON TYPE] < ECU DIAGNOSIS >

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Color of Wire BRAW BRAW SB SB SB SB SB SA	H.S. H.S. H.S. 100 100 100 100 100 100 100 100 100 10
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>	105
ı	104
Д	103
R/B	102
O/L	101
SB	100
BR/W	66
ı	86
I	26
ı	96
1	92
ı	94
ı	66
LG/B	95
LG/R	91
Color of Wire	erminal No.
98 97 99 97 106 105 105	H.S.
	98 97 98 94 98 92 94 98 92 94 98 92 94 98 92 94 94 94 94 94 94 94

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

Connector Name

Connector No.

E200

Connector No.

WHITE

Connector Color

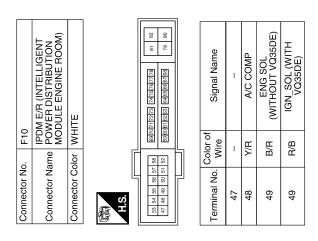


	Signal Name	HEADLAMP_LO_RH	HEADLAMP_LO_LH	_	FR_FOG_LAMP_RH	FR_FOG_LAMP_LH	WASHER_MTR	HEADLAMP_HI_RH	HEADLAMP_HI_LH
	Color of Wire	R/Y	٦	_	W/R	\prec	R/W	Γ/W	В
E.9.	Terminal No. Wire	83	84	85	98	87	88	89	06

ALMIA0034GB

Signal Name	ı	ı	-	-	SSOF	MOTRLY	I	NPSW	ı	START_IG-EGI	OIL_PRESSURE_SW	ALT_C	FPR	ı	ı	STARTER_MOTOR	-	_
Color of Wire	I	ı	_	-	W/B	0	ı	R/B	_	Υ	P/L	GR	B/R	ı	I	B/W	1	1
Terminal No.	65	99	29	89	69	70	7.1	72	23	74	22	9/	77	78	79	80	81	82

Signal Name	ı	INJECTOR_#1	INJECTOR_#2	IGN_SOL (WITH VQ35DE)	ENG_SOL (WITH VQ35DE)	ETC	ECM_BAT	O2_SENS_#1	O2_SENS_#2	AT_ECU	1	-	I	I	I	_
Color of Wire	1	LG	Y/G	B/B	B/B	G/W	M/L	R/Y	0	У	_	_	-	ı	I	_
Terminal No.	50	51	52	53	53	54	55	99	22	28	29	09	61	62	63	64



AWMIA0302GB

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

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

[XENON TYPE] < ECU DIAGNOSIS >

Control part	Fail-safe in operation
Cooling fan	 Signals cooling fans ON when the ignition switch is turned ON Signals cooling fans OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

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If No CAN Communication Is Available With BCM

Control part	Fail-safe in 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 lampsLicense plate lampsIlluminationTail 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 (if equipped)	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
Electronic steering column lock	Steering lock 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.

DTC	Ignition switch	Ignition relay	Tail lamp relay
_	ON	ON	_
_	OFF	OFF	_
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF	ON	OFF	_

NOTE:

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

FRONT WIPER CONTROL

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

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

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

NOTE:

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

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

< ECU DIAGNOSIS > [XENON TYPE]

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index

CONSULT-III display	Fail-safe	TIME	NOTE	Refer to
No DTC is detected. further testing may be required.	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-18
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-19
B2099: IGN RELAY OFF	_	CRNT	1 – 39	PCS-20
B2108: STRG LCK RELAY ON	_	CRNT	1 – 39	<u>SEC-81</u>
B2109: STRG LCK RELAY OFF	_	CRNT	1 – 39	SEC-82
B210A: STRG LCK STATE SW	_	CRNT	1 – 39	SEC-83
B210B: START CONT RLY ON	_	CRNT	1 – 39	<u>SEC-87</u>
B210C: START CONT RLY OFF	_	CRNT	1 – 39	<u>SEC-88</u>
B210D: STARTER RELAY ON	_	CRNT	1 – 39	SEC-89
B210E: STARTER RELAY OFF	_	CRNT	1 – 39	SEC-90
B210F: INTRLCK/PNP SW ON	_	CRNT	1 – 39	SEC-92
B2110: INTRLCK/PNP SW OFF	_	CRNT	1 – 39	<u>SEC-94</u>

NOTE:

The details of TIME display are as follows.

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

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

INFOID:0000000003898943

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SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

CAUTION:

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

Symp	otom	Possible cause	Inspection item
Headlamp does not switch to the high beam.	One side	Fuse Harness between IPDM E/R and the front combination lamp Front combination lamp (High beam relay) IPDM E/R	Headlamp (HI) circuit. Refer to <u>EXL-36</u> .
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-154.	
High beam indicator lamp (Headlamp switches to the		Combination meter BCM	Combination meter. Data monitor "HI-BEAM IND". BCM (HEAD LAMP). Active test "HEADLAMP".
	One side	Front combination lamp (Low beam relay)	_
Headlamp does not switch to the low beam.	Both sides	Combination switch Harness between the combination switch and BCM BCM	Combination switch. Refer to BCS-10.
		High beam request signal BCM IPDM E/R	IPDM E/R. Data monitor "HL HI REQ".
		IPDM E/R	_
Headlamp does not turn ON.	One side	Fuse Bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Headlamp (LO) circuit. Refer to EXL-38.
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) A Refer to EXL-155, "Description".	RE NOT TURNED ON"
	When the ignition switch is turned ON	BCM Combination switch	Combination switch. Refer to BCS-10.
Headlamp does not turn OFF.	The ignition switch is turned OFF (After activating the battery saver).	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 BCS-10.
		Optical sensor Harness between the optical sensor and BCM BCM	Optical sensor. Refer to <u>EXL-48</u> .

Symptom		Possible cause	Inspection item
Daytime light system does not activate.		Either high beam bulb Parking brake switch Combination switch BCM IPDM E/R Daytime light relay Harness between IPDM E/R and daytime light relay.	Daytime light system description. Refer to EXL-11, "System Description".
Front fog lamp is not turned ON.	One side	Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Front fog lamp circuit. Refer to EXL-40.
	Both side	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS Refer to EXL-157.	S ARE NOT TURNED ON"
Parking lamp is not turned ON.	One side	 Fuse Parking lamp bulb Harness between IPDM E/R and the front/rear combination lamp Front/rear combination lamp IPDM E/R 	Parking lamp circuit. Refer to <u>EXL-42</u> .
	Both sides	Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON". Refer to EXL-156.	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	each turn signal lamp • Turn signal lamp bulb Turn signal lamp circu	
	One side	Combination meter	_
Turn signal indicator lamp	Both sides (Always)	Turn signal indicator lamp signal Combination meter BCM	Combination meter. Data monitor "TURN IND". BCM (FLASHER). Active test "FLASHER".
does not blink.	Both sides (Does blink when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuit Combination meter	Combination meter. Power supply and the ground circuit Refer to MWI-37.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS > [XENON TYPE]

NORMAL OPERATING CONDITION

Description INFOID:0000000008898944

XENON HEADLAMP

- The brightness and color of the light may vary slightly immediately after turning the headlamp ON. This condition will remain until the xenon bulb becomes stable. This is normal.
- Illumination time lag may occur between right and left. This is normal.

AUTO LIGHT SYSTEM

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

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BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description INFOID:000000003898945

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

Diagnosis Procedure

INFOID:0000000003898946

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-10, "System Description".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

(E)CONSULT-III DATA MONITOR

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

Monitor item	Condition		Monitor status
	Lighting switch	HI or PASS	ON
HL HI REQ	Lighting switch (2ND)	Except for HI or PASS	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-36, "Diagnosis Procedure".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

[XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON Α Description INFOID:0000000003898947 The headlamps (both sides) do not turn ON in any lighting switch setting. В Diagnosis Procedure INFOID:0000000003898948 CHECK COMBINATION SWITCH Check the combination switch. Refer to BCS-10, "System Description". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT Е **©CONSULT-III DATA MONITOR** Select "HL LO REQ" of IPDM E/R DATA MONITOR item. While operating the lighting switch, check the monitor status. F Monitor item Condition Monitor status 2ND ON **HL LO REQ** Lighting switch OFF OFF Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM. Refer to BCS-87, "Removal and Installation". 3.HEADLAMP (LO) CIRCUIT INSPECTION Check the headlamp (LO) circuit. Refer to EXL-38, "Diagnosis Procedure". Is the headlamp (LO) circuit normal? YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation". NO >> Repair or replace the malfunctioning part. K

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PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[XENON TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description INFOID:000000003898949

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

Diagnosis Procedure

INFOID:0000000003898950

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-10, "System Description".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-42, "Diagnosis Procedure".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

[XENON TYPE] < SYMPTOM DIAGNOSIS > BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON Α Description INFOID:0000000003898951 The front fog lamps do not turn ON in any setting. В Diagnosis Procedure INFOID:0000000003898952 1.COMBINATION SWITCH INSPECTION Check the combination switch. Refer to BCS-10, "System Description". Is the combination switch normal? D YES >> GO TO 2. NO >> Repair or replace the malfunctioning part. 2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT Е PCONSULT-III DATA MONITOR Select "FR FOG REQ" of IPDM E/R DATA MONITOR item. While operating the front fog lamp switch, check the monitor status. F Monitor item Condition Monitor status ON ON Front fog lamp switch FR FOG REQ (Lighting switch 2ND) OFF OFF Is the item status normal? Н YES >> GO TO 3. NO >> Replace BCM. Refer to BCS-87, "Removal and Installation". 3.FRONT FOG LAMP CIRCUIT INSPECTION Check the front fog lamp circuit. Refer to EXL-40, "Diagnosis Procedure". Is the front fog lamp circuit normal? YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation". NO >> Repair or replace the malfunctioning part.

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< PRECAUTION > [XENON TYPE]

PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

Precautions For Xenon Headlamp Service

INFOID:0000000004218761

WARNING:

Comply with the following warnings to prevent any serious accident.

- Disconnect the battery cable (negative terminal) or the power supply fuse before installing, removing, or touching the xenon headlamp (bulb included). The xenon headlamp contains high-voltage generated parts.
- · Never work with wet hands.
- Check the xenon headlamp ON-OFF status after assembling it to the vehicle. Never turn the xenon headlamp ON in other conditions. Connect the power supply to the vehicle-side connector.
 - (Turning it ON outside the lamp case may cause fire or visual impairments.)
- Never touch the bulb glass immediately after turning it OFF. It is extremely hot.

HIGH VOLTAGE A WARNING/AVERTISSEMENT XENON HEADLAMPS • TO AVOID DEATH OR INJURY, DISCONNECT POWER BEFORE TOUCHING OR SERVICING BULB OR CABLES. SEE OWNERS MANUAL. • POUR VITER LES BLESSURES OU LA MORT, COUPER L'ALIMENTATION AVANT DE TOUCHER L'AMPOULE OU AUX C'BLES OU AVANT DE LES RPARER. COUNSULTER LE MANUEL DE L'USAGER. WKIAO460E

CAUTION:

Comply with the following cautions to prevent any error and malfunction.

- Install the xenon bulb securely. (Insufficient bulb socket installation may melt the bulb, the connector, the housing, etc, by high-voltage leakage or corona discharge.)
- Never perform HID circuit inspection with a tester.
- Never touch the xenon bulb glass with hands. Never put oil and grease on it.
- Dispose of the used xenon bulb after packing it in thick vinyl without breaking it.
- Never wipe out dirt and contamination with organic solvent (thinner, gasoline, etc.).



Precautions Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:0000000004394025

NOTE:

PRECAUTIONS

< PRECAUTION > [XENON TYPE]

Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.

 After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.

Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work.
 If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.
- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

General precautions for service operations

- Turn the lighting switch OFF before disconnecting and connecting the connector.
- When checking the headlamp on/off operation, check it on vehicle and with the power connected to the vehicle-side connector.
- Leaving the bulb removed from the headlamp housing for a long period of time can deteriorate the performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing the bulb.
- When adjusting the headlamp aiming, turn the aiming adjustment screw only in the tightening direction. (If it is necessary to loosen the screw, first fully loosen the screw, and then turn it in the tightening direction.)

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ON-VEHICLE MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000004216251

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your area.
- Perform aiming adjustment if the vehicle front body has been repaired and/or the front combination lamp assembly has been replaced.

Before performing aiming adjustment, check the following.

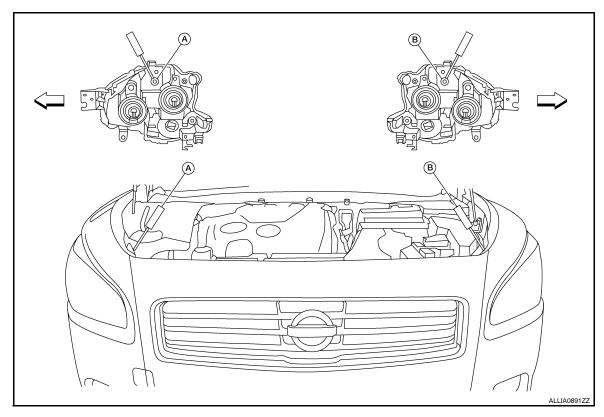
• Adjust the tire pressure to specification.

- Position vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Ensure engine coolant and engine oil are filled to correct levels and fuel tank is full.
- Confirm spare tire, jack and tools are properly stowed.
- Wipe off dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.).

AIMING ADJUSTMENT SCREW



- A. Headlamp RH (UP/DOWN) adjustment screw
- B. Headlamp LH (UP/DOWN) adjustment screw
- ⟨ > Vehicle center

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

Aiming Adjustment Procedure

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Position the screen. 1.

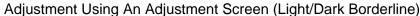
NOTE:

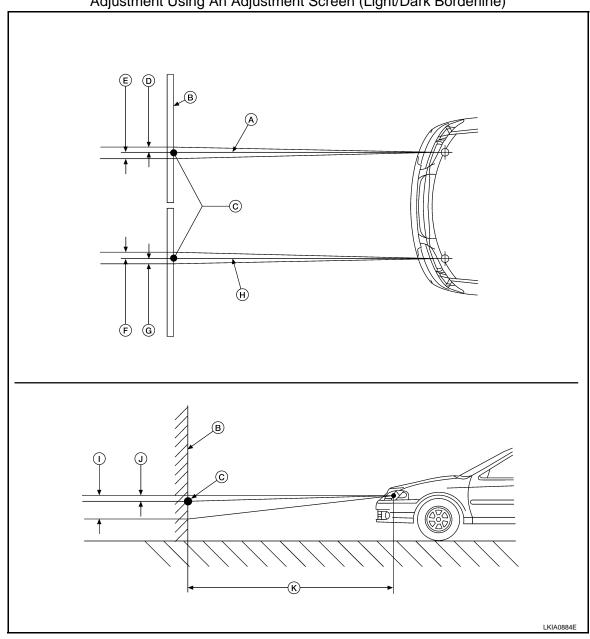
- Stop the vehicle facing the screen.
- Place the screen on a plain road vertically.
- 2. Face the screen with the vehicle. Maintain 7.62 m (25 ft) between the headlamp bulb center and the screen.
- Start the engine. Turn the headlamp (LO) ON.

CAUTION:

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

- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.
- For horizontal aiming, adjust headlamp until beam pattern is at horizontal center point.





A. Headlamp beam (RH)

D. 66.5 mm (2.6 in)

- B. Screen
- E. 66.5 mm (2.6 in)
- C. Horizontal/Vertical center point of headlamp
- F. 66.5 mm (2.6 in)

EXL-161

HEADLAMP AIMING ADJUSTMENT

< ON-VEHICLE MAINTENANCE >

[XENON TYPE]

G. 66.5 mm (2.6 in)

H. Headlamp beam (LH)

I. 53.2 mm (2.1 in)

J. 13.3 mm (0.5 in)

K. 7.62 m (25 ft)

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FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:000000004216253

PREPARATION BEFORE ADJUSTING

NOTE:

For details, refer to the regulations in your area.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to specification.
- Position vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Ensure engine coolant and engine oil are filled to correct levels and fuel tank is full.
- Confirm spare tire, jack and tools are properly stowed.
- Wipe off dirt on the headlamp.

CAUTION:

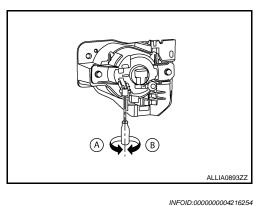
Never use organic solvent (thinner, gasoline etc.).

AIMING ADJUSTMENT SCREW

Turn the aiming adjusting screw for adjustment as shown.
 NOTE:

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

- A: Up
- B: Down



Aiming Adjustment Procedure

Position the screen.

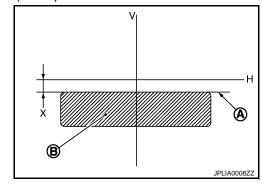
NOTE:

- Stop the vehicle facing the screen.
- Place the screen on a plain road vertically.
- 2. Face the screen with the vehicle. Maintain 7.62 m (25.0 ft) between the front fog lamp center and the screen.
- 3. Start the engine. Turn the front fog lamp ON.

CAUTION:

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

- Aim each fog lamp individually and ensure other fog lamp beam pattern is blocked from 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 100 mm (4.0 in).
 - Front fog lamp light distribution on the screen is as shown.
 - 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



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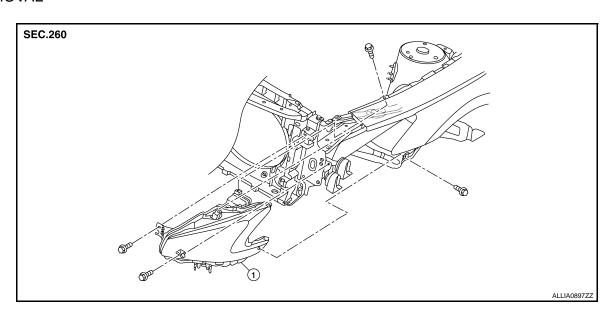
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ON-VEHICLE REPAIR

FRONT COMBINATION LAMP

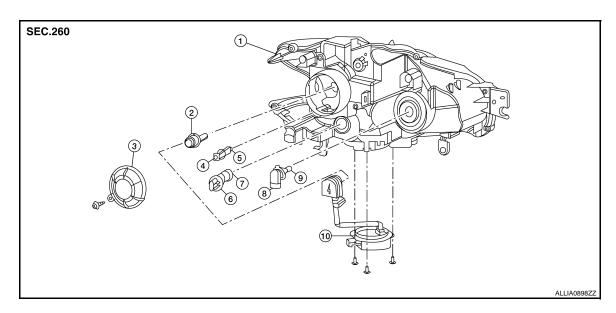
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



- 1. Front combination lamp
- 4. Side marker lamp socket
- 7. Front turn signal lamp bulb
- 10. HID control unit and xenon bulb socket
- 2. Xenon bulb
- 5. Side marker lamp bulb
- 8. Halogen bulb socket (high beam)
- Plastic cover
- 6. Front turn signal lamp socket
- 9. Halogen bulb (high beam)

Removal and Installation

INFOID:0000000004216256

REMOVAL CAUTION:

FRONT COMBINATION LAMP

[XENON TYPE] < ON-VEHICLE REPAIR >

Disconnect the battery negative terminal or remove the fuse.

- Remove the front bumper fascia. Refer to <u>EXT-14</u>, "Removal and Installation".
- Remove the front combination lamp bolts.
- 3. Remove the harness clips from the front combination lamp assembly.
- 4. Pull out the front combination lamp toward the front of vehicle.
- Disconnect the harness connectors before removing the front combination lamp.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

After installation, perform headlamp aiming adjustment. Refer to EXL-160, "Description".

Replacement INFOID:00000000004216257

WARNING:

Never touch bulb by hand while it is lit or right after being turned off.

CAUTION:

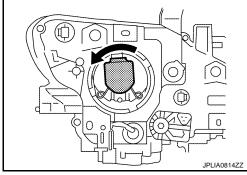
- Disconnect the battery negative terminal or remove the fuse.
- After installing the bulb, install the plastic cover and the bulb socket securely for watertightness.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never leave bulb out of lamp reflector 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.

XENON BULB

- Remove the front combination lamp. Refer to <u>EXL-164, "Removal and Installation"</u>.
- Remove screw from cover and rotate the plastic cover counterclockwise and unlock it.
- Rotate the xenon bulb socket counterclockwise and unlock it.
- 4. Unlock the retaining spring and remove the xenon bulb from the front combination lamp.

CAUTION:

Never break the xenon bulb ceramic tube when replacing the bulb.



HALOGEN BULB (HIGH BEAM)

- Remove the front combination lamp. Refer to EXL-164, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

FRONT TURN SIGNAL LAMP BULB

- Remove the front combination lamp. Refer to EXL-164, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

FRONT SIDE MARKER LAMP BULB

- Remove the front combination lamp. Refer to <u>EXL-164, "Removal and Installation"</u>.
- Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

Disassembly and Assembly

DISASSEMBLY

Remove screw from cover and rotate the plastic cover counterclockwise and unlock it.

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FRONT COMBINATION LAMP

< ON-VEHICLE REPAIR > [XENON TYPE]

- 2. Rotate the xenon bulb socket counterclockwise and unlock it.
- 3. Unlock the retaining spring and remove the xenon bulb.
- 4. Remove the HID control unit installation screws.
- 5. Remove the screw and disconnect the harness connector from the HID control unit.
- 6. Remove the xenon bulb socket from front combination lamp.
- 7. Rotate the halogen bulb socket counterclockwise and unlock it.
- 8. Remove the bulb from halogen bulb socket.
- 9. Rotate the front turn signal lamp socket counterclockwise and unlock it.
- 10. Remove the bulb from front turn signal lamp socket.
- 11. Rotate the front side marker lamp socket counterclockwise and unlock it.
- 12. Remove the bulb from front side marker lamp socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

CAUTION:

- Install HID control unit securely.
- After installing the bulb, install the plastic cover and the bulb socket securely for watertightness.

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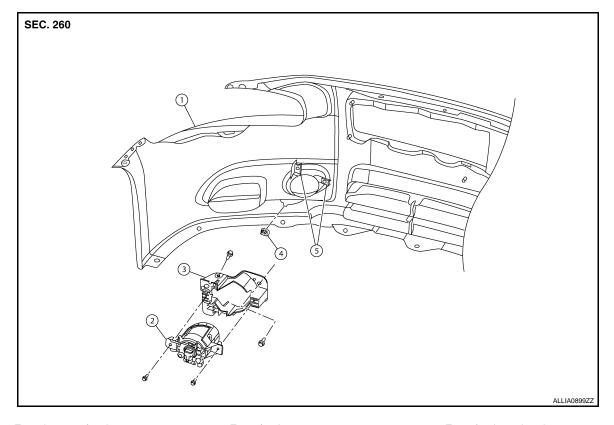
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FRONT FOG LAMP

Exploded View



- Front bumper fascia
- Clip

- Front fog lamp 2.
- Spring nuts

Front fog lamp bracket

Removal and Installation

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the front bumper fascia. Refer to EXT-14, "Removal and Installation". 1.
- 2. Disconnect the front fog lamp harness connector.
- 3. Remove the front fog lamp bolts.
- Remove the front fog lamp.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

After installation, perform front fog lamp aiming adjustment. Refer to EXL-163, "Description"

Replacement INFOID:0000000004216261

WARNING:

Never touch bulb by hand while it is lit or right after being turned off.

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 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.

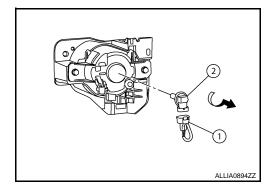
EXL

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FRONT FOG LAMP BULB

- 1. Remove the front fender protector. Refer to EXT-20, "Removal and Installation".
- 2. Disconnect the front fog lamp harness connector (1).
- 3. Rotate the bulb (2) counterclockwise and unlock it.



OPTICAL SENSOR

Exploded View

INFOID:0000000004216262

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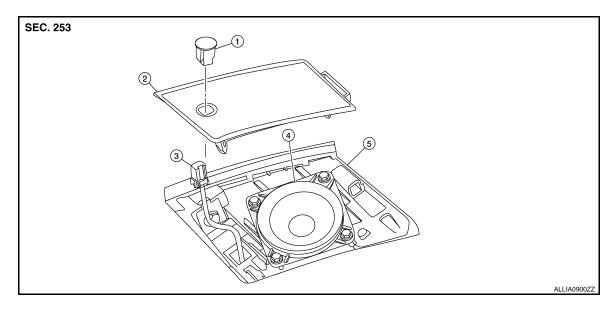
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- 1. Optical sensor
- 4. LH front speaker
- 2. LH front speaker grille
- Instrument panel
- 3. Optical sensor harness connector

Removal and Installation

INFOID:0000000004216263

REMOVAL

- 1. Remove the LH front speaker grille.
- 2. Insert an appropriate tool between the optical sensor and the LH front speaker grille. Pull out the optical sensor upward.
- 3. Disconnect the optical sensor harness connector and remove the optical sensor.

INSTALLATION

Installation is in the reverse order of removal.

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LIGHTING & TURN SIGNAL SWITCH

< ON-VEHICLE REPAIR >

[XENON TYPE]

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000004216265

NOTE:

The lighting and turn signal switch is integral with the combination switch assembly.

REMOVAL

- 1. Remove the spiral cable. Refer to SR-8, "Removal and Installation".
- 2. Disconnect the combination switch connector and remove the combination switch assembly.

INSTALLATION

Installation is in the reverse order of removal.

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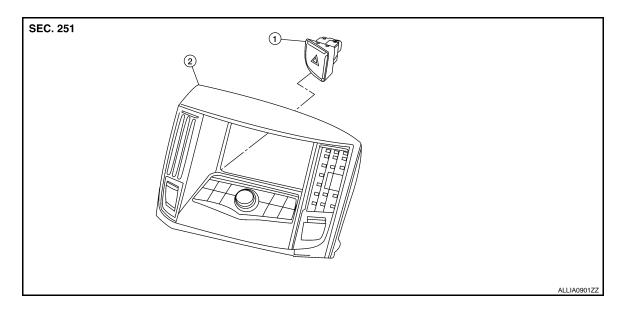
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INFOID:0000000004216267

HAZARD SWITCH

Exploded View



1. Hazard switch 2. Cluster lid D

Removal and Installation

REMOVAL

1. Remove cluster lid D. Refer to <u>IP-11, "Exploded View"</u>.

- 2. Disconnect the hazard switch harness connector.
- 3. Remove the hazard switch.

INSTALLATION

Installation is in the reverse order of removal.

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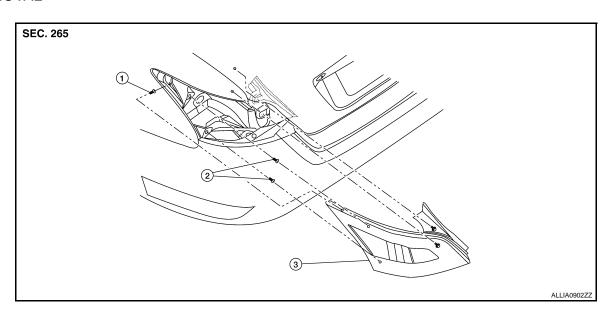
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REAR COMBINATION LAMP

Exploded View

REMOVAL

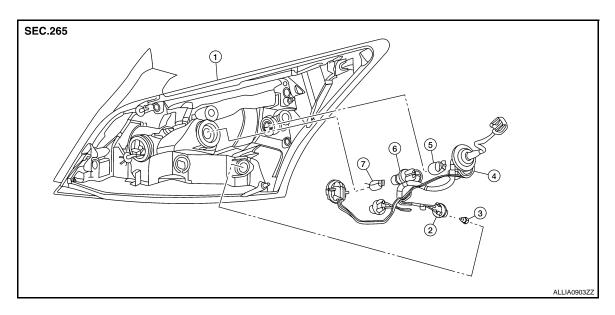


1. Slide clip

2. Grommets

B. Rear combination lamp

DISASSEMBLY



- 1. Rear combination lamp
- 4. Rear turn signal lamp socket
- 7. Back-up lamp bulb
- 2. Rear side marker lamp socket
- 5. Rear turn signal lamp bulb
- 3. Rear side marker lamp bulb

INFOID:0000000004216271

6. Back-up lamp socket

Removal and Installation

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the trunk side finisher. Refer to <u>INT-35</u>, "Exploded View".
- Remove the rear combination lamp nuts.

EXL-172

REAR COMBINATIO	
< ON-VEHICLE REPAIR >	[XENON TYPE]
3. Pull the rear combination lamp toward the rear of the vehic	le to remove it.
4. Disconnect the rear combination lamp harness connector.	
INSTALLATION	
Installation is in the reverse order of removal.	
Replacement	INFOID:0000000004216272
WARNING:	
 Never touch bulb by hand while it is lit or right after being 	g turned off.
CAUTION:	
 Disconnect the battery negative terminal or remove the f Never touch the glass of bulb directly by hand. Keep great 	
 Never leave bulb out of lamp reflector for a long time bed 	cause dust, moisture smoke, etc. may affect
the performance of lamp. When replacing bulb, be sure to	o replace it with new one.
STOP/TAIL LAMP	VI 470 Frank-ded Comp
Replacement is integral with rear combination lamp. Refer to E	XL-172, "Exploded View".
REAR SIDE MARKER LAMP BULB	
1. Remove the rear combination lamp. Refer to EXL-172, "Ex	
2. Rotate the rear side marker lamp socket counterclockwise	and unlock it.
3. Remove the bulb from the rear side marker lamp socket.	
REAR TURN SIGNAL LAMP BULB	
1. Remove the rear combination lamp. Refer to EXL-172, "Ex	
2. Rotate the rear turn signal lamp socket counterclockwise a	nd unlock it.
3. Remove the bulb from the rear turn signal lamp socket.	
BACK-UP LAMP BULB	
Remove the rear combination lamp. Refer to EXL-172, "Ex-	
2. Rotate the back-up lamp socket counterclockwise and unlo	ock it.
3. Remove the bulb from the back-up lamp socket.	

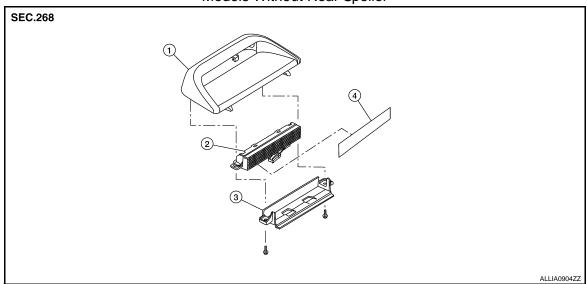
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HIGH-MOUNTED STOP LAMP

Exploded View

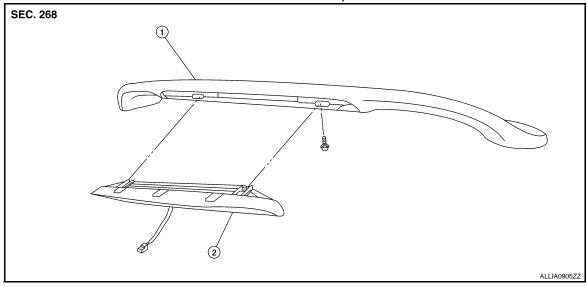
Models Without Rear Spoiler



- 1. High-mounted stop lamp cover
- 2. High-mounted stop lamp bulb
- 3. High-mounted stop lamp bracket

4. Lens

Models With Rear Spoiler



1. Rear spoiler

2. High-mounted stop lamp assembly

Removal and Installation

INFOID:0000000004216274

WITHOUT REAR SPOILER CAUTION:

Disconnect battery negative terminal or remove the fuse.

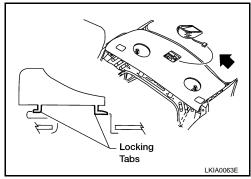
Removal

HIGH-MOUNTED STOP LAMP

< ON-VEHICLE REPAIR > [XENON TYPE]

1. Slide the high-mounted stop lamp assembly rearward on the parcel shelf to give clearance to the front locking tabs.

- 2. Lift the front of the high-mounted stop lamp assembly up and slide it forward to give clearance to the rear locking tabs.
- 3. Disconnect the high-mounted stop lamp connector and remove.



Installation

Installation is in the reverse order of removal.

WITH REAR SPOILER

CAUTION:

Disconnect battery negative terminal or remove the fuse.

Remova

- 1. Remove the rear spoiler. Refer to <a>EXT-28, "Removal and Installation".
- 2. Remove the high-mounted stop lamp assembly screws.
- 3. Remove the high-mounted stop lamp assembly from the rear spoiler.

Installation

Installation is in the reverse order of removal.

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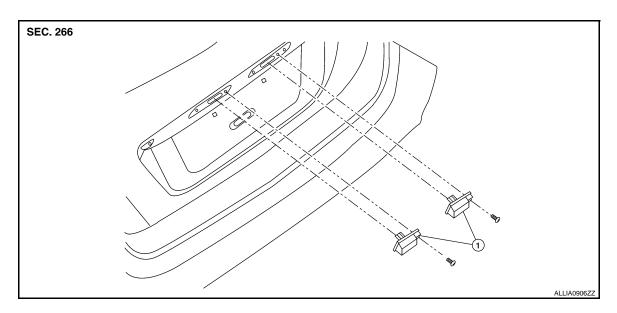
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LICENSE PLATE LAMP

Exploded View



1. License plate lamp

Removal and Installation

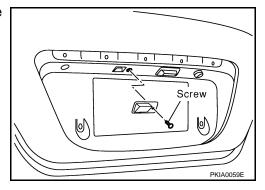
INFOID:0000000004216279

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the license lamp finisher. Refer to EXT-27, "Removal and Installation".
- 2. Position trunk lid finisher aside. Refer to INT-35, "Exploded View".
- 3. Remove the license plate lamp screw and remove the license plate lamp.



INSTALLATION

Installation is in the reverse order of removal.

Replacement INFOID:000000004216280

WARNING:

Never touch bulb by hand while it is lit or right after being turned off.
 CAUTION:

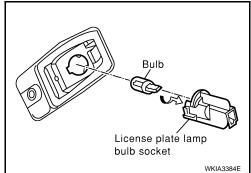
- Disconnect the battery negative terminal or remove the fuse.
- Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc., may affect the performance of lamp. When replacing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

LICENSE PLATE LAMP BULB

LICENSE PLATE LAMP

< ON-VEHICLE REPAIR > [XENON TYPE]

- Position trunk lid finisher aside. Refer to <u>INT-35, "Exploded View"</u>.
- 2. Turn the license plate lamp bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the license plate lamp bulb socket.



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SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

INFOID:0000000004216281

	Item	Type*	Wattage (W)
	Headlamp (low beam)	D2S (Xenon)	35
Front combination lamp	Headlamp (high beam)	9005/HB3 (Halogen)	60
Front combination famp	Park/Turn lamp	3457NAK	8/27
	Front side marker lamp	WY5W	5
Front fog lamp		H11	55
	Stop lamp	LED	_
	Tail lamp	LED	_
Rear combination lamp	Rear turn signal lamp	WY21W	21
	Rear side marker lamp	W5W	5
	Back-up lamp	921	16
License plate lamp		168	5
Lligh manufad aton lamp	Without rear spoiler	LED	_
High-mounted stop lamp	With rear spoiler	LED	_

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

[HALOGEN TYPE]

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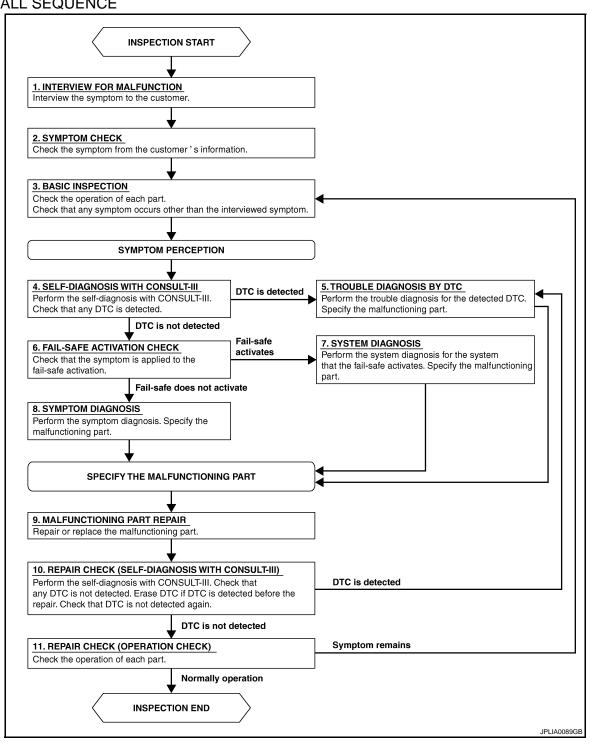
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< BASIC INSPECTION > **BASIC INSPECTION**

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow INFOID:0000000004261993 В

OVERALL SEQUENCE



DETAILED FLOW

1.INTERVIEW FOR MALFUNCTION

Find out what the customer's concerns are.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[HALOGEN TYPE]

>> GO TO 2.

2. SYMPTOM CHECK

Verify the symptom from the customer's information.

>> GO TO 3.

3.BASIC INSPECTION

Check the operation of each part. Check if any concerns occur other than those mentioned in the customer interview.

>> GO TO 4.

4. SELF-DIAGNOSIS WITH CONSULT-III

Perform the self diagnosis with CONSULT-III. Check if any DTC is detected.

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 6.

5. TROUBLE DIAGNOSIS BY DTC

Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.

>> GO TO 9.

6. FAIL-SAFE ACTIVATION CHECK

Determine if the customer's concern is related to fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7.

NO >> GO TO 8.

7. SYSTEM DIAGNOSIS

Perform the system diagnosis for the system in which the fail-safe activates. Specify the malfunctioning part.

>> GO TO 9.

8. SYMPTOM DIAGNOSIS

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

9. MALFUNCTION PART REPAIR

Repair or replace the malfunctioning part.

>> GO TO 10.

10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)

Perform the self diagnosis with CONSULT-III. Verify that no DTCs are detected. Erase all DTCs which were detected prior to the repair. Perform the self diagnosis with CONSULT-III again. Verify that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 11.

11. REPAIR CHECK (OPERATION CHECK)

Check the operation of each part.

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DIAGNOSIS AND REPAIR WORKFLOW < BASIC INSPECTION >	[HALOGEN TYPE]	
Does it operate normally? YES >> Inspection End. NO >> GO TO 3.		Α
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FUNCTION DIAGNOSIS

HEADLAMP

System Diagram

INFOID:0000000004269353 Combination switch reading function IPDM E/R Headlamp Combination CAN communication line всм switch HEAD LAMP Low beam •High beam LOW RELAY request signal •I ow beam HEAD LAMP High beam request signal HIGH RELAY Combination meter High beam indicator lamp

System Description

INFOID:0000000004269354

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

Component Parts Location

INFOID:0000000004269355



HEADLAMP

< FUNCTION DIAGNOSIS >

[HALOGEN TYPE]

- 1. IPDM E/R E17, E18, E200
- 2. BCM M16, M17, M18, M19 (view with 3. combination meter removed)
- Combination switch (lighting and turn signal switch) M28

Combination meter M24

Component Description

INFOID:0000000004269356

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LOW BEAM OPERATION

When the lighting switch is in 2ND position, the BCM receives input requesting the headlamps to illuminate. This input is communicated to the IPDM E/R across the CAN communication lines. The CPU of the IPDM E/R controls the headlamp low relay coil which supplies power to the low beam headlamps.

HIGH BEAM OPERATION/FLASH-TO-PASS OPERATION

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

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

EXTERIOR LAMP BATTERY SAVER CONTROL

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

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

This setting can be changed by CONSULT-III. Refer to <u>EXL-198</u>, "<u>HEADLAMP</u>: <u>CONSULT-III Function (BCM-HEAD LAMP</u>)".

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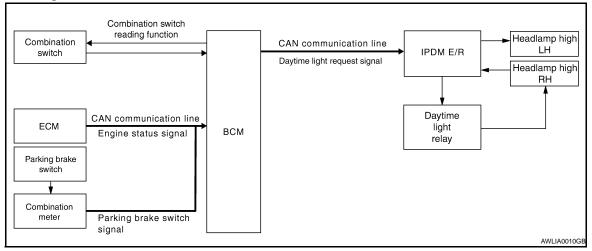
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DAYTIME RUNNING LIGHT SYSTEM

System Diagram

INFOID:0000000004269357



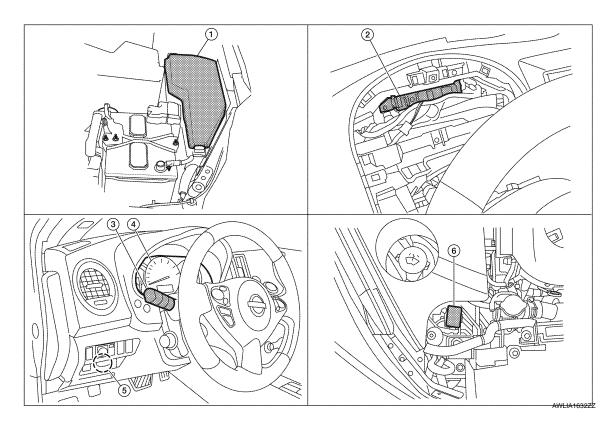
System Description

INFOID:0000000004269358

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

Component Parts Location

INFOID:0000000004269359



- 1. IPDM E/R E17, E18, E200, E201
- 4. Combination meter M24
- 2. BCM M16,M17, M18, M19 (view with combination meter removed)
- Parking brake switch E35
- 3. Combination switch (lighting and turn signal switch) M28
- 6. Daytime light relay E228

Component Description

INFOID:0000000004269360

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After starting the engine with the parking brake released and the lighting switch in the OFF or 1ST position, the headlamp high beam automatically turns on. With the lighting switch in the 2nd position or with autolamps ON, the headlamps function the same as conventional light systems.

OPERATION

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

E	ngine			V	/ith er	ngine	stopp	ed					V	/ith e	ngine	runni	ng	•	
		OFF 1ST		2ND		OFF			1ST		2ND								
Lighting switch		Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р	Hi	Lo	Р
Headlamp	High beam	-	-	1	-	-	×	×	-	×	•*	•*	×	•*	•*	×	×	-	×
пеашаттр	Low beam	-	_	-	-	-	×	×	×	×	-	-	×	-	_	×	×	×	×
Tail lamp	1	-	_	-	×	×	×	×	×	×	-	_	_	×	×	×	×	×	×
License and instion lamp	trument illumina-	_	_	1	×	×	×	×	×	×	_	_	_	×	×	×	×	×	×

- Hi: "HIGH BEAM" position
- · Lo: "LOW BEAM" position
- P: "FLASH TO PASS" position
- x: Lamp "ON"
- · -: Lamp "OFF"
- Eamp dims. (Added functions)
- *: When starting the engine with the parking brake released, the daytime lights will operate.
 When starting the engine with the parking brake applied, the daytime lights will not operate.

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AUTO LIGHT SYSTEM

System Diagram

INFOID:0000000004269361 Combination switch IPDM E/R reading function CAN communication line Combination HEAD LAMP switch •High beam request signal LOW RELAY •Low beam request signal HEAD LAMP Position light request signal Optical sensor power supply Optical •Front fog light request signal HIGH RELAY To exterior sensor Optical sensor ground FRONT FOG lamps Optical sensor signal LAMP RELAY TAIL LAMP **BCM** Door switch RELAY (DR) Door switch (AS) Door switch (RL) Door switch (RR) AWLIA0011GI

System Description

INFOID:0000000004269362

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

OUTLINE

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

When the lighting switch is in AUTO position, it automatically turns ON/OFF the parking, license plate, tail, front fog lamps and headlamps in accordance with the ambient light. Sensitivity can be adjusted in four steps. For the details of the setting, refer to EXL-25, "HEADLAMP: CONSULT-III Function (BCM-HEAD LAMP)".

Component Parts Location

INFOID:0000000004269363

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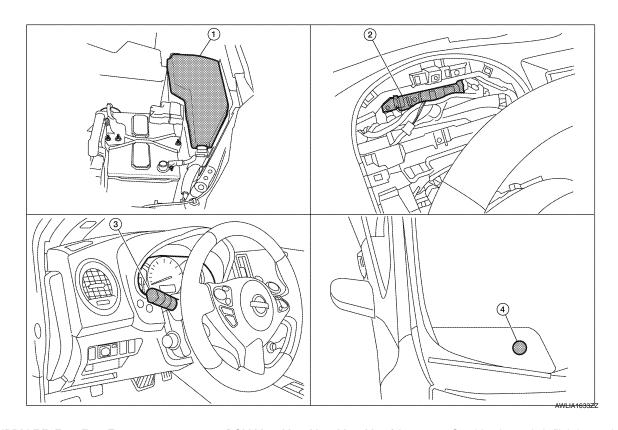
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- 1. IPDM E/R E17, E18, E200
- 2. BCM M16, M17, M18, M19, M21 (view 3. with combination meter removed)
- Combination switch (lighting and turn signal switch) M28

4. Optical sensor M66

Component Description

INFOID:0000000004269364

AUTO LIGHT OPERATION

Applicable lamps

- Low beam headlamp
- · Parking, license plate and tail lamps
- High beam headlamp (with the lighting switch in HIGH BEAM position)
- Front fog lamp (with the lighting switch in front fog lamp ON position)

When the lighting switch is in AUTO position with the ignition switch in ON position, BCM detects the AUTO LIGHT (ON) by BCM combination switch reading function. BCM turns automatically ON/OFF the applicable lamps according to ambient brightness.

NOTE:

Timing for when lamps turn ON/OFF can be changed by the function setting of CONSULT-III. Refer to EXL-25. "HEADLAMP: CONSULT-III Function (BCM-HEAD LAMP)".

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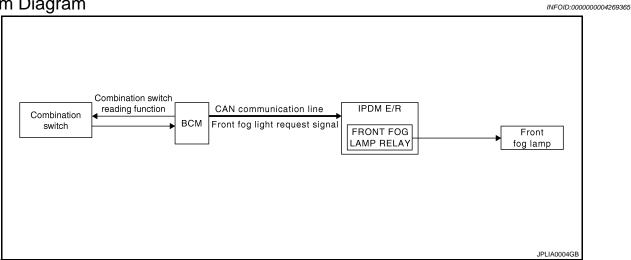
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FRONT FOG LAMP

System Diagram



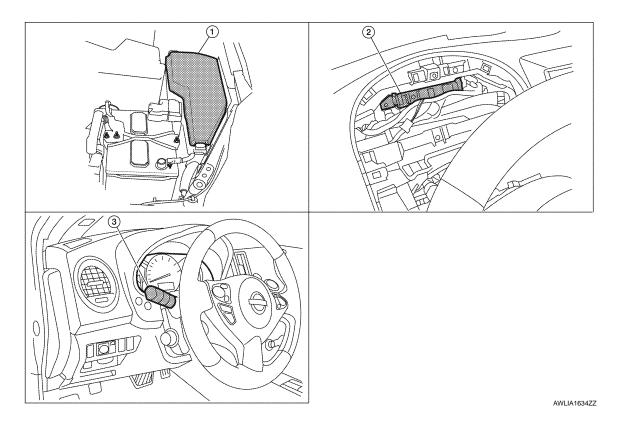
System Description

INFOID:0000000004269366

- BCM (Body Control Module) controls front fog lamp operation.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates front fog lamp according to CAN communication signals from BCM.
- Combination meter operates front fog lamp indicator according to inputs via the CAN communication lines.

Component Parts Location

INFOID:0000000004269367



- 1. IPDM E/R E17, E18, E200
- 2. BCM M16, M17, M18, M19 (view with 3. combination meter removed)
- Combination switch (lighting and turn signal switch) M28

FRONT FOG LAMP

< FUNCTION DIAGNOSIS >

[HALOGEN TYPE]

Component Description

INFOID:0000000004269368

FRONT FOG LAMP OPERATION

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

The combination meter also receives a front fog lamp request ON signal through the CAN communication lines at which time it turns the front fog indicator ON.

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TURN SIGNAL AND HAZARD WARNING LAMPS

System Diagram

< FUNCTION DIAGNOSIS >

INFOID:0000000004269369 Combination switch Combination CAN communication line reading function Combination meter Turn indicator signal switch Turn signal indicator lamp (L/R) Buzzer всм Hazard switch Turn signal lamps (LH) Turn signal lamps (RH) AWLIA0006G

System Description

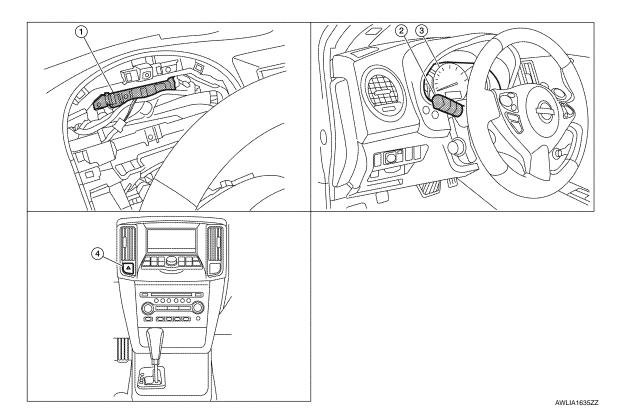
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[HALOGEN TYPE]

- BCM (Body Control Module) controls turn signal lamp (RH and LH) and hazard warning lamp operation.
- Combination meter operates turn signal indicator (RH and LH) according to CAN communication signals from BCM.

Component Parts Location

INFOID:0000000004269371



- BCM M16, M17, M18, M19 (view with 2. combination meter removed)
 - signal switch) M28
- Combination switch (lighting and turn 3. Combination meter M24

Hazard switch M54

TURN SIGNAL AND HAZARD WARNING LAMPS

< FUNCTION DIAGNOSIS > [HALOGEN TYPE]

Component Description

INFOID:0000000004269372

TURN SIGNAL OPERATION

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

HAZARD LAMP OPERATION

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

REMOTE KEYLESS ENTRY OPERATION

The remote keyless entry receiver transmits Intelligent Key signal to BCM, then BCM controls hazard lamps. Refer to SEC-18, "System Description".

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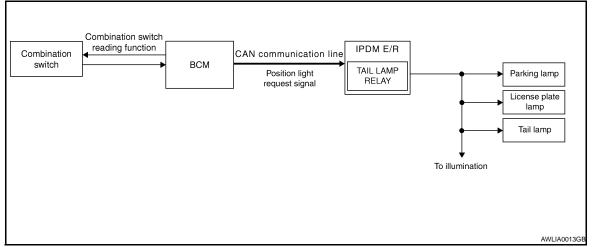
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PARKING, LICENSE PLATE AND TAIL LAMPS

System Diagram

INFOID:0000000004269373



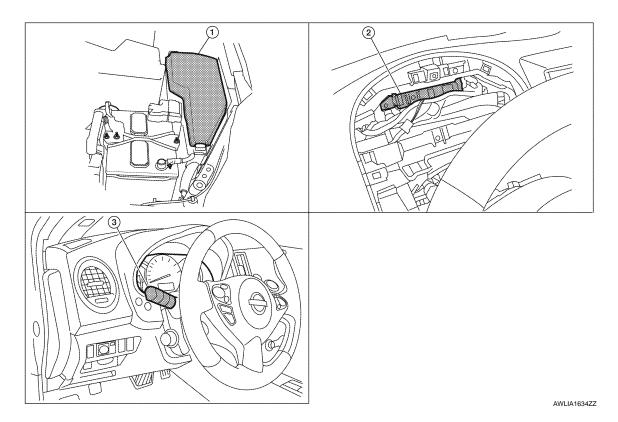
System Description

INFOID:0000000004269374

- BCM (Body Control Module) controls parking, license plate and tail lamps operation.
- IPDM E/R (Intelligent Power Distribution Module Engine Room) operates parking, license plate and tail lamps according to CAN communication signals from BCM.

Component Parts Location

INFOID:0000000004269375



- IPDM E/R E17, E18, E201
- 2. BCM M16, M17, M18, M19 (view with 3. combination meter removed)
 - Combination switch (lighting and turn signal switch) M28

PARKING, LICENSE PLATE AND TAIL LAMPS

< FUNCTION DIAGNOSIS >

Component Description

INFOID:0000000004269376

[HALOGEN TYPE]

PARKING, LICENSE PLATE AND TAIL LAMPS OPERATION

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

EXTERIOR LAMP BATTERY SAVER CONTROL

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

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

This setting can be changed by CONSULT-III. Refer to <u>EXL-198</u>, "<u>HEADLAMP</u>: <u>CONSULT-III Function (BCM-HEAD LAMP</u>)".

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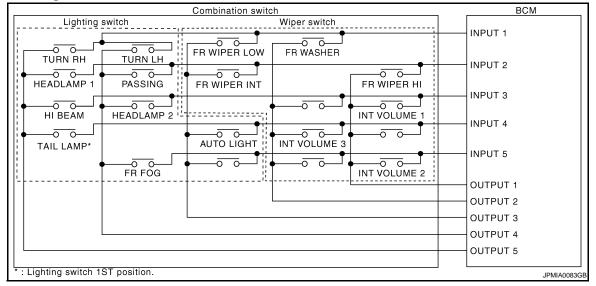
< FUNCTION DIAGNOSIS >

COMBINATION SWITCH READING SYSTEM

System Diagram

INFOID:0000000004269411

[HALOGEN TYPE]



System Description

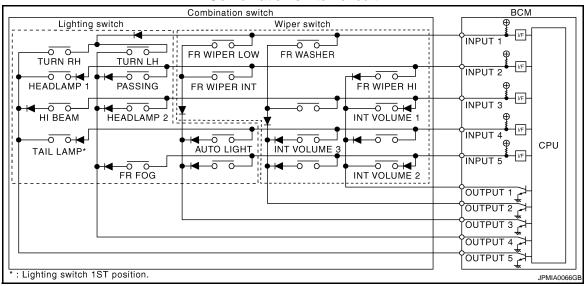
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OUTLINE

- BCM reads the status of the combination switch (light, turn signal, wiper and washer) and recognizes the status of each switch.
- BCM is a combination of 5 output terminals (OUTPUT 1 5) and 5 input terminals (INPUT 1 5). It reads a maximum of 20 switch status.

COMBINATION SWITCH MATRIX

Combination switch circuit



Combination switch INPUT-OUTPUT system list

System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 1	_	FR WASHER	FR WIPER LOW	TURN LH	TURN RH
INPUT 2	FR WIPER HI	_	FR WIPER INT	PASSING	HEADLAMP 1
INPUT 3	INT VOLUME 1	_	_	HEADLAMP 2	HI BEAM

COMBINATION SWITCH READING SYSTEM

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System	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	OUTPUT 5
INPUT 4	_	INT VOLUME 3	AUTO LIGHT	_	TAIL LAMP
INPUT 5	INT VOLUME 2	_	_	FR FOG	_

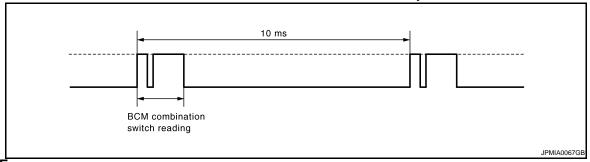
NOTE:

Headlamp has a dual system switch.

COMBINATION SWITCH READING FUNCTION

Description

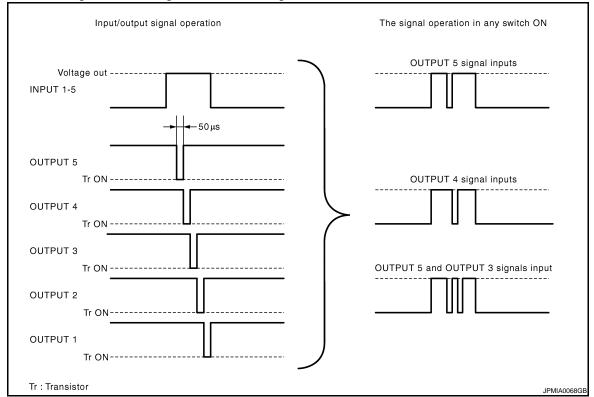
BCM reads the status of the combination switch at 10ms interval normally.



NOTE:

BCM reads the status of the combination switch at 60ms interval when BCM is controlled at low power consumption mode.

- BCM operates as follows and judges the status of the combination switch.
- INPUT 1 5 outputs the voltage waveforms of 5 systems simultaneously.
- It operates the transistor on OUTPUT side in the following order: OUTPUT $5 \rightarrow 4 \rightarrow 3 \rightarrow 2 \rightarrow 1$.
- The voltage waveform of INPUT corresponding to the formed circuit changes according to the operation of the transistor on OUTPUT side if any (1 or more) switches are ON.
- It reads this change of the voltage as the status signal of the combination switch.



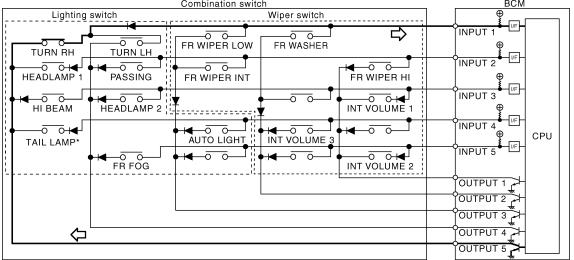
Operation Example

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

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

[HALOGEN TYPE]

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



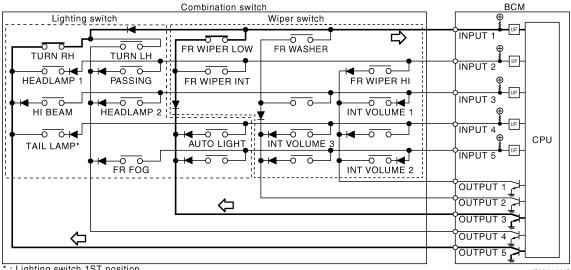
: Lighting switch 1ST position.

< FUNCTION DIAGNOSIS >

- BCM detects the combination switch status signal "1E" when the signal of OUTPUT 5 is input to INPUT 1.
- BCM judges that the TURN RH switch is ON when the signal "1E" is detected.
- Example 2: When some switches (TURN RH switch. FR WIPER LOW switch) are turned ON

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

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



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

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

COMBINATION SWITCH READING SYSTEM

< FUNCTION DIAGNOSIS >

[HALOGEN TYPE]

Wiper intermittent dial posi-	Intermittent oper-	INT VOLUME switch ON/OFF status						
tion	ation delay inter- val	INT VOLUME 1 switch	INT VOLUME 2 switch	INT VOLUME 3 switch				
1	Short	ON	ON	ON				
2	1	ON	ON	OFF				
3		ON	OFF	OFF				
4		OFF	OFF	OFF				
5		OFF	OFF	ON				
6	\downarrow	OFF	ON	ON				
7	Long	OFF	ON	OFF				

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DIAGNOSIS SYSTEM (BCM)

HEADLAMP

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

INFOID:0000000004269408

WORK SUPPORT

Service item	Setting item		Setting					
BATTERY SAVER SET	ON*	With the exterior la	With the exterior lamp battery saver function					
DATTERT SAVER SET	OFF	Without the exterior	Without the exterior lamp battery saver function					
ILL DELAY SET	MODE 1	45 sec.						
	MODE 2	Without the function						
	MODE 3	30 sec.						
	MODE 4	60 sec.	Sets delay timer function timer operation time					
	MODE 5	90 sec.	(All doors closed)					
	MODE 6	120 sec.						
	MODE 7	150 sec.						
	MODE 8	180 sec.						
	MODE 1*	Normal						
CUSTOM A/LIGHT SET-	MODE 2	More sensitive set	ting than normal setting (Turns ON earlier than normal operation.)					
TING	MODE 3	More sensitive set	tting than MODE 2 (Turns ON earlier than MODE 2.)					
	MODE 4	Less sensitive setting than normal setting (Turns ON later than normal operation.)						

^{*:} Initial setting

DATA MONITOR

Monitor item [Unit]	Description
PUSH SW [ON/OFF]	The switch status input from push-button ignition switch
ENGINE STATE [STOP/STALL/CRANK/RUN]	The engine status received from ECM with CAN communication
VEH SPEED 1 [km/h]	The value of the vehicle speed received from combination meter with CAN communication
KEY SW-SLOT [ON/OFF]	Key switch status input from key slot

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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]	The switch status input from front door switch LH
DOOR SW-AS [ON/OFF]	The switch status input from front door switch RH
DOOR SW-RR [ON/OFF]	The switch status input from rear door switch RH
DOOR SW-RL [ON/OFF]	The switch status input from rear door switch LH
DOOR SW-BK [*] [ON/OFF]	_
OPTICAL SENSOR [V]	The value of exterior brightness voltage input from the optical sensor

^{*:} The item is indicated, not monitored.

ACTIVE TEST

Test item	Operation	Description
TAIL LAMP	ON	Transmits the Position light request signal to IPDM E/R with CAN communication to turn the tail lamp ON.
	OFF	Stops the tail lamp request signal transmission.
HEAD LAMP	Н	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 communication to turn the front fog lamp ON.
	OFF	Stops the front fog lights request signal transmission.
DAYTIME RUNNING LIGHT*	ON	
DAT TIME ROMNING LIGHT	OFF	
	RH	
CORNERING LAMP*	LH	_
	OFF	

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< FUNCTION DIAGNOSIS >

Test item	Operation	Description
ILL DIM SIGNAL*	ON	
	OFF	_
RR FOG LAMP*	ON	
	OFF	_

^{*:} The item is indicated, not monitored.

FLASHER

FLASHER: CONSULT-III Function (BCM-FLASHER)

[HALOGEN TYPE]

WORK SUPPORT

Service item	Setting item	Setting				
	LOCK ONLY*	Activated when locking.				
HAZARD ANSWER	UNLK ONLY	Activated when unlocking.	Sets the hazard warning lamp answer back activation when the door is lock/unlock with the request switch or			
BACK	LOCK/UNLK	Activated when locking/ unlocking	the key fob.			
	OFF	Not activated				

^{*:} Initial setting

DATA MONITOR

Monitor item [Unit]	Description			
REQ SW-DR [ON/OFF]	The switch status input from the request switch (driver side)			
REQ SW-AS [ON/OFF]	The switch status input from the request switch (passenger side)			
PUSH SW [ON/OFF]	The switch status input from the push-button ignition switch			
TURN SIGNAL R [ON/OFF]	Each switch condition that BCM judges from the combination switch reading function			
TURN SIGNAL L [ON/OFF]	- Lacif switch condition that bow judges from the combination switch reading function			
HAZARD SW [ON/OFF]	The switch status input from the hazard warning switch			
RKE LOCK [ON/OFF]	The lock signal status received from the keyless receiver			
RKE UNLOCK [ON/OFF]	The unock signal status received from the keyless receiver			
RKE PANIC [ON/OFF]	The panic alarm signal status received from the keyless receiver			

ACTIVE TEST

Test item	Test item Operation Description	
	RH	Blinks right turn signal lamp.
FLASHER	LH	Blinks left turn signal lamp.
	OFF	Turns turn signal lamps (right and left) OFF.

COMB SW

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

[HALOGEN TYPE]

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

INFOID:0000000004269410

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DATA MONITOR

Monitor item [UNIT]	Description
FR WIPER HI [OFF/ON]	Displays the status of the FR WIPER HI switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER LOW [OFF/ON]	Displays the status of the FR WIPER LOW switch in combination switch judged by BCM with the combination switch reading function.
FR WASHER SW [OFF/ON]	Displays the status of the FR WASHER switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER INT [OFF/ON]	Displays the status of the FR WIPER INT switch in combination switch judged by BCM with the combination switch reading function.
FR WIPER STOP [OFF/ON]	Displays the status of the front wiper stop position signal received from IPDM E/R via CAN communication.
INT VOLUME [1 - 7]	Displays the status of wiper intermittent dial position judged by BCM with the combination switch reading function
TURN SIGNAL R [OFF/ON]	Displays the status of the TURN RH switch in combination switch judged by BCM with the combination switch reading function.
TURN SIGNAL L [OFF/ON]	Displays the status of the TURN LH switch in combination switch judged by BCM with the combination switch reading function.
TAIL LAMP SW [OFF/ON]	Displays the status of the TAIL LAMP switch in combination switch judged by BCM with the combination switch reading function.
HI BEAM SW [OFF/ON]	Displays the status of the HI BEAM switch in combination switch judged by BCM with the combination switch reading function.
HEAD LAMP SW 1 [OFF/ON]	Displays the status of the HEADLAMP 1 switch in combination switch judged by BCM with the combination switch reading function.
HEAD LAMP SW 2 [OFF/ON]	Displays the status of the HEADLAMP 2 switch in combination switch judged by BCM with the combination switch reading function.
PASSING SW [OFF/ON]	Displays the status of the PASSING switch in combination switch judged by BCM with the combination switch reading function.
AUTO LIGHT SW [OFF/ON]	Displays the status of the AUTO LIGHT switch in combination switch judged by BCM with the combination switch reading function.
FR FOG SW [OFF/ON]	Displays the status of the FR FOG switch in combination switch judged by BCM with the combination switch reading function.

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DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:0000000004410612

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
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Tail lamps
- Front fog lamps (if equipped)
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fans

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 ignition switch OFF.
- Turn the ignition switch ON, and within 20 seconds, press the front door switch LH 10 times. Then turn the ignition switch OFF.

CAUTION:

Close front door RH.

- 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 ignition switch OFF. **CAUTION**:

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-68</u>, "Component Function Check".
- 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	
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test	
2	Front wiper	LO for 5 seconds → HI for 5 seconds	
3	Parking lamps License plate lamps Tail lamps Front fog lamps (if equipped)	10 seconds	
4	Headlamps	LO ⇔ HI 5 times	
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times	
6*	Cooling fans	MID for 5 seconds → HI for 5 seconds	

^{*:} Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

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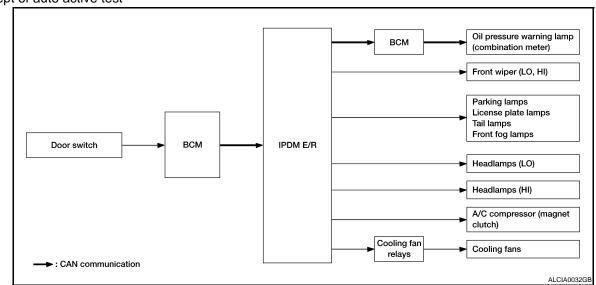
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Concept of auto active test



- 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	
Any of the following components do not operate Parking lamps License plate lamps Tail lamps Front fog lamps (if equipped) Headlamp (HI, LO) Front wiper	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 operate?	YES	Combination meter signal input circuit CAN communication signal between combination meter and ECM CAN communication signal between ECM and IPDM E/R	
		NO	Magnet clutch Harness or connector between IPDM E/R and magnet clutch IPDM E/R	

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Symptom	Inspection contents		Possible cause
	Perform auto active test. Does the oil pressure warning lamp blink?	YES	Harness or connector between IPDM E/R and oil pressure switch Oil pressure switch IPDM E/R
Oil pressure warning lamp does not operate		NO	CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and combination meter Combination meter
	Perform auto active test. Does the cooling fan operate?	YES	ECM signal input circuit CAN communication signal between ECM and IPDM E/R
Cooling fan does not operate		NO	Cooling fan Harness or connector between cooling fan and cooling fan relays Cooling fan relays Harness or connector between IPDM E/R and cooling fan relays IPDM E/R

CONSULT - III Function (IPDM E/R)

INFOID:0000000004269428

APPLICATION ITEM

CONSULT-III 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

Refer to EXL-323, "DTC Index".

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description	
MOTOR FAN REQ [1,2,3,4]	×	Displays the value of the cooling fan speed 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.	

DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

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Monitor Item [Unit]	MAIN SIG- NALS	Description	
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.	
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 CVT shift position 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 /INHI]		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 device (detention switch) judged by IPDM E/R.	
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.	
S/L STATE [LOCK/UNLK/UNKWN]		Displays the status of the electronic steering column lock judged by IPDM E/R.	
DTRL REQ [Off]		NOTE: This item is displayed, but cannot be monitored.	
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.	
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.	
CRNRNG LMP REQ [Off]		NOTE: This item is displayed, but cannot be monitored.	
HOOD SW [Off/On]		NOTE: This item is displayed, but cannot be monitored.	
HL WASHER REQ [Off/On]		NOTE: This item is displayed, but cannot be monitored.	

ACTIVE TEST

Test item

Test item	Operation	Description	
	Off		
CORNERING LAMP	LH	NOTE: This item is displayed, but cannot be monitored.	
	RH		
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.	

DIAGNOSIS SYSTEM (IPDM E/R)

< FUNCTION DIAGNOSIS >

[HALOGEN TYPE]

Test item	Operation	Description	
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	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.	
WOTOR FAIN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.	
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.	
Off		OFF	
	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 second intervals.	
	Fog	Operates the front fog lamp relay.	
HEAD LAMP WASHER	ON	NOTE: This item is displayed, but cannot be monitored.	

[HALOGEN TYPE]

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE): Diagnosis Procedure

INFOID:0000000004269406

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.	
1		Н	
11	Battery power supply	10	
24		7	

Is the fuse or fusible link blown?

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

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

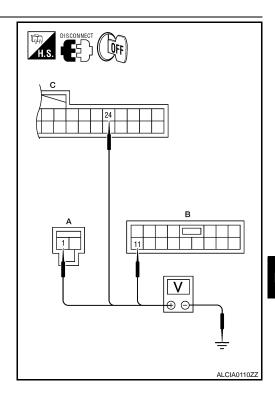
- 1. Turn ignition switch OFF.
- 2. Disconnect BCM.
- 3. Check voltage between BCM harness connector and ground.

(+)	(-)	Voltage (Approx.)
В	СМ		
Connector	Terminal		
M16 (A)	1	Ground	
M17 (B)	11		Battery voltage
M18 (C)	24		

Is the measurement normal?

YES >> GO TO 3

NO >> Repair or replace harness.



3. CHECK GROUND CIRCUIT

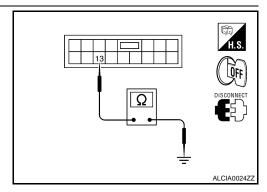
Check continuity between BCM harness connector and ground.

В	СМ		Continuity
Connector	Connector Terminal		Continuity
M17	13		Yes

Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.



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< COMPONENT DIAGNOSIS >

BCM (BODY CONTROL MODULE): Special Repair Requirement

INFOID:0000000004269407

[HALOGEN TYPE]

1. REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to BCS-6, "CONFIGURATION (BCM): Special Repair Requirement".

>> Work End.

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

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
1, 2		B, D
	Battery power supply	42
_		43

Is the fuse blown?

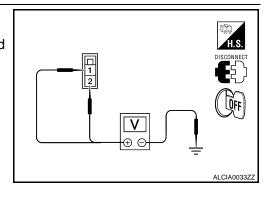
>> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

(+)		(-)	Voltage (V) (Approx.)
IPDI	IPDM E/R		
Connector	Terminal		
E16	1 Ground		Battery voltage
210	2		Dattery Voltage



Is the measurement value normal?

YES >> GO TO 3

NO >> Repair harness or connector.

$3.\,$ CHECK GROUND CIRCUIT

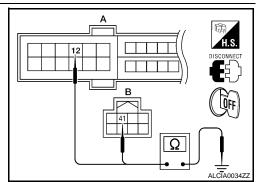
Check continuity between IPDM E/R harness connectors and ground.

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
A: E18	12	Giodila	Yes
B: E17	41		165

Does continuity exist?

YES >> Inspection End.

>> Repair harness or connector. NO



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HEADLAMP (HI) CIRCUIT

Description

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp high relay based on inputs from the BCM over the CAN communication lines. When the headlamp high relay is energized, power flows through fuses 48 and 49, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp high beam.

Component Function Check

INFOID:000000004262001

1. CHECK HEADLAMP (HI) OPERATION

®WITHOUT CONTULT-III

1. Start IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".

Check that the headlamp switches to the high beam.

NOTE:

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

(E)CONSULT-III

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

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

HI: Headlamp switches to the high beam.

OFF : Headlamp OFF

Does the headlamp switch to the high beam?

YES >> Headlamp (HI) circuit is normal.

NO >> Refer to EXL-209, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004262002

1. CHECK HEADLAMP (HI) FUSES

1. Turn the ignition switch OFF.

Check that the following fuses are not open.

Unit	Location	Fuse No.	Capacity
Headlamp HI (LH)	IPDM E/R	48	10A
Headlamp HI (RH)	IPDM E/R	49	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

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2. CHECK HEADLAMP (HI) OUTPUT VOLTAGE

PCONSULT-III ACTIVE TEST

Turn the ignition switch OFF.

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

[HALOGEN TYPE]

< COMPONENT DIAGNOSIS >

With EXTERNAL LAMP ON, check the voltage between the combination lamp connector and ground.

(+)			(-)	Voltage	
Со	nnector	Terminal	(-)	voltage	
RH	E222	3	Ground	Pottory voltage	
LH	E213	3	Giodila	Battery voltage	

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Is battery voltage present?

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

3.check headlamp (hi) circuit for open

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

A			В	Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity
RH	E200	89	E222	3	Yes
LH	E200	90	E213	3	165

Does continuity exist?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (HI) GROUND CIRCUIT

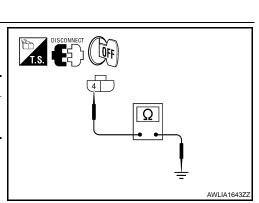
Check continuity between the front combination lamp harness connector terminal and ground.

Connector		Connector Terminal —		Continuity
RH	E222	4	Ground	Yes
LH	E213	4	Giodila	163

Does continuity exist?

YES >> Inspect the headlamp bulb.

>> Repair the harness. NO



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HEADLAMP (LO) CIRCUIT

< COMPONENT DIAGNOSIS >

[HALOGEN TYPE]

HEADLAMP (LO) CIRCUIT

Description

The IPDM E/R (intelligent power distribution module engine room) controls the headlamp low relay based on inputs from the BCM over the CAN communication lines. When the headlamp low relay is energized, power flows through fuses 51 and 52, located in the IPDM E/R. Power then flows to the front combination lamps to the headlamp low beam.

Component Function Check

INFOID:0000000004262004

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1. CHECK HEADLAMP (LO) OPERATION

WITHOUT CONSULT-III

- 1. Start IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. Check that the headlamp is turned ON.

NOTE:

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

(E)CONSULT-III

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

LO : Headlamp ON OFF : Headlamp OFF

Is the headlamp turned ON?

YES >> Headlamp (LO) is normal.

NO >> Refer to <u>EXL-211</u>, "<u>Diagnosis Procedure</u>".

Diagnosis Procedure

INFOID:0000000004262005

1. CHECK HEADLAMP (LO) FUSES

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

Unit	Location	Fuse No.	Capacity
Headlamp LO (LH)	IPDM E/R	51	15A
Headlamp LO (RH)	IPDM E/R	52	15A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

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2.CHECK HEADLAMP (LO) OUTPUT VOLTAGE

(P)CONSULT-III

Turn the ignition switch OFF.

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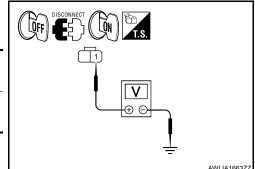
- 2. Disconnect the front combination lamp connector.
- Turn the ignition switch ON.
- 4. Select "EXTERNAL LAMPS" of IPDM E/R active test item.

[HALOGEN TYPE]

< COMPONENT DIAGNOSIS >

5. With EXTERNAL LAMPS ON, check the voltage between the combination lamp connector and ground.

(+)			(-)	Voltage	
Co	nnector	Terminal	(-)	voltage	
RH	E223	1	Ground	Battery voltage	
LH	E212	1	Giodila	Ballery Vollage	



Is battery voltage present?

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

3.check headlamp (lo) circuit for open

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

		1	В		Continuity
Conr	nector	Terminal	Connector	Terminal	Continuity
RH	E200	83	E223	1	Yes
LH	L200	84	E212	1	165

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Does continuity exist?

YES >> Replace the IPDM E/R. Refer to <u>PCS-40, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

4. CHECK FRONT COMBINATION LAMP (LO) GROUND CIRCUIT

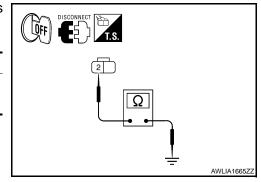
- 1. Disconnect the front combination lamp connector.
- 2. Check continuity between the front combination lamp harness connector terminal and ground.

Cor	nnector	Terminal	_	Continuity
RH	E223	2	Ground	Yes
LH	E212	2	Giodila	165

Does continuity exist?

YES >> Inspect the headlamp bulb.

NO >> Repair the harness.



[HALOGEN TYPE]

INFOID:0000000004262010

INFOID:0000000004262011

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FRONT FOG LAMP CIRCUIT

Description INFOID:000000004262009

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

Component Function Check

1. CHECK FRONT FOG LAMP OPERATION

WITHOUT CONSULT-III

- 1. Activate IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- 2. Check that the front fog lamp is turned ON.

@CONSULT-III

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. While operating the test item, 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-213, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK FRONT FOG LAMP FUSE

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

Unit	Location	Fuse No.	Capacity
Front fog lamp	IPDM E/R	53	15A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

NO >> GO TO 2.

2.CHECK FRONT FOG LAMP OUTPUT VOLTAGE

CONSULT-III

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

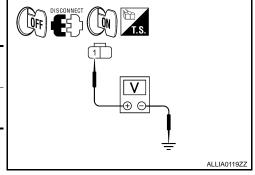
	(+)			Voltage
Co	nnector	Terminal	(-)	voltage
LH	E214	1	Ground	Battery voltage
RH	E227	1	Glound	Battery voltage

Is battery voltage present?

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

3.CHECK FRONT FOG LAMP OPEN CIRCUIT

1. Turn the ignition switch OFF.



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< COMPONENT DIAGNOSIS >

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

		A	В		Continuity
Conr	nector	Terminal	Connector Terminal		Continuity
RH	E200	86	E227	1	Yes
LH	L200	87	E214	1	163

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Does continuity exist?

YES >> Replace the IPDM E/R. Refer to <u>PCS-40, "Removal and</u> Installation".

NO >> Repair the harnesses or connectors.

4. CHECK FRONT FOG LAMP GROUND CIRCUIT

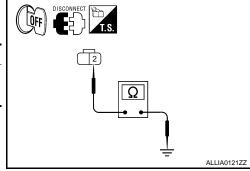
Check continuity between the front fog lamp harness connector terminal and ground.

Со	nnector	Terminal	_	Continuity
RH	E227	2	Ground	Yes
LH	E214	2	Ground	163

Does continuity exist?

YES >> Inspect the fog lamp bulb.

NO >> Repair the harness.



PARKING LAMP CIRCUIT

Description INFOID:000000004262012

The IPDM E/R (intelligent power distribution module engine room) controls the tail lamp relay based on inputs from the BCM over the CAN communication lines. When the tail lamp relay is energized, power flows through fuses 46 and 47, located in the IPDM E/R. Power then flows to the front and rear combination lamps.

Component Function Check

1. CHECK PARKING LAMP OPERATION

®WITHOUT CONSULT-III

- 1. Activate IPDM E/R auto active test. Refer to PCS-13, "Diagnosis Description".
- Check that the parking lamp is turned ON.

(E)CONSULT-III

- 1. Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 2. While operating the test item, 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-215, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK PARKING LAMP FUSES

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

Unit	Location	Fuse No.	Capacity
Parking lamps (front)	IPDM E/R	46	10A
Parking lamps (rear)	IPDM E/R	47	10A

Is the fuse open?

YES >> Repair the harness and replace the fuse.

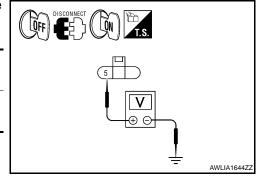
NO >> GO TO 2.

2.CHECK TAIL LAMP RELAY OUTPUT (VOLTAGE)

CONSULT-III

- 1. Turn the ignition switch OFF.
- 2. Disconnect the front and rear combination lamp connectors.
- Turn the ignition switch ON.
- Select "EXTERNAL LAMPS" of IPDM E/R active test item.
- 5. With EXTERNAL LAMPS ON, check the voltage between the front combination lamp connector and ground.

	((+)	(-)	Voltage
Con	nector	Terminal	(-)	vollage
LH	E217	F	Ground	Battery voltage
RH	E224	5	Glound	Battery voltage



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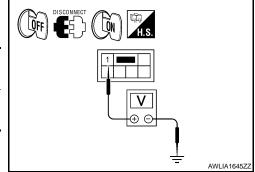
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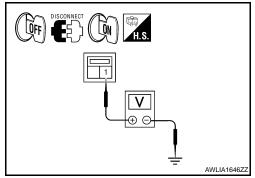
6. With EXTERNAL LAMPS ON, check the voltage between the rear combination lamp connector and ground.

	(-	+)	(-)	Voltage
Con	nector	Terminal	(-)	voitage
LH	B30	1	Ground	Battery voltage
RH	B45	•	Glound	Dattery Voltage



7. With EXTERNAL LAMP ON, check the voltage between the license plate lamp connector and ground.

		(+)	(-)	Voltage
Coni	nector	Terminal	(-)	voltage
LH	T6	1	1 Ground	Battery voltage
RH	T8	1	Glound	Dattery voltage



Is battery voltage present?

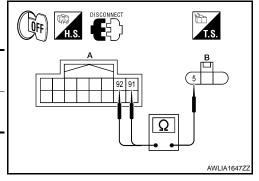
YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK PARKING LAMP CIRCUIT (OPEN)

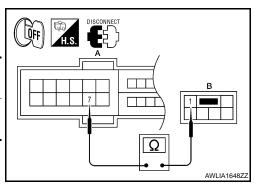
- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between the IPDM E/R harness connector (A) and the front combination lamp harness connector (B).

	A		В		Continuity	
Cor	nector	Terminal	Connector Terminal		Continuity	
LH	E201	92	E217	5	Yes	
RH	L201	91	E224	5	163	



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

	,	Ą	В		Continuity	
Con	nector	Terminal	Connector	Terminal	Continuity	
LH	E18	7	B30	1	Yes	
RH	□10	7	B45	'	ies	



PARKING LAMP CIRCUIT

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

А		E	Continuity		
Coi	nnector	Terminal	Connector Terminal		Continuity
LH	E18	7	T6	1	Yes
RH	E10	,	Т8	I	res

Does continuity exist?

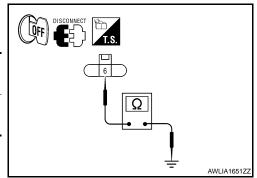
YES >> Replace the IPDM E/R. Refer to <u>PCS-40, "Removal and Installation"</u>.

NO >> Repair the harnesses or connectors.

4. CHECK PARKING LAMP GROUND CIRCUIT

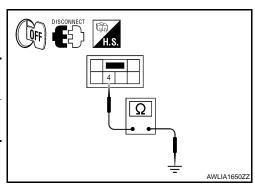
1. Check continuity between the front combination lamp harness connector terminal and ground.

(+)			(_) Continu	Continuity	
Con	Connector Terminal		(-)	Continuity	
LH	E217	6	Ground	Yes	
RH	E224	0	Ground	res	



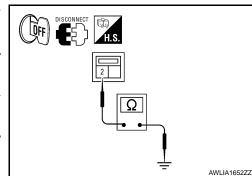
2. Check continuity between the rear combination lamp harness connector terminal and ground.

(+)			(-)	Continuity	
Connector Terminal		Terminal	(-)	Continuity	
LH	B30	4	Ground	Yes	
RH	B45	4			



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

(+)			(-)	Continuity	
Connector		Terminal	(-)	Continuity	
LH	T6	2	Ground	Yes	
RH	T8	2			



Does continuity exist?

YES >> Inspect the parking lamp bulb.

NO >> Repair the harness.

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EXL-217

TURN SIGNAL LAMP CIRCUIT

Description INFOID:000000004262015

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

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

NOTE:

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

Component Function Check

INFOID:0000000004262016

1. CHECK TURN SIGNAL LAMP

@CONSULT-III

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

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

Does the turn signal lamp blink?

YES >> Turn signal lamp circuit is normal.

NO >> Refer to EXL-218, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000004262017

1. CHECK TURN SIGNAL LAMP BULB

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

Is the bulb OK?

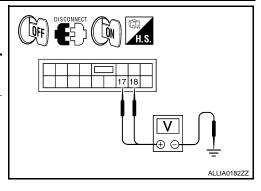
YES >> GO TO 2.

NO >> Replace the bulb.

2.CHECK TURN SIGNAL LAMP OUTPUT VOLTAGE

While operating the turn signal switch, check the voltage between the BCM harness connector and the ground.

	(+)		(–)	Voltage	
Connector Te		Terminal	(-)		
RH	M17	17		(V) 15 10 10 10 10 10 10 10 10 10 10 10 10 10 1	
LH	M17	18	Ground	5 0 1 s	



Is the measurement value normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3. CHECK TURN SIGNAL LAMP CIRCUIT FOR OPEN

1. Turn the ignition switch OFF.

TURN SIGNAL LAMP CIRCUIT

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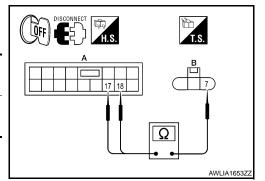
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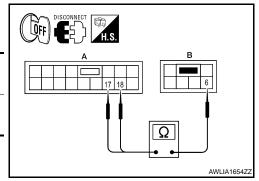
- 2. Disconnect BCM connector, front combination lamp connector, door mirror connector (with turn signal in mirror) and rear combination lamp connector.
- 3. Check continuity between the BCM harness connector (A) and the front combination lamp connector (B).

А			E	Continuity	
Cor	nnector	Terminal	Connector	Terminal	Continuity
LH	M17	18	E217	7	Yes
RH	W17	17	E224	,	163



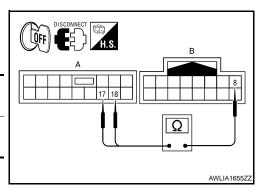
4. Check continuity between the BCM harness connector (A) and the rear combination lamp harness connector (B).

А			Е	Continuity	
Cor	nnector	Terminal	Connector Terminal		Continuity
LH	M17	18	B30	6	Yes
RH	IVI I /	17	B45	0	165



5. Check continuity between the BCM harness connector (A) and the door mirror connector (B) (if equipped with turn signal in mirror).

А		В	Continuity		
Cor	nector	Terminal	Connector Termina		Continuity
LH	M17	18	D4	Q	Yes
RH	IVI I /	17	D107	0	ies



Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

4. CHECK TURN SIGNAL LAMP SHORT CIRCUIT

Check continuity between the BCM harness connector and ground.

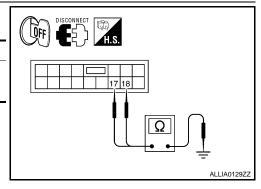
•	Connector		Terminal —		Continuity
•	LH	M17	18	Ground	No
	RH	IVI I 7	17	Giodila	140

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> GO TO 5.

5. CHECK TURN SIGNAL LAMP GROUND CIRCUIT

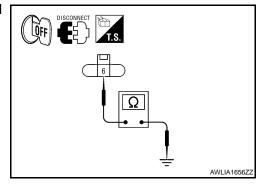


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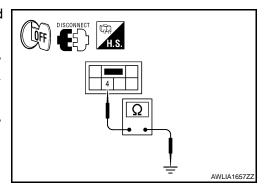
1. Check continuity between the front combination lamp and ground.

Connector		Terminal	_	Continuity
LH	E217	6	Ground	Yes
RH	E224	0	Ground	163



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

Connector		Terminal	— Continuity	
LH	B30	4	Ground	Yes
RH	B45	7	Ground	163

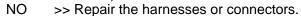


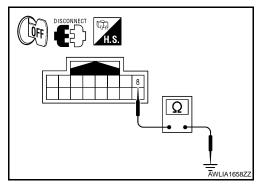
3. Check continuity between the door mirror and ground (if equipped with turn signal in mirror).

Connector		Terminal	_	Continuity
LH	D4	Q	Ground	Yes
RH	D107	0	Giodila	res

Does continuity exist?

YES >> Replace the front combination lamp, the rear combination lamp or door mirror (if equipped with turn signal in mirror).





INFOID:0000000004262019

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OPTICAL SENSOR

Description

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

Component Function Check

1.CHECK OPTICAL SENSOR SIGNAL BY CONSULT-III

(P)CONSULT-III

- 1. Turn the ignition switch ON.
- Select "OPTICAL SENSOR" of BCM (HEAD LAMP) DATA MONITOR item.
- 3. Turn the lighting switch to AUTO.
- 4. While the auto light system is operating, check the monitor status.

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

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

Is the item status normal?

YES >> Optical sensor is normal.

NO >> Refer to EXL-221, "Diagnosis Procedure".

Diagnosis Procedure

1. CHECK OPTICAL SENSOR POWER SUPPLY INPUT

- 1. Turn the ignition switch ON.
- 2. Turn the lighting switch to AUTO.
- Check the voltage between the optical sensor harness connector and ground.

(+)	(_)	Voltage
Connector	Terminal	(-)	voltage
M66	1	Ground	5V

Is the voltage reading as specified?

YES >> GO TO 2. NO >> GO TO 4.

2. CHECK OPTICAL SENSOR GROUND INPUT

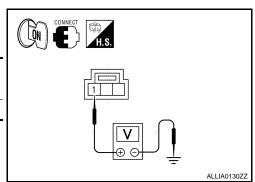
Check the voltage between the optical sensor harness connector and ground.

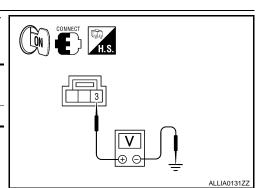
(+)	(-)	Voltage
Connector	Terminal	(-)	voltage
M66	3	Ground	Less than 0.2V

Is the voltage reading as specified?

YES >> GO TO 3. NO >> GO TO 6.

3. CHECK OPTICAL SENSOR SIGNAL OUTPUT





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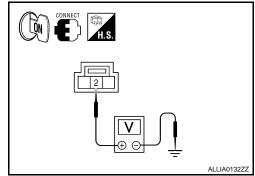
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With the auto light system operating, check voltage between the optical sensor harness connector and ground.

(-	+)	(–)	Condition	Voltage
Connector	Terminal	(-)	Condition	voltage
M66	2	Ground	When illuminating	3.1V or more *
IVIOO	2	Giodila	When shutting off light	0.6V or less

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



Is the voltage reading as specified?

YES >> GO TO 7.

NO >> Replace the optical sensor. Refer to EXL-169, "Removal and Installation".

f 4 .CHECK OPTICAL SENSOR POWER SUPPLY FOR OPEN CIRCUIT

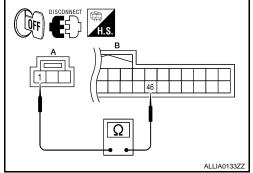
- Turn the ignition switch OFF.
- Disconnect the optical sensor connector and BCM connector. 2.
- Check continuity between the optical sensor harness connector and the BCM harness connector.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M66	1	M18	46	Yes

Does continuity exist?

YES >> GO TO 5.

NO >> Repair the harnesses or connectors.



5. CHECK OPTICAL SENSOR POWER SUPPLY FOR SHORT CIRCUIT

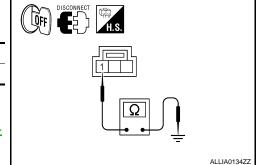
Check the continuity between the optical sensor harness connector and the ground.

Connector	Terminal	_	Continuity
M66	1	Ground	No

Does continuity exist?

YES >> Repair the harnesses or connectors.

>> Replace BCM. Refer to BCS-87, "Removal and Installa-NO tion" .



6. CHECK OPTICAL SENSOR GROUND FOR OPEN CIRCUIT

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

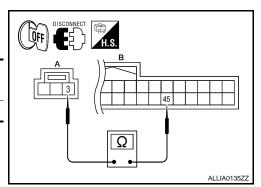
	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M66	3	M18	45	Yes

Does continuity exist?

YES >> Replace BCM. Refer to BCS-87, "Removal and Installation".

NO >> Repair the harnesses or connectors.

7.CHECK OPTICAL SENSOR SIGNAL FOR OPEN CIRCUIT



< COMPONENT DIAGNOSIS >

- 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.

	A		В	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M66	2	M18	21	Yes

auity A

Does continuity exist?

YES >> GO TO 8.

NO >> Repair the harnesses or connectors.

8.CHECK OPTICAL SENSOR SIGNAL FOR SHORT CIRCUIT

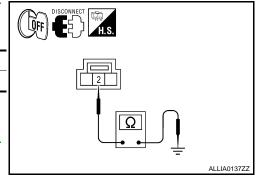
Check the continuity between the optical sensor harness connector and ground.

Connector	Terminal	_	Continuity
M66	2	Ground	No

Does continuity exist?

YES >> Repair the harnesses or connectors.

NO >> Replace BCM. Refer to <u>BCS-87</u>, "Removal and Installation".



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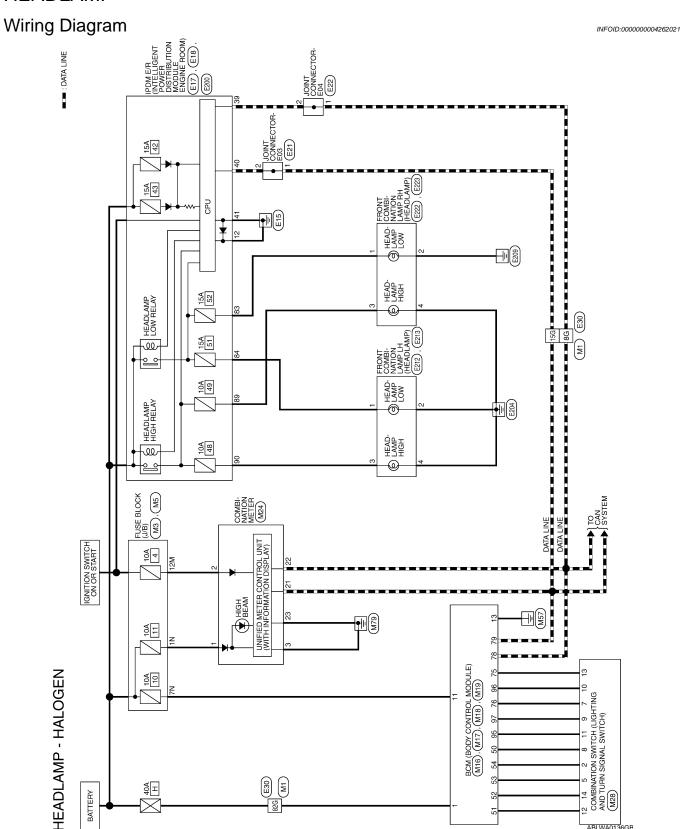
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HEADLAMP



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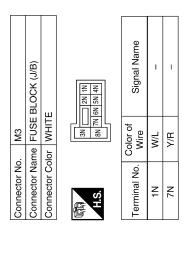
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K

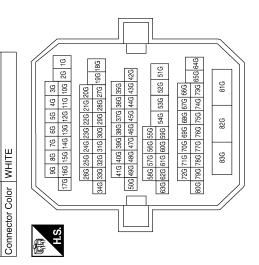
EXL

HEADLAMP CONNECTORS - HALOGEN

Connector No. M1
Connector Name WIRE TO WIRE



Signal Name	ı	-	_
Color of Wire	۵	Τ	M/B
Terminal No.	8G	15G	82G



	Θ						
	BCM (BODY CONTROL MODULE)	Е	01 6 8 1	12 13 14 15 16 17 18 19	Signal Name	BAT BCM FUSE	GND1
M17	me BCM (BOD	lor WHIT	5 6 7	11 12 13 14 1	Color of Wire	Y/R	В
Connector No.	Connector Name BCM (BOD	Connector Color WHITE		H.S.	Terminal No.	11	13
				_			

Connector No.		M16	
Connector Name BCM (BOD	ime B(ODY CON	BCM (BODY CONTROL MODULE)
Connector Color BLACK	olor BI	-ACK	
H.S.		2 1	
Terminal No.	Color of Wire		Signal Name
1	M/B		BAT POWER F/L

	BLOCK (J/B)	111	3M 2M 1M 8M 7M 6M	Signal Name	ı	
M2	ne FUSE	or WHITE	5M 4M 3M 2M 1M 12M 11M 10M 9M 8M 7M 6M	Color of Wire	0	
Connector No.	Connector Name FUSE BLOCK (J/B)	Connector Color WHITE	而 H.S.	Terminal No.	12M	

М

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0

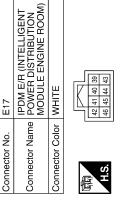
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	19 20	39 40								
	18 1	88								
	17	37								_
	15 16	ဗ္ဗ	_ e			GND(POWER)	_			GND(CIRCUIT)
		35	Signal Name	l.		Š	GND(ILL)	I	ابا	ರ
	14	뚕	Z	BAT	<u>S</u>	Ó		CAN-H	CAN-L	Ä
	13	32 33	Jua	<u> </u>	=		Ž	δ	Ö	$\frac{9}{2}$
/	10 11 12	32	Sig			ΙŽ	۳			Ż
V	Ξ	30 31				ان				9
Λ		8								
П	6	83	<u> </u>							_
	∞	78	Color of Wire	-	_	_	_	١.		_
	_	27	કે ≶	M/L	0	В	<u>ш</u>	-	Д	8
	9	5 26								_
	2	1 25	9							
	3 4	3 24	a				١.	_	_,	~
	2 3	22 23	Terminal No.	_	2	က	4	21	22	23
	1	21 2	err							
	Ĺ	C/I	-							

BAT	IGN	GND(POWER)	GND(ILL)	CAN-H	CAN-L	GND(CIRCUIT)
M/L	0	В	В	_	Д	В
-	2	3	4	21	22	23
			W/L O B	B B O W/L	W/L B B B	W/L O O D L L

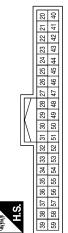


	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	ІТЕ	42 41 40 39 46 45 44 43	Signal Name	CAN-L	CAN-H	S-GND
. E17		lor WHITE	42 41	Color of Wire	۵	Τ	В
Connector No.	Connector Name	Connector Color	H.S.	Terminal No.	39	40	41
			<u> </u>				

61 60								
69 66 67 66 65 64 63 62 89 89 89 87 86 85 84 83 82	Signal Name	COMBI SW IN 5	COMBI SW IN 3	CAN-L	CAN-H	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2
74 73 72 71 70 94 93 92 91 90	Color of Wire	R/Y	R/G	۵	٦	R/W	P/B	B/B
H.S. 79 78 77 77 78 78 78 99 99 97 96 98	Terminal No.	75	92	78	6/	96	96	26

Terminal No. Wire Signal Name	G/Y OUTPUT 4	LG/R OUTPUT 3	R/G INPUT 3	LG/B OUTPUT 5	R/B INPUT 2	P/B INPUT 4	R/W INPUT 1	L/W OUTPUT 1	R/Y INPUT 5
	2	5	7	8	6	10	11	12	13

Connector Color GREEN	Connector Name BCM (BODY CONTROL MODULE)	Connector No. M18	M18 SCM (BODY CONTROL MODULE) GREEN
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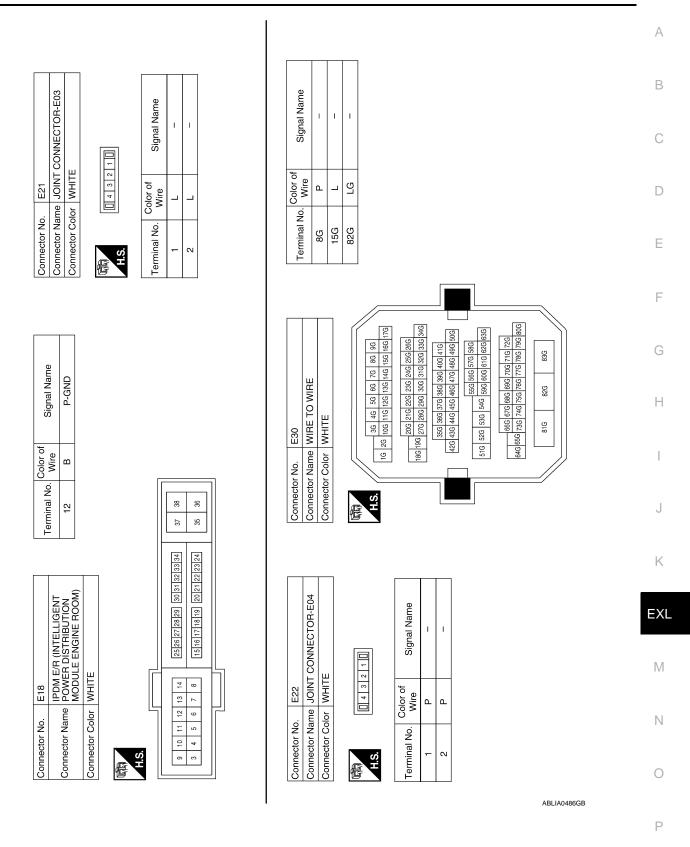


Signal Name	COMBI SW OUT 5	COMBI SW OUT 1	COMBI SW OUT 2	COMBI SW OUT 3	COMBI SW OUT 4
Color of Wire	LG/B	Μ	G/B	LG/R	G/Y
Terminal No.	90	51	52	53	54

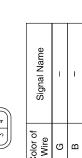
M28	Connector Name COMBINATION SWITCH	WHITE	N	7 8 9 10 11 12 13 14
Connector No.	Connector Name	Connector Color WHITE	H.S.	



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Connector No.	E213
Connector Name	Connector Name FRONT COMBINATION LAMP LH
Connector Color BLACK	BLACK



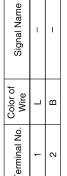




Color of Wire	G	В
Terminal No.	3	4







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Color of Wire	Γ	В	
Terminal No.	1	2	

00	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	ITE	
Connector No. E200	Connector Name PO MO	Connector Color WHITE	







Signal Name	HEADLAMP LO RH	HEADLAMP LO LH	HEADLAMP HI RH	HEADLAMP HI LH
Color of Wire	ΡΛ	٦	M/I	ŋ
Terminal No.	83	84	68	06



FRONT COMBINATION LAMP RH (WITHOUT DAYTIME LIGHT SYSTEM)

Connector Name Connector No.

E222

Connector Color BLACK

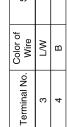


Signal Name

#2#	ВГ		Color	Rγ	В
ше	lor		ر ا		
Connector Name	Connector Color	南 H.S.	Terminal No.	1	2

	Signal Name
3 4 4	Color of Wire



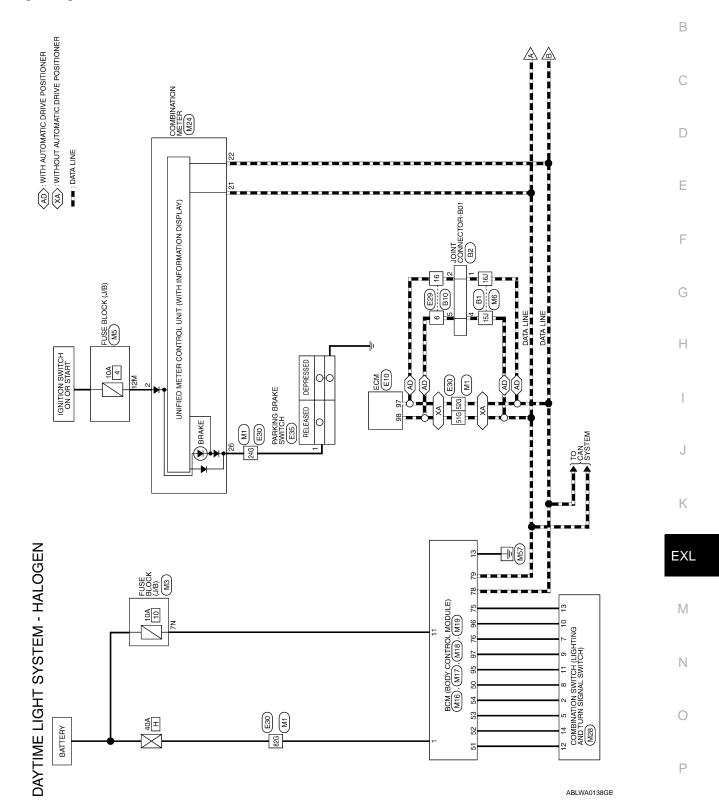


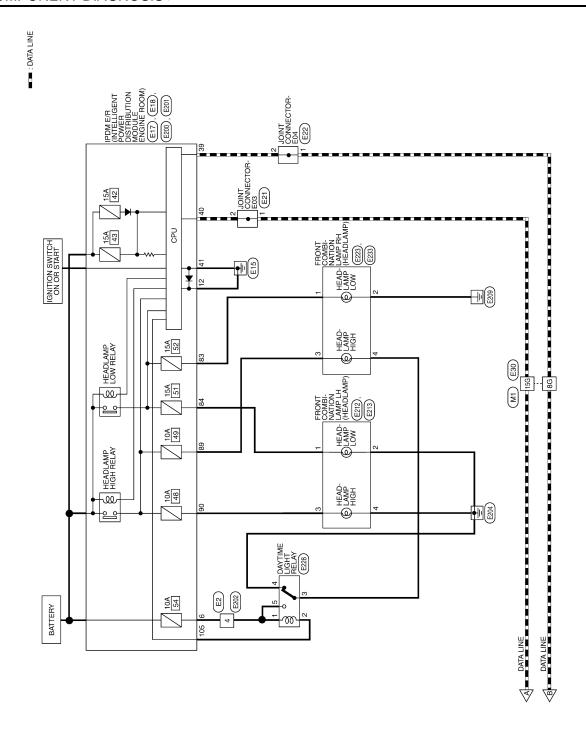
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DAYTIME RUNNING LIGHT SYSTEM

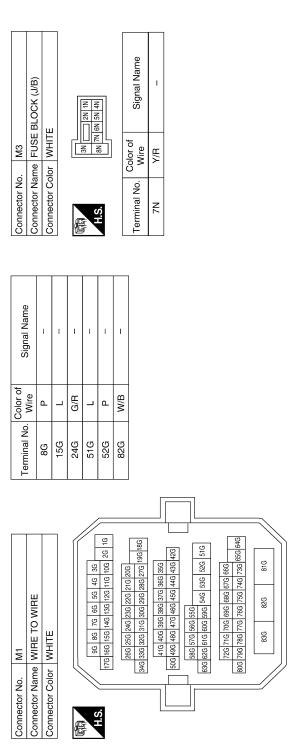
Wiring Diagram





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BLOCK (J/B)	/HITE 3M 2M 1M 10M 9M 8M 7M 8M	Signal Name	1
me FUSE	Or WHITE	Color of Wire	0
Connector No. M5 Connector Name FUSE BLOCK (J/B)	SM WHITE WHITE SM WHITE SM SM SM SM SM SM SM S	Terminal No.	12M

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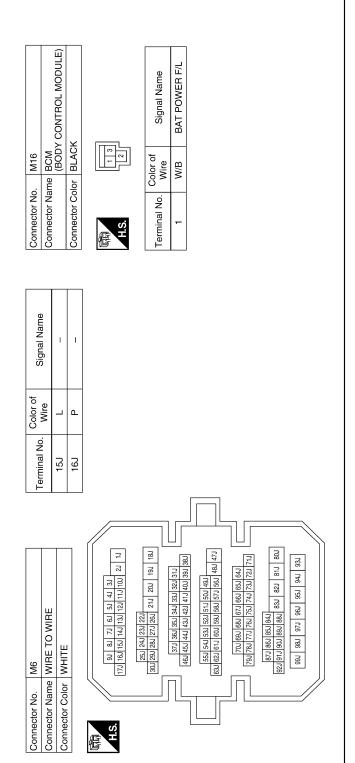
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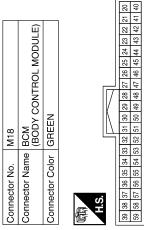
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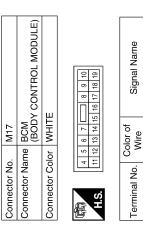
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Signal Name	COMBI SW OUT 5	COMBI SW OUT 1	COMBI SW OUT 2	COMBI SW OUT 3	COMBI SW OUT 4
Color of Wire	LG/B	L/W	G/B	LG/R	G/Y
Terminal No.	20	51	52	53	54





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BAT BCM FUSE

₩ B

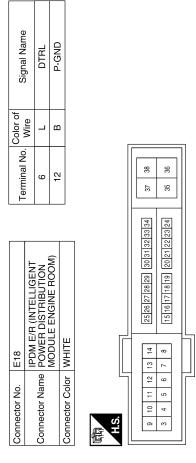
GND1

1 5

SWITCH	9 41	Signal Name	OUTPUT 4 OUTPUT 3	JT 3	JT 2	JT 4	JT 1	UI 1	UT T2		LIGENT	E ROOM)				Signal Name	N-L	CAN-H	S-GND		
Connector Name COMBINATION SWITCH Connector Color WHITE	9 10 11 12 13	Signal	OUTPUT 4	INPUT 3	INPUT 2	4 TUPUT 4	INPUT	OUIPUI 1	OUTPUT T2		IPDM E/R (INTELLIGENT	OULE ENGIN	<u> </u>	41 40 39	46 45 44 43	Signal	CAN-L	CAI	S-S		
lame COMBI	1 7 8 8 2	0	G/Y LG/R	B/G	R/B	P/B	A/W	N a	G/B	lo. E17			_	4 4	46 45	Color of Wire	Ь	_	В		
Connector Name	原 H.S.	Terminal No.	2 2	7 0	0 0	10	=	12	5 4	Connector No.	Connector Name		Connector Color		H.S.	Terminal No.	39	40	14		
		18 19 20 38 39 40									П								1		
Connector Name COMBINATION METER Connector Color WHITE	<u> </u>	11 12 13 14 15 16 17 31 32 33 34 35 36 37	Signal Name	IGN	CAN-H	PKB								01 105 109 102 106 110 03 107 111	04 108 112	Signal Name	CAN-L	CAN-H			
ne COMBI		6 7 8 9 10 26 27 28 29 30	Color of Wire	0 -	٦ ا د	G/R				E10	-	or BLACK		81 85 89 93 97 101 105 109 82 86 90 94 98 102 106 110 83 87 91 95 99 103 107 111	88 92 96 100 104 108 112	Color of Wire	۵		_		
Connector Name Connector Color	画 H.S.	1 2 3 4 5 6 21 22 23 24 25 26	Terminal No.	0 2	22	26				Connector No.	Connector Name	Connector Color)] ,	H.S. 82	28	Terminal No.	97	86	-		
		61 60]										-						-		
CONTROL MODULE)		71 70 69 68 67 66 65 64 63 62 61 60 91 90 89 88 87 86 85 84 83 82 81 80	Signal Name	COMBI SW IN 5	COMBI SW IN 3	CAN-L	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2		ro wire			8	Signal Name	1					
me BCM (BODY		74 73 72 71 71 94 93 92 91 90	Color of	₩ \ ₩ \	B/G	۵ -	J W	P/B	B/B	E2	ne WIRE 1	or WHITE		4 5 6 7	Color of Wire	_					
Connector Name BCM (BODY CONTROL M	SHOOT SHOT SH	79 78 77 76 75 74 73 72 71 70 69 99 98 97 96 95 94 93 92 91 90 89	Terminal No.	75	92	78	95	96	26	Connector No.	Connector Name WIRE TO WIRE	Connector Color		H.S.	Terminal No.	4					
									_				-					A	BLIA0494GI	В	

EXL-233

Connector No	F21	
tor Name	JOINT	Connector Name JOINT CONNECTOR-E03
Connector Color WHITE	WHIT	ш
	4 3 2	
Terminal No. V	Color of Wire	Signal Name
		ı
		ı



	TO WIRE		13 2 11 10 9 8	Signal Name	1	ı
E29	ne WIRE	or WHITE	7 6 5 4 🗀	Color of Wire	Т	Д
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	Ś	Terminal No. Wire	9	16
Cou	So	Ö	图工	Te		
Con	Con	Col	恒	Те		
Con				Signal Name Te	ı	1
E22 Con	Connector Name JOINT CONNECTOR-E04 Con	Connector Color WHITE Con			- П	1

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Р

Connector No. E35 Connector Name PARKING BRAKE SWITCH Connector Color BLACK Terminal No. Wire Signal Name 1 P	Connector No. E202 Connector Name WIRE TO WIRE Connector Color WHITE Terminal No. Wire A SB	B C D E
Terminal No. Wire Signal Name 8G P - 15G L - 24G P - 52G P - 52G P - 52G P - 52G P - 62G P P P - 62G P P P P P P P P P P P P P P P P P P P	Connector No. E201 Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE Terminal No. Wire Signal Name 105 V DTRL RLY	G H I
Connector No. E30 Connector Name WIRE TO WIRE Connector Color WHITE 16 26 106 116 126 136 146 156 166 176 206 216 226 236 246 256 286 186 196 276 286 286 306 316 286 336 346 356 366 776 386 396 406 416 426 436 446 456 469 476 469 696 516 526 539 546 596 606 616 626 636 516 526 539 546 596 606 616 626 636 646 656 736 746 756 766 777 776 776 776 776 776 776 77	Connector No. E200 Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE Terminal No. Wire Signal Name 83 R/Y HEADLAMP LO LH 84 L HEADLAMP LO LH 89 L/W HEADLAMP HI RH 90 G HEADLAMP HI LH	K EXL M N

Connector No.	E223
Connector Name	FRONT COMBINATION LAMP RH (WITHOUT XENON HEADLAMP SYSTEM)
Connector Color BLACK	BLACK



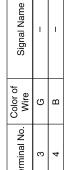




Color of Wire			
Terminal No.	Color of Wire	R/Υ	В
	Terminal No.	1	2









	Colc	9	3
响 H.S.	Terminal No.	8	4





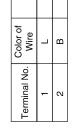


Signal Name	-	I
Color of Wire	L/W	GR/R
Terminal No.	3	4









Signal Name

E228	Connector Name DAYTIME LIGHT RELAY	BLACK	
Connector No.	Connector Name	Connector Color BLACK	





Signal Name	1	ı	I	1	1
Color of Wire	SB	^	GR/R	В	SB
erminal No.	-	2	3	4	5

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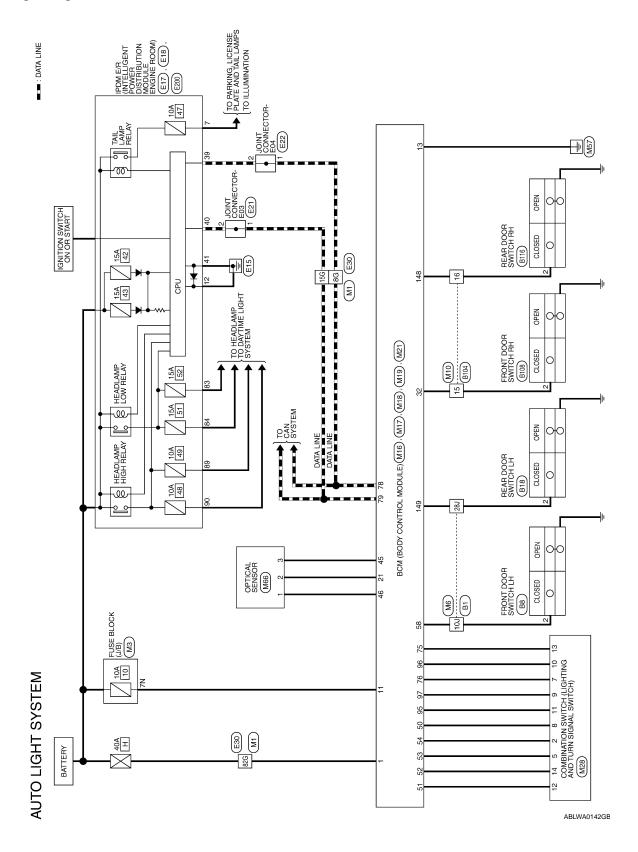
	А
lam e	В
Signal Name	С
Signa Sign	D
Connector No. B10 Connector Name WIRE TO WIRE Connector Color WHITE Terminal No. Wire 6 L 16 P 16 P	Е
	F
Signal Name	G
	Н
Connector No. B2 Connector Name JOINT Connector Color BLACK LAS. 6 5 4 3 2 2 P Color of LAS. 5 L L L L L Color of LAS. 5 L L L L L L L L L L L L L L L L L L	I
Connection of the state of the	J
	K
WHE TO WIRE WHITE	EXL
B1 WIRE TO WIRE NHITE	M
nector No. No. No. Oct 15.1	N
	0

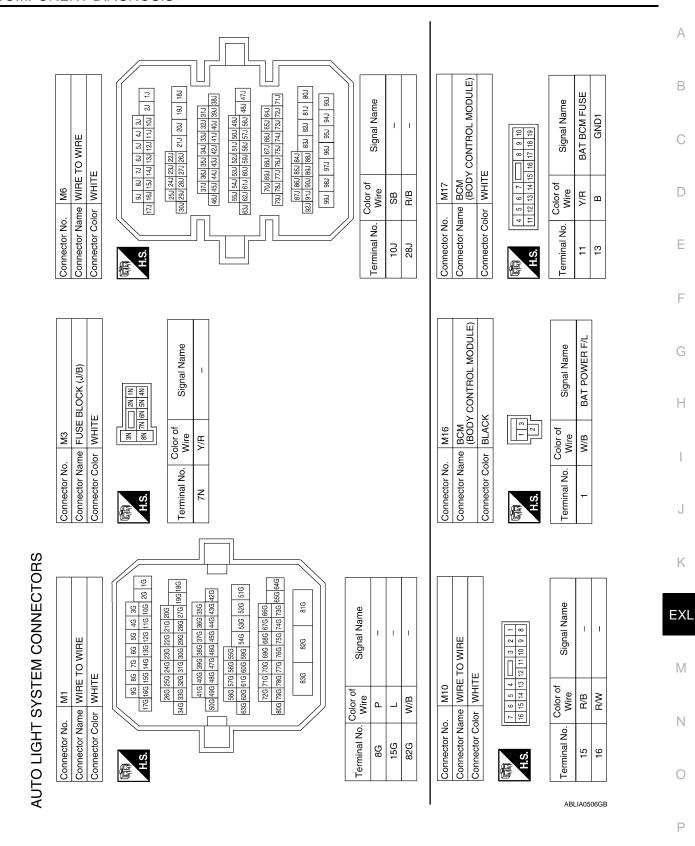
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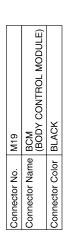
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AUTO LIGHT SYSTEM

Wiring Diagram







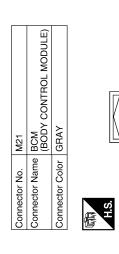
	61 60	81 80								
	62 6	82								
	83	83		-	_			_		~
	64	84	<u>e</u>	ž	z			z	ž	Z
	99	85	an	١N	>	با	I	~	>	N
	99	98	Signal Name	COMBI SW IN 5	COMBI SW IN 3	CAN-L	CAN-H	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2
	29	87	na	ΙBΙ	1BI	ζ	CA	1BI	lBI	ΙBΙ
П	88	88	Sic	O	8			0	8	O
- IV	69	68		С	O			C	O	С
- IN	2	8								
	71 70	92 91 90	of							
Щ	72	35	Color of Wire	К/Υ	R/G	_		B/W	P/B	R/B
	73	93	S iS	Æ	æ	ш.	7	Я	9	Я
	74	98	0							
	75	95	0.							
	9/	96								
ιń	1	98 97	Terminal No.	75	9/	78	79	95	96	97
H.S.	78	88	ᇤ				•		-	
7	79	8	Te							

Signal Name	OUTPUT 4	OUTPUT 3	INPUT 3	OUTPUT 5	INPUT 2	INPUT 4	INPUT 1	OUTPUT 1	INPUT 5	OUTPUT 2
Color of Wire	G/Y	LG/R	R/G	LG/B	R/B	P/B	R/W	M/I	R/Υ	G/B
Terminal No.	2	5	2	8	6	10	11	12	13	14

Terminal No.	Color of Wire	Signal Name
21	B/B	A/L SIGNAL TYPE 1
32	B/B	AS DOOR SW
45	Ь	GND RF2 A/L
46	W/N	A/L POWER SUPPLY 5V
50	LG/B	COMBI SW OUT 5
51	L/W	COMBI SW OUT 1
52	G/B	COMBI SW OUT 2
53	LG/R	COMBI SW OUT 3
54	G/Y	COMBI SW OUT 4
58	SB	DR DOOR SW

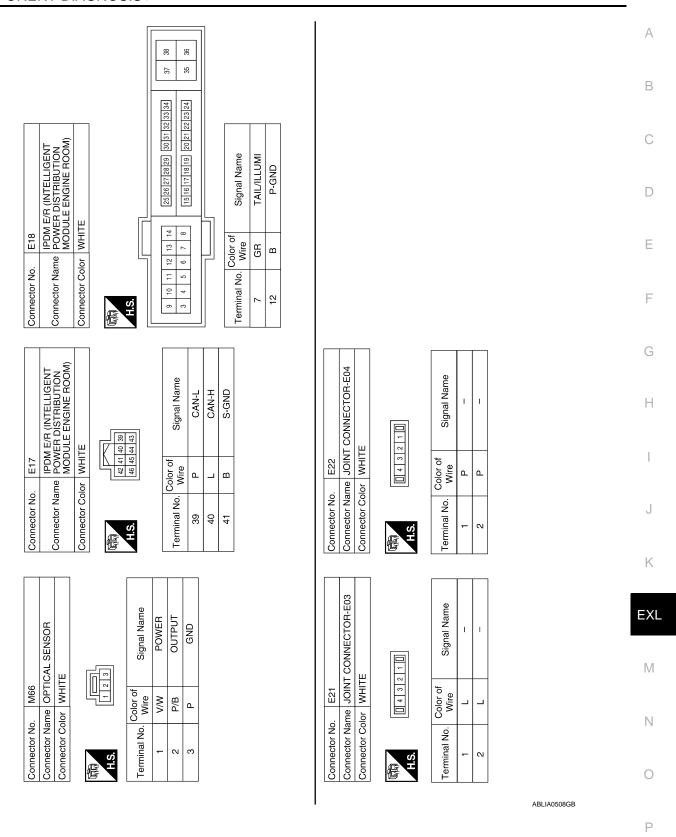
M28	Connector Name COMBINATION SWITCH	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

Connector No.	2		2	M18	_											
Connector Name BCM (BOD	. Na	me	B (E	58	~ <u>6</u>	0	Ö	Ę	3CM (BODY CONTROL MODULE)	ب	Q	ğ	3	(iii		
Connector Color GREEN	ပိ	lor	Э	R	吕	z										
原列 H.S.					\										.	
39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20	35	88	83	22	E	8	83	88	72	92	55	42	83	ผ	2	8
59 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40	25	54	53	25	15	20	49	48	47	9	5 4	4	43	42	41	40

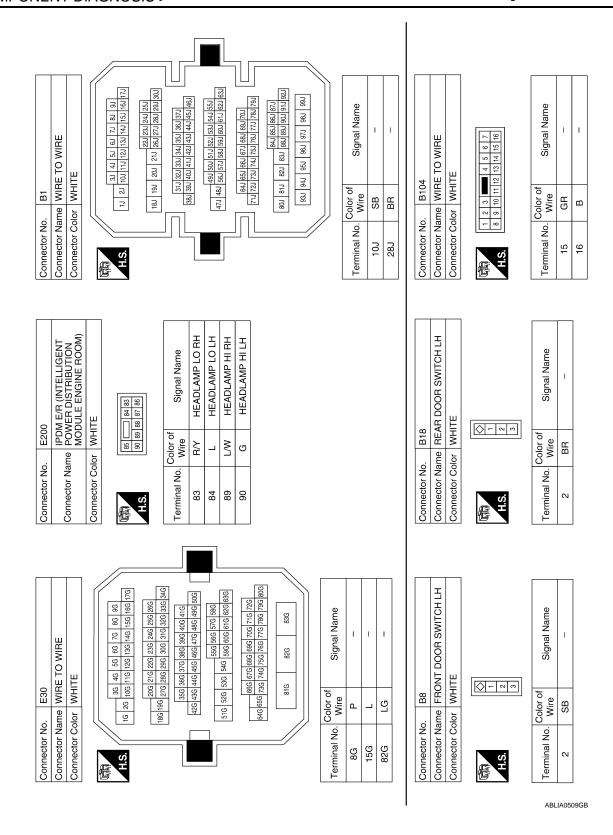


			1		
	112	52			
	113	83	l		
	114	뚕			
	115	135			
	117 116 115	38	o	≷	≥
		137	Signal Name	RR DOOR SW	3 S
	118	88	ž	ö	씽
	119	139	la	8	RL DOOR SW
117	120	9	jg	<u>-</u>	
W	121	#	0,	Œ	ш
IN.	122 121	145			
	123	\$		_	
ဌ	127 126 125 124	₹	Color of Wire	>	m
	125	145	color o	ĕ	R/B
	126	146			
	127	147	<u>o</u>		
	129 128	188	=		
76	129	94	ia	148	149
Σ.	130	150	Terminal No.	_	-
7	131	151	4		
					$\overline{}$

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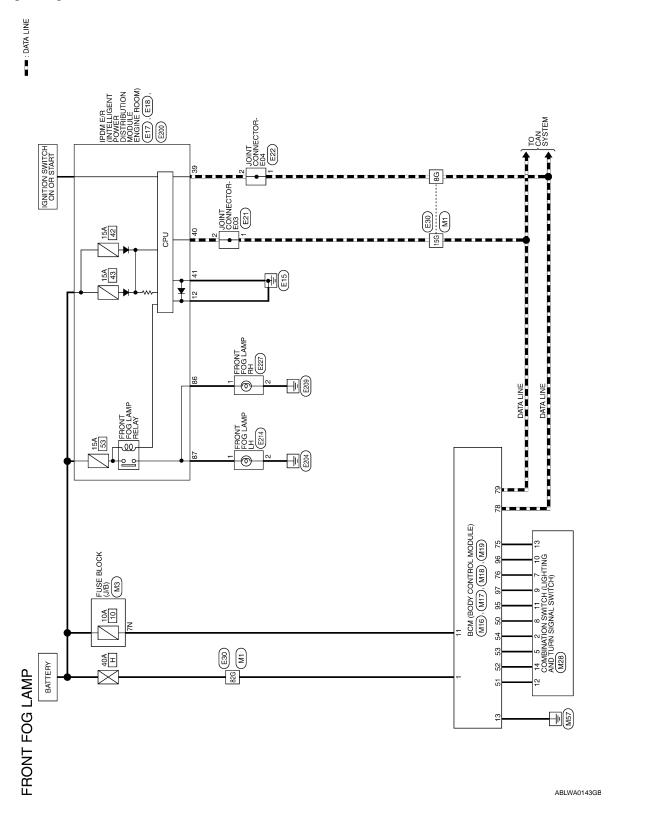
EXL-241

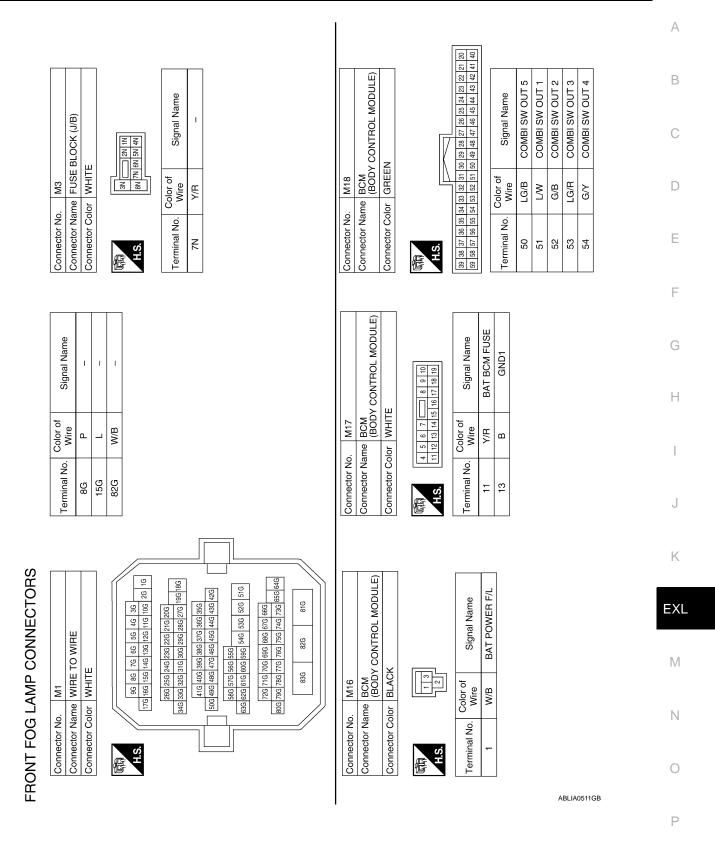


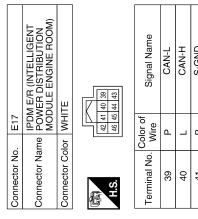
	Connector Name REAR DOOR SWITCH RH Connector Color WHITE		Signal Name		
o. B116	Connector Name REAR DC		Color of Wire		
Connector No.	Connector N Connector C	H.S.	Terminal No.		
	Connector Name FRONT DOOR SWITCH RH Connector Color WHITE		Signal Name		
. B108	me FRONT or WHITE		Color of Wire		
Connector No.	Connector Name FRONT Connector Color WHITE	廟 H.S.	Terminal No.		
00	0 0		<u> </u>	ABLIA0510GB	

FRONT FOG LAMP SYSTEM

Wiring Diagram







	Signal Name	CAN-L	CAN-H	S-GND		
Color of	Wire	۵	_	В		
	Terminal No. Wire	39	40	41		
						1

Connector No.	. E21	
Connector Na	me JOINT	Connector Name JOINT CONNECTOR-E03
Connector Color WHITE	lor WHIT	ш
斯 H.S.	4 3 2	2 1 🗍
Terminal No.	Color of Wire	Signal Name
-	7	ı
2	٦	ı



BCM (BODY CONTROL MODULE)

Connector Name Connector Color

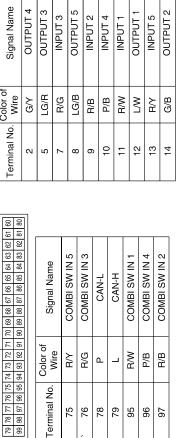
M19

Connector No.

BLACK



Signal Name	OUTPUT 4	OUTPUT 3	INPUT 3	OUTPUT 5	INPUT 2	INPUT 4	INPUT 1	OUTPUT 1	INPUT 5	OUTPUT 2
Color of Wire	G/Y	LG/R	R/G	LG/B	R/B	P/B	R/W	MΠ	₽Y	G/B
Terminal No.	2	5	7	8	6	10	11	12	13	14



COMBI SW IN 5

Signal Name

Color of Wire

Terminal No.

COMBI SW IN 3

R/G

75 78 79 92 96

Y

COMBI SW IN 2	
B/B	
97	

COMBI SW IN 1

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CAN-H CAN-L

COMBI SW IN 4

P/B

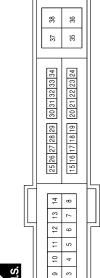
D-GND	В	12	
Signal Name	Color of Wire	Terminal No.	

	В	12
Sig	Color of Wire	Terminal No.

Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector No.

Connector Color WHITE





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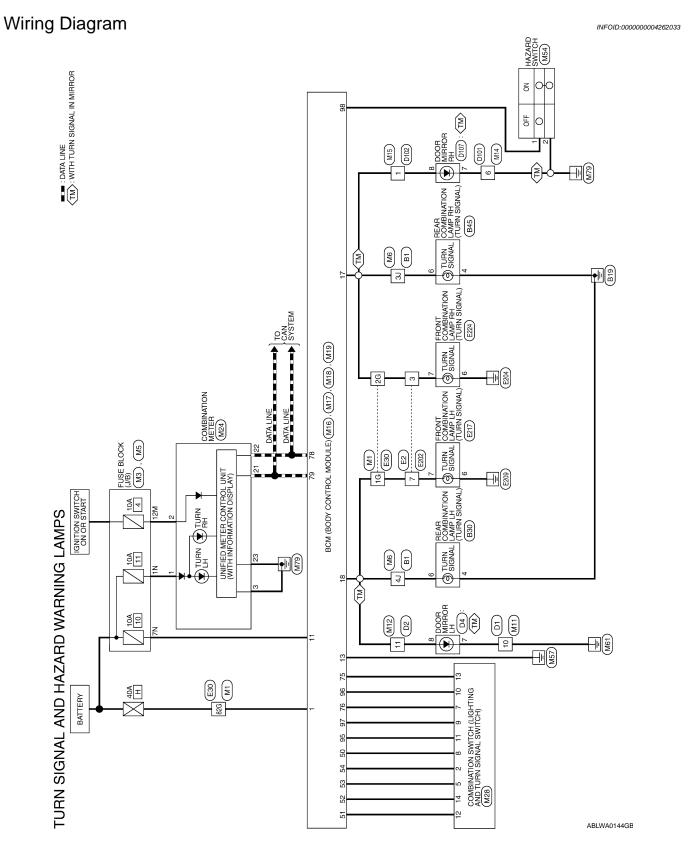
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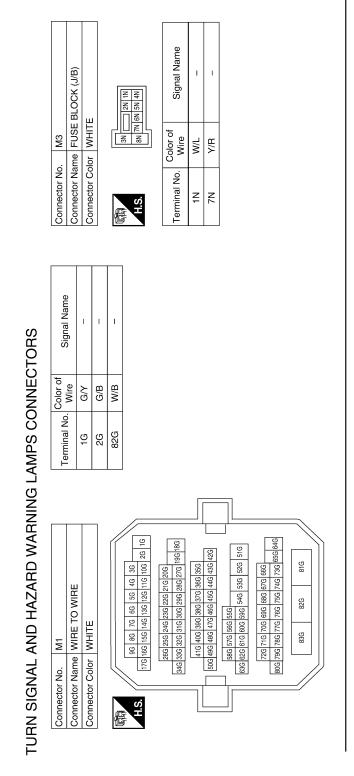
4 3 2	Connector No. E30 Terminal No. Wire Signal Name	T	- 15G L -	- PS6 LG -	1 UU 36 46 56 66 76 86 96 16 86 96 16 86 96 16 86 96 16 86 96 16 86 96 16 86 96 96 16 86 96 96 96 96 96 96 96 96 96 96 96 96 96	Signal Name 1880 1963 and 1980		426 436 446 456 466 476 486 496 506 506 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 507 586 587	840 850 730 740 750 760 870 870 770 780 870 870 870 870 870 87	81G 82G 83G	Connector No. E214 Connector No. E227	R (INTELLIGENT Connector Name FRONT FOG LAMP LH Connector Name FRONT FOG LAMP RH DISTRIBUTION Connector Color BLACK Connector Color BLACK	, <u> </u>	H.S. (21)	Signal Name Terminal No. Wire Signal Name Terminal No. Wire Signal Name	FR FOG LAMP RH - 1 W/R -
WHITTING OF	E22			- 1 ⊢	-	Signal Name	I					IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODILIF FNGINF ROOM)	WHITE	89 88 87 86 89 88 87 86	Signal Name	FR FOG LAMP RH

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< COMPONENT DIAGNOSIS >

[HALOGEN TYPE]



	BLOCK (J/B)		3M 2M 1M 8M 7M 6M	Signal Name	1
M5	ne FUSE	or WHITE	5M 4M 3M 2M 1M 12M 11M 10M 9M 8M 7M 6M	Color of Wire	0
Connector No.	Connector Name FUSE BLOCK (J/B)	Connector Color WHITE	H.S.	Terminal No.	12M

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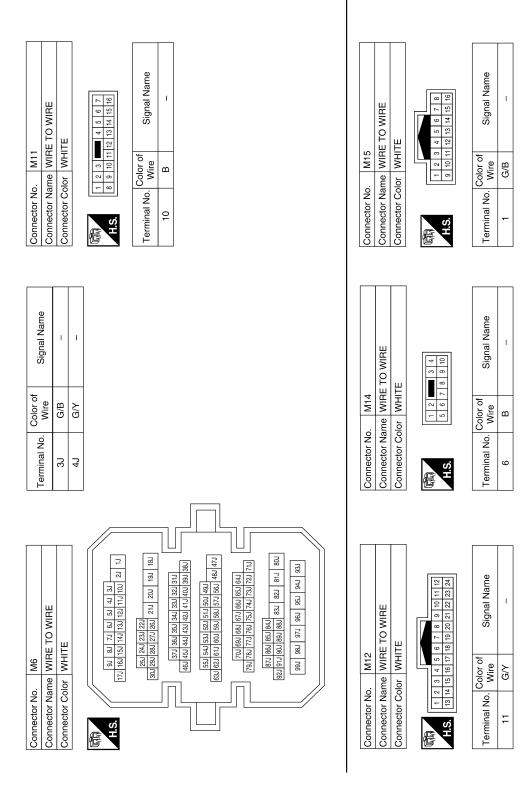
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[HALOGEN TYPE]

(j)		22 21 20 42 41 40			5		2		4							18 19 20	38 39 40		Τ							А
M18 BCM (BODY CONTROL MODULE) GREEN		39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 35 38 38 38 38 38 38 38 38 38 38 38 38 38		Signal Name	COMBI SW OUT	COMBI SW OUT 1	COMBI SW OUT 2	COMBI SW OUT 3	COMBI SW OUT 4		Connector Name COMBINATION METER					10 11 12 13 14 15 16 17	26 27 28 29 30 31 32 33 34 35 36 37	Signal Name	BAT	IGN	GND (POWER)	GND (ILL)	CAN-H	CAN-L	GND (CIRCUIT)	С
		34 33 32 31 3 54 53 52 51	Color of	Wire	LG/B	M	G/B	LG/R	G/Υ	. M24	me COMBI					6 7 8 9	26 27 28 29	Color of	M/L	0	В	В	٦	Ь	В	D
Connector No. Connector Name Connector Color	用.S.	39 38 37 36 35 59 58 57 56 55		Terminal No.	50	51	52	53	54	Connector No.	Connector Name	Confinector Co	Œ	E E	П.Э.	3 4	21 22 23 24 25	Terminal No.	-	2	က	4	21	22	23	E
														1		1										F
M17 BCM (BODY CONTROL MODULE) WHITE	8 9 10 17 18 19	Signal Name	BAT BCM FUSE	GND1	FR FLASHER	FL FLASHER				Signal Name	COMBI SW IN 5	COMBI SW IN 3	CAN-L	CAN-H	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2	HAZARD SW								G
M17 BCM (BODY CC WHITE	12 13 14 15 16 1	Color of Wire	_	В :	G/B	G/Y				Color of			<u> </u>		R/W	P/B (R/B (G/O								Н
or he	11 12	-				-					_				<u> </u>		ш.	9								I
Connector No. Connector Nar Connector Col	H.S.	Terminal No.	=	13	17	18				Terminal No.	75	9/	78	79	92	96	97	86								J
Connector No. M16 Connector Name BCM (BODY CONTROL MODULE) Connector Color BLACK	Z - 3	Color of Signal Name	W/B BAT POWER F/L								ame BCM (BODY CONTROL MODULE)	_				00 00 00 00 00 00 00 00 00 00 00 00 00	7.9 78 77 70 72 74 73 72 71 70 99 86 87 86 85 84 83 82 81 80									EX M
Connector No. Connector Name Connector Color	是 H.S.	Terminal No.	-							Connector No.	Connector Name	Connector Color		匮	H.S.	7 22 22 02 02	96 26 86 66									0

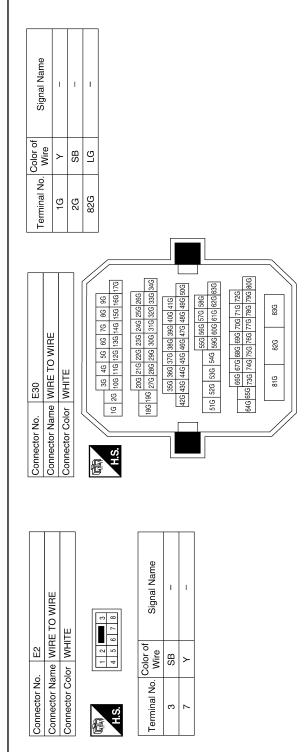
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Connector No.). M54	
Connector Na	me HAZ	Connector Name HAZARD SWITCH
Connector Color WHITE	lor WHI	TE
H.S.	- E	2 4
Terminal No.	Color of Wire	Signal Name
-	G/O	1
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Signal Name	OUTPUT 4	OUTPUT 3	INPUT 3	OUTPUT 5	INPUT 2	INPUT 4	INPUT 1	OUTPUT 1	S TUPNI	OUTPUT 2
Color of Wire	Ğ∕	LG/R	R/G	LG/B	R/B	P/B	R/W	L/W	R/Υ	G/B
Terminal No.	2	2	7	8	6	10	Ξ	12	13	14

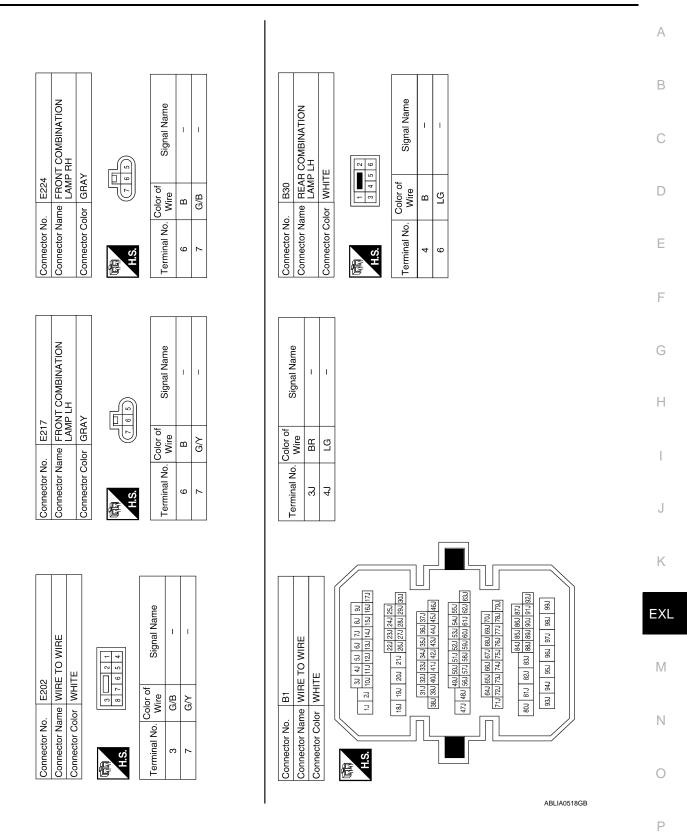
Connector No. M28 Connector Name COMBINATION SWITCH Connector Color WHITE	M28 COMBINA ⁻ WHITE	TION SWITCH
H.S.	2 5 6 8 9 10 11 12 13 14	5 6 13 14



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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< COMPONENT DIAGNOSIS >



TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

Signal Name

Color of Wire ≥

Terminal No.

Signal Name

Color of Wire Ф

Terminal No.

Signal Name

Color of Wire

Terminal No.

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Connector No. B45 Connector Name REAR COMBINATION LAMP RH Connector Color WHITE	Connector No. D1 Connector Name WIRE TO WIRE Connector Color WHITE	Connector No. D2 Connector Name WIRE TO WIRE Connector Color WHITE
(本) 1 (x) 1	(16 15 14 13 12 11 10 9 8 H.S.	H.S. [22 22 22 20 19 18 17 16 15 14 13
Terminal No. Color of Signal Name 4 B -	Terminal No. Wire Signal Name	Terminal No. Color of Wire Signal Name
9 BB		
Connector No. D4 Connector Name DOOR MIRROR LH Connector Color WHITE	Connector No. D101 Connector Name WIRE TO WIRE Connector Color WHITE	Connector No. D102 Connector Name WIRE TO WIRE Connector Color WHITE
(1 2 3 4 5 6 7 8 8 9 10 11 12 13 14 15 16	(4 3 1 1 1 1 1 1 1 1 1	

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TURN SIGNAL AND HAZARD WARNING LAMP SYSTEM

< COMPONENT DIAGNOSIS > [HALOGEN TYPE]

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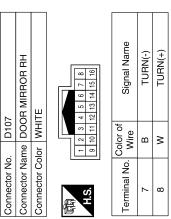
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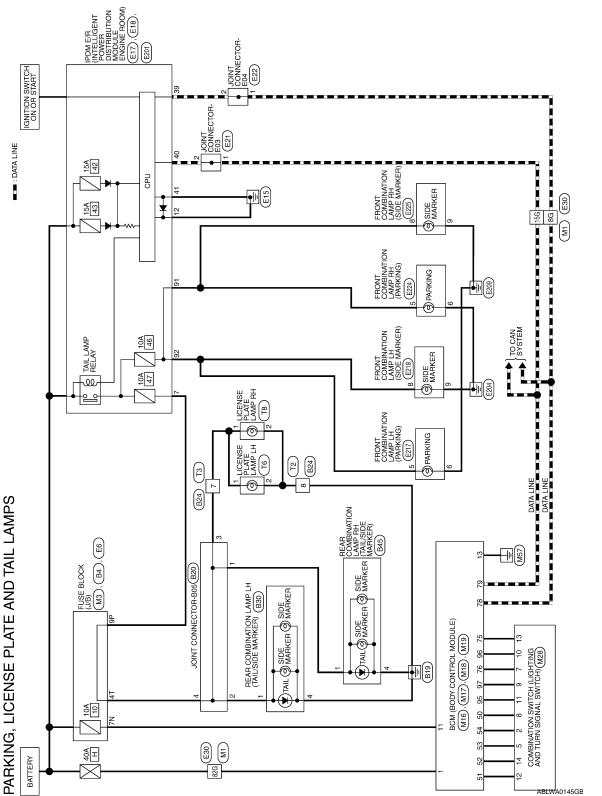
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Wiring Diagram



COMBI SW OUT 2 COMBI SW OUT 3 COMBI SW OUT 4

LG/R

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G/B

COMBI SW OUT 1 COMBI SW OUT

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LG/B

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В

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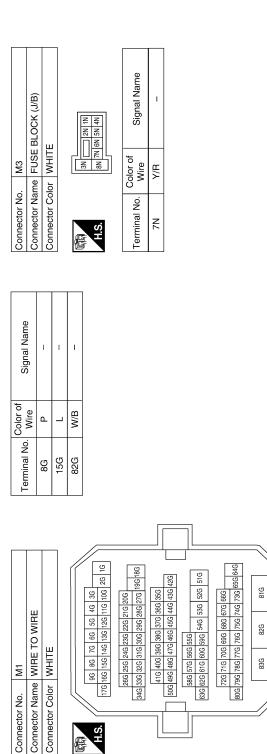
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PARKING, LICENCE PLATE AND TAIL LAMPS CONNECTORS

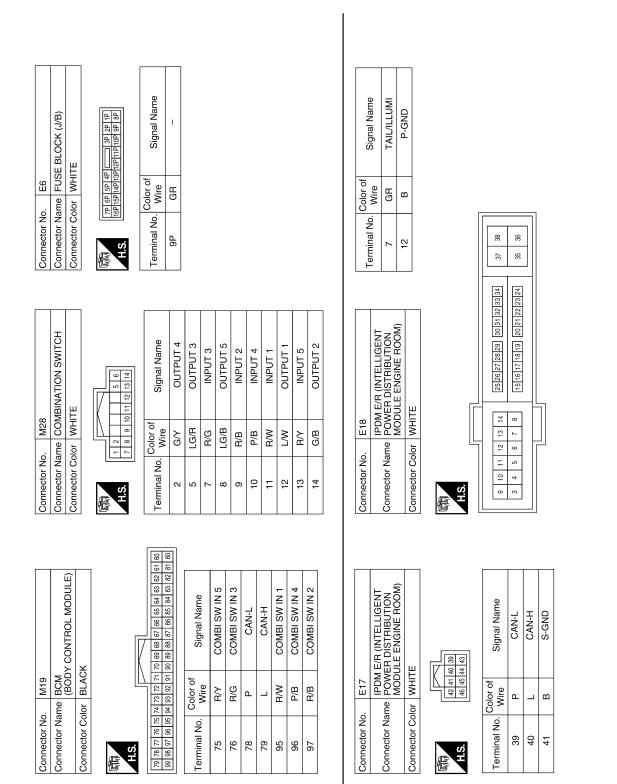
Connector No.



							21 20	41 40				
		BCM (BODY CONTROL MODULE)	EN				36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20	58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42			Signal Name	
	M18	BCM (BOI	r GRE				4 33 32 31	4 53 52 51			Color of	Wire
	Connector No.	Connector Name BCM (BOD	Connector Color GREEN		唇	6	26 38 37 36 35	59 58 57 56 55 54			Terminal No Color of	5
						_			_	_		
		BCM (BODY CONTROL MODULE)	Ш		4 5 6 7 3 8 9 10 11 12 13 14 15 16 17 18 19		Signal Name		BAT BCM FIISE	באוס ו אוסם ועם	GND1	
	M17	BCM (BOD)	WHIT		2 13 14 1	-	Color of	Wire	A/A	1	В	
	Connector No. M17	Connector Name BCM (BOD	Connector Color WHITE		4 = -	1	Terminal No	200	++	-	13	
		BCM (BODY CONTROL MODULE)	¥	Г		_		Signal Name		BAT DOWER E/I	1	
	M16	BCM (BOD)	BLACK			4	Jor of	Wire	מומ	W/B		

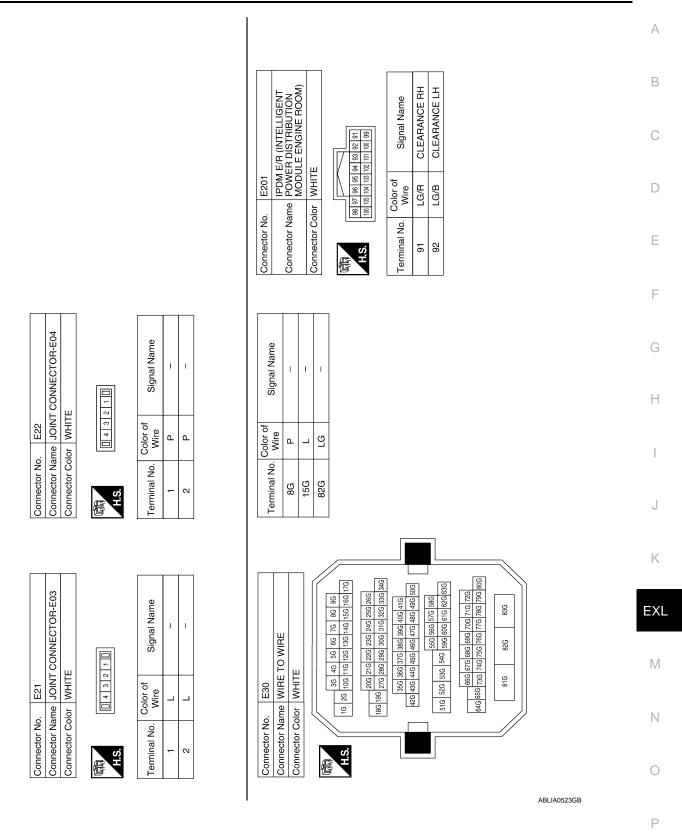
	3CM (BODY CONTROL M	X		Signal Na	JANCO EVO
M16		or BLACK	13	Color of Wire	27741
Connector No.	Connector Name	Connector Color	原动 H.S.	Terminal No.	,

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< COMPONENT DIAGNOSIS > [HALOGEN TYPE]

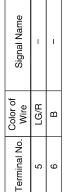


< COMPONENT DIAGNOSIS >

[HALOGEN TYPE]

Connector No.	E224
Connector Name	Connector Name FRONT COMBINATION LAMP RH
Connector Color GRAY	GRAY

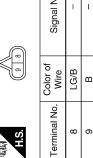


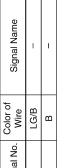


Connector No.	. B20	
Connector Na	me JOINT	Connector Name JOINT CONNECTOR-B05
Connector Color BLUE	lor BLUE	
10 20 H.S.	9 8 7 6 5 19 18 17 16 15	5 4 3 2 1 15 14 13 12 11
]]
Terminal No.	Color of Wire	Signal Name
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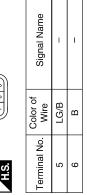
E218	Connector Name FRONT COMBINATION LAMP LH	GRAY
Connector No.	Connector Name	Connector Color GRAY





Connector No.	. B4	
Connector Na	me FUS	Connector Name FUSE BLOCK (J/B)
Connector Color BROWN	lor BRC	NWO
H.S.	4T T11	3T 2T 1T 9T 8T 7T 6T
Terminal No.	Color of Wire	Signal Name
4T	_	ı

2	FRONT COMBINATION LAMP LH	\	
Connector No. E217	Connector Name FRONT COMBINATION LAMP LH	Connector Color GRAY	



E225	Connector Name FRONT COMBINATION LAMP RH	GRAY	
Connector No.	Connector Name	Connector Color GRAY	

	Connector Name FRONT COMBINATION LAMP RH			Signal Name	I	1
E225	FRONT C	GRAY	6	Color of Wire	LG/R	В
Connector No.	Connector Name	Connector Color GRAY	崎 H.S.	Terminal No.	8	6

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< COMPONENT DIAGNOSIS >

[HALOGEN TYPE]

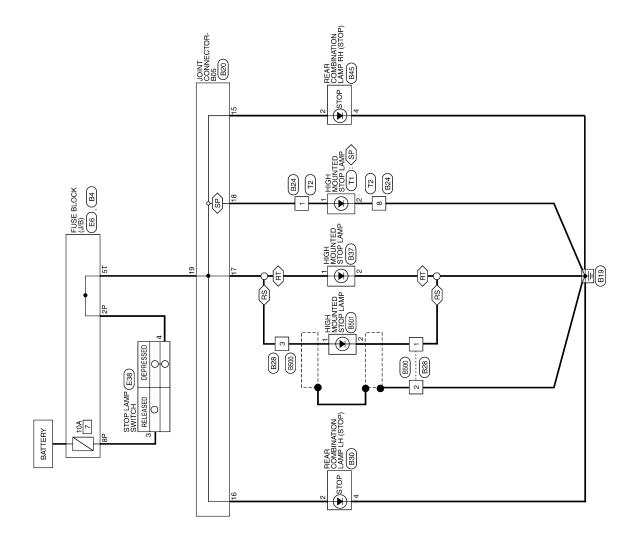
		А
Signal Name	Connector No. T8 Connector Name LICENSE PLATE LAMP RH Connector Color BROWN Terminal No. Wire Signal Name 1 L 2 B	В
D D D D D D D D D D D D D D D D D D D	Sign Sign Sign Sign Sign Sign Sign Sign	С
	lo. T8 lame LICENSE color of Wire L L B	D
Connector No. Connector Name Connector Color H.S. Terminal No. V	Connector No. Connector Name Connector Color H.S. Terminal No. Connector Color Connector Color Connector No. 2	E
		F
Signal Name	Connector No. T6 Connector Name LICENSE PLATE LAMP LH Connector Color BROWN Terminal No. Wire Signal Name 1 L 2 B	G
B30 REAR COMB LAMP LH WHITE I of the tension of th	LICENSE PLA LICENSE PLA BROWN In or of Si In a Si	Н
Vo. B30 LAMF Color WHIT Color of Wire LAMF B B B B Color of	Ado. T6 Adome LICEI Color of Wire B B B	I
Connector Name REAR COMBINATION Connector Color WHITE Terminal No. Wire Signal Nam 4 B Connector Name REAR COMBINATION Terminal No. Wire Color of Signal Nam 4 B Color of Signal Nam	Connector No. Connector Name Connector Color Terminal No. 2	J
		K
Signal Name	Signal Name	EXL
	I 0 	M
Connector No. B24 Connector Name WIRE T Connector Color WHITE LAS. Color of A S B B B B B B B B B B B B B B B B B B	Connector No. T2 Connector Name WIRE T Connector Color WHITE ALS. Terminal No. Wire 7 L 8 B B	N
Connector Nam Connector Cold Connector Cold H.S. Terminal No. 7 8	Connector No. Connector Col. Terminal No. 7 8	0

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STOP LAMP

Wiring Diagram

⟨RS⟩: WITH REAR SUNSHADE
⟨RT⟩: WITHOUT REAR SUNSHADE
⟨SP⟩: WITH REAR SPOILER



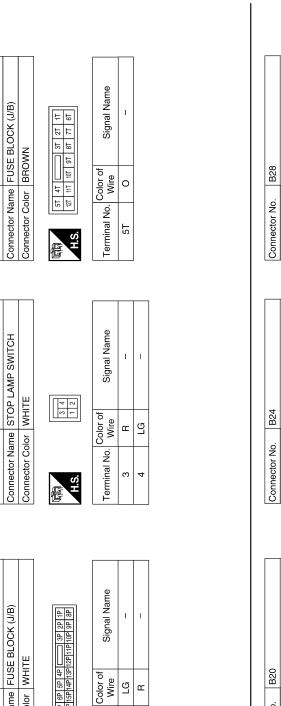
STOP LAMP

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Connector No.

STOP LAMP CONNECTORS

	OP LAMP SWI	ITE	4 2	Signal I	ı	
. E38	me STC	lor WHI		Color of Wire	æ	ГG
Connector No.	Connector Name STOP LAMP SWI	Connector Color WHITE	明 H.S.	Terminal No. Wire	က	4
	Connector Name FUSE BLOCK (J/B)	TE	7P 6P 5P 4P 3P 2P 1P 6P 5P 4P 5P 1P 10P 9P 8P	Signal Name	I	1
. E6	me FUS	or WHI	7P 6P 5P 4P 6P 13P 13P	Color of Wire	LG	œ
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	2P	8P



TO WIRE	211	Signal Name	1	_	1		
B28 me WIRE T or WHITE		Color of Wire	В	В	0		
Connector No. B28 Connector Name WIRE TO WIRE Connector Color WHITE	所 H.S.	Terminal No.	1	2	ဧ		
E TO WIRE	(7) (8) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Signal Name	1	1			
B24 mile WIRE	2 C C	Color of Wire	0	В			
Connector No. B24 Connector Name WIRE TO WIRE Connector Color WHITE	原 H.S.	Terminal No. Wire	-	8			
CONNECTOR-B05	5 14 13 12 11	Signal Name	ı	ı	ı	1	I
B20 ne JOINT or BLUE	9 8 7 6 5	Color of Wire	0	0	0	0	0
Connector No. B20 Connector Name JOINT CONNECTOF Connector Color BLUE	10 9 20 19 H.S.	Terminal No.	15	16	17	18	19

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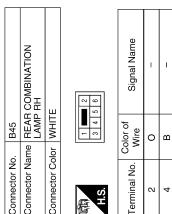
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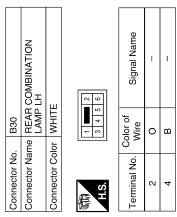
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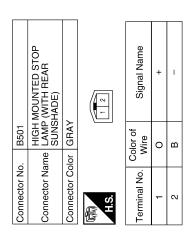
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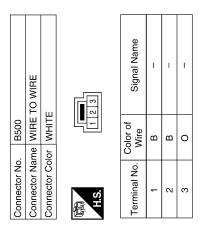


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Connector No.	. B3/		<u>ട്</u>	Sol
or Na	me LAMP SUNS	HIGH MOUNTED STOP Connector Name LAMP (WITHOUT REAR SUNSHADE)	<u> </u>	Con
tor Co	Connector Color WHITE	Ш	3]	5
	-			唇三
Terminal No.	Color of Wire	Signal Name	Te	Term
	0	I		
	В	I		



Connector No.	Ε.	
Connector Na	me HIGH LAMP	Connector Name HIGH MOUNTED STOP LAMP (WITH REAR SPOILER)
Connector Color BROWN	lor BROV	NA
(南京) H.S.	2	
Terminal No.	Color of Wire	Signal Name
1	0	_
2	В	-





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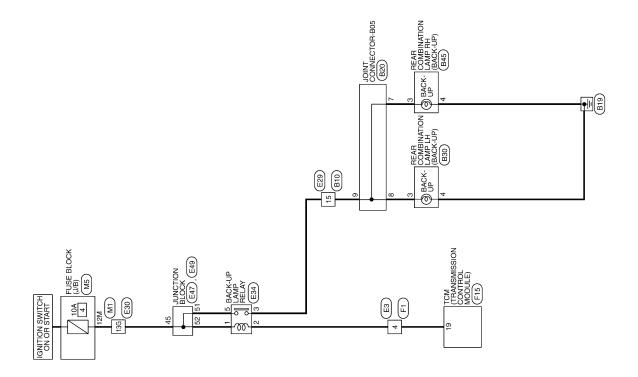
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Connector No.	Т2
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE

2 2 4 1	Signal Name	1	ı
8 7 6	Color of Wire	0	В
H.S.	Terminal No.	1	80

BACK-UP LAMP

Wiring Diagram



BACK-UP LAMP

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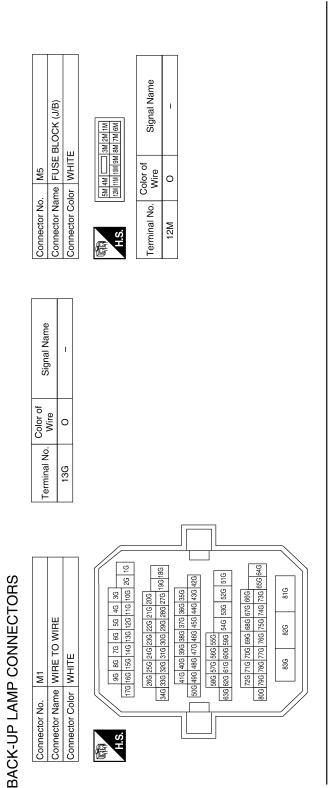
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	E TO WIRE	TE	13 12 11 10 9 8	Signal Name	1
Connector No. E29	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	15 W
	0				
	E TO WIRE	ПЕ	12 14 15 6 7 14 15 16 16	Signal Name	1
Connector No. E3	Connector Name WIRE	Connector Color WHI	H.S.	Terminal No. Color of Wire	4 R

EXL

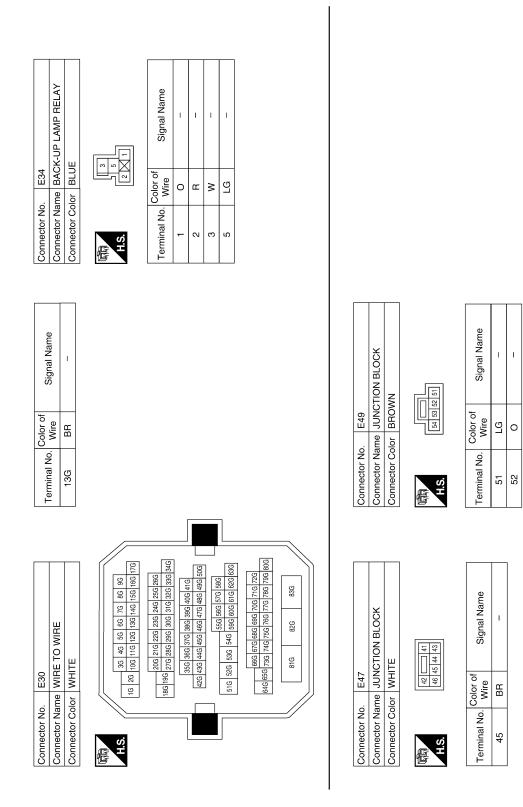
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Connector No. F15 Connector Name TCM (TRANSMISSION CONTROL MODULE) Connector Color BLACK 11 2 2 2 2 2 2 2 2 2	Connector No. F1 Connector Name WIRE TO WIRE	Connector Name WIRE TO WIRE Connector Color WHITE	H.S. 1 2 3 1 4 5 6 7	Terminal No. Wire Signal Name	15 W –		
Connector Name Connector Name Connector Color H.S. 21 22 23 11 22 23 11 12 23 23 11 12 12 13 11 12 13 13 11 12 13 13 11 12 13 13 11 12 13 13 11 12 13 13 11 12 13 13 11 12 13 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13 11 12 13	Name	F15 TCM (TRANSMISSION CONTROL MODULE) BLACK	38 39 40 47 28 29 30 45	43			
	VIRE	Connector No. F	S. 21 22	11 12 13		Terminal No. Wire	

Connector No.	. B20		Connector No.	o. B30		Connector No.	lo. B45	
Connector Nar	me JOINT	Connector Name JOINT CONNECTOR-B05	Connector N	ame REAR COI	Connector Name REAR COMBINATION	Connector N	lame REAR	Connector Name REAR COMBINATION
Connector Color BLUE	lor BLUE		Connector Color WHITE	olor WHITE		Connector C	Connector Color WHITE	
H.S.	9 8 7 6 5 19 18 17 16 1	15 X 4 3 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	同 H.S.	1 C C 4	<u>0</u>	同司 H.S.	1 C C 4	2 9 6
Terminal No.	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name
7	>	I	60	>	ı	m	>	1
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σ	M	1						

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ECU DIAGNOSIS

BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Other than front wiper switch HI	Monitor Item	Condition	Value/Status
Front wiper switch LO	ED WIDED HI	Other than front wiper switch HI	OFF
FR WIPER LOW Front wiper switch LO ON FR WASHER SW Front washer switch OFF OFF Front washer switch OFF OFF Front washer switch NN ON FR WIPER INT Other than front wiper switch INT ON FR WIPER STOP Front wiper is not in STOP position OFF Front wiper is in STOP position ON INT VOLUME Wiper intermittent dial is in a dial position 1 - 7 Wiper intermittent dial position TURN SIGNAL R Other than turn signal switch RH OFF TURN SIGNAL L Other than turn signal switch LH OFF TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch ST and 2ND OFF Lighting switch ST and 2ND OFF <	FR WIFER HI	Front wiper switch HI	ON
Front wiper switch LO	ED WIDER LOW	Other than front wiper switch LO	OFF
FR WASHER SW Front washer switch ON ON 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 INT VOLUME Wiper intermittent dial is in a dial position 1 - 7 Wiper intermittent dial position TURN SIGNAL R Other than turn signal switch RH OFF TURN SIGNAL L Other than turn signal switch LH ON TURN SIGNAL L Other than turn signal switch LH OFF TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch LH ON TURN SIGNAL L Other than lighting switch ST or 2ND ON Other than lighting switch 1ST or 2ND ON ON HEAD LAMP SW 1 Other than lighting switch 2ND OFF Lighting switch 2ND OFF ON HEAD LAMP SW 2 Other than lighting switch PASS OFF Lighting switch PASS OFF OFF Lighting switch PASS <t< td=""><td>FR WIPER LOW</td><td>Front wiper switch LO</td><td>ON</td></t<>	FR WIPER LOW	Front wiper switch LO	ON
Front washer switch ON	ED WASHED SW	Front washer switch OFF	OFF
FR WIPER INT Front wiper switch INT ON FR WIPER STOP Front wiper is not in STOP position OFF Front wiper is in STOP position ON INT VOLUME Wiper intermittent dial is in a dial position 1 - 7 Wiper intermittent dial position TURN SIGNAL R Other than turn signal switch RH OFF TURN SIGNAL L Other than turn signal switch LH OFF TURN SIGNAL L Other than lighting switch LH ON TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF Lighting switch 1ST or 2ND ON ON HI BEAM SW Other than lighting switch PAD OFF HEAD LAMP SW 1 Other than lighting switch 2ND OFF Lighting switch 2ND ON OFF HEAD LAMP SW 2 Other than lighting switch PASS OFF Lighting switch 2ND ON OFF Lighting switch PASS OFF Lighting switch PASS OFF Lighting switch AUTO OFF Lighting switch AUTO OFF Front fog lamp switch OFF OFF Fr	FR WASHER SW	Front washer switch ON	ON
Front wiper switch INT	ED WIDED INT	Other than front wiper switch INT	OFF
Front wiper is in STOP position ON	FR WIPER INT	Front wiper switch INT	ON
Front wiper is in STOP position	ED WIDED STOD	Front wiper is not in STOP position	OFF
TURN SIGNAL R Other than turn signal switch RH OFF TURN SIGNAL L Other than turn signal switch LH OFF TURN SIGNAL L Other than turn signal switch LH ON TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF Lighting switch 1ST or 2ND ON ON HI BEAM SW Other than lighting switch HI OFF Lighting switch HI ON OFF Lighting switch PAS OFF ON HEAD LAMP SW 1 Lighting switch 2ND OFF Lighting switch 2ND ON ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF Lighting switch 2ND ON ON HEAD LAMP SW 2 Other than lighting switch PASS OFF Lighting switch PASS OFF OFF Lighting switch PASS ON ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch AUTO OFF OFF Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF P	FR WIPER STOP	Front wiper is in STOP position	ON
TURN SIGNAL R Turn signal switch RH ON TURN SIGNAL L Other than turn signal switch LH OFF TURN SIGNAL L Other than turn signal switch LH ON TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF Lighting switch 1ST or 2ND ON ON HI BEAM SW Other than lighting switch HI OFF Lighting switch HI ON OFF HEAD LAMP SW 1 Uther than lighting switch 2ND OFF Lighting switch 2ND ON ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF Lighting switch 2ND ON OFF PASSING SW Other than lighting switch PASS OFF Lighting switch PASS OFF Lighting switch PASS ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch AUTO OFF Front fog lamp switch OFF OFF Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Passenger door closed OFF <td>INT VOLUME</td> <td>Wiper intermittent dial is in a dial position 1 - 7</td> <td>Wiper intermittent dial position</td>	INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL L Other than turn signal switch LH OFF TURN SIGNAL L Other than turn signal switch LH ON TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF Lighting switch 1ST or 2ND ON HI BEAM SW Other than lighting switch HI OFF Lighting switch HI ON HEAD LAMP SW 1 Other than lighting switch 2ND OFF Lighting switch 2ND ON HEAD LAMP SW 2 Dighting switch 2ND OFF Lighting switch 2ND ON PASSING SW Other than lighting switch PASS OFF Lighting switch PASS ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch OFF OFF Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RI Rear door RH closed OFF	TUDNI CIONAL D	Other than turn signal switch RH	OFF
TURN SIGNAL L Turn signal switch LH ON TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF Lighting switch 1ST or 2ND ON HI BEAM SW Other than lighting switch HI OFF Lighting switch HI ON HEAD LAMP SW 1 Other than lighting switch 2ND OFF Lighting switch 2ND ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF Lighting switch 2ND ON PASSING SW Other than lighting switch PASS OFF Lighting switch PASS ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch AUTO ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RI Rear door RH closed OFF Rear door LH closed OFF	TURN SIGNAL R	Turn signal switch RH	ON
Turn signal switch LH ON Other than lighting switch 1ST and 2ND OFF Lighting switch 1ST or 2ND ON Other than lighting switch HI OFF Lighting switch HI OFF Lighting switch HI ON Other than lighting switch 2ND OFF Lighting switch 2ND ON Other than lighting switch 2ND OFF Lighting switch PASS OFF Lighting switch PASS OFF Lighting switch AUTO OFF Front fog lamp switch OFF Front fog lamp switch ON ON DOOR SW-DR DOOR SW-AS Passenger door opened ON Rear door RH closed OFF Rear door LH closed OFF Rear door LH closed OFF Rear door LH closed Passer DOOR SW-RI Rear door LH closed OFF Rear door LH closed OFF Posser Rear door LH closed OFF	TUDAL CIONAL I	Other than turn signal switch LH	OFF
TAIL LAMP SW Lighting switch 1ST or 2ND ON HI BEAM SW Other than lighting switch HI OFF Lighting switch HI ON OFF HEAD LAMP SW 1 Other than lighting switch 2ND OFF Lighting switch 2ND ON OFF Lighting switch 2ND ON ON PASSING SW Other than lighting switch PASS OFF Lighting switch PASS ON ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch AUTO ON OFF FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON ON DOOR SW-DR Driver door opened ON DOOR SW-AS Passenger door closed OFF DOOR SW-RR Rear door RH closed OFF DOOR SW-RI Rear door LH closed OFF	TURN SIGNAL L	Turn signal switch LH	ON
Lighting switch 1ST or 2ND	TAIL LAND CVA	Other than lighting switch 1ST and 2ND	OFF
Lighting switch HI	TAIL LAMP SW	Lighting switch 1ST or 2ND	ON
Lighting switch HI	LILDEAN CW	Other than lighting switch HI	OFF
Lighting switch 2ND	HI BEAIN SW	Lighting switch HI	ON
Lighting switch 2ND ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF Lighting switch 2ND ON PASSING SW Other than lighting switch PASS ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch AUTO ON Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH closed OFF Rear door LH closed OFF	LIEAD LAND CVA/A	Other than lighting switch 2ND	OFF
Lighting switch 2ND	HEAD LAMP SW 1	Lighting switch 2ND	ON
Lighting switch 2ND	LIEAD LAMB CW 2	Other than lighting switch 2ND	OFF
Lighting switch PASS ON	HEAD LAIMP SW 2	Lighting switch 2ND	ON
Lighting switch PASS ON AUTO LIGHT SW Other than lighting switch AUTO OFF Lighting switch AUTO ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF DOOR SW-RR Rear door RH closed OFF DOOR SW-RI Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	DA COINO OW	Other than lighting switch PASS	OFF
AUTO LIGHT SW Lighting switch AUTO ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON Rear door LH closed OFF	PASSING SW	Lighting switch PASS	ON
Lighting switch AUTO ON FR FOG SW Front fog lamp switch OFF OFF Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF DOOR SW-RI Rear door LH closed OFF	ALITO LICLIT CW	Other than lighting switch AUTO	OFF
FR FOG SW Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	AUTO LIGHT SW	Lighting switch AUTO	ON
Front fog lamp switch ON ON DOOR SW-DR Driver door closed OFF Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	ED EOC SW	Front fog lamp switch OFF	OFF
DOOR SW-DR Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	FR FOG SW	Front fog lamp switch ON	ON
Driver door opened ON DOOR SW-AS Passenger door closed OFF Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	DOOD OW DD	Driver door closed	OFF
DOOR SW-AS Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	DOOR SW-DR	Driver door opened	ON
Passenger door opened ON DOOR SW-RR Rear door RH closed OFF Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	DOOR SW AS	Passenger door closed	OFF
DOOR SW-RR Rear door RH opened ON DOOR SW-RI Rear door LH closed OFF	DOOK 200-A2	Passenger door opened	ON
Rear door RH opened ON POOR SW-RI Rear door LH closed OFF	DOOD OW DD	Rear door RH closed	OFF
DOOR SW-RI	DOOK 200-KK	Rear door RH opened	ON
Rear door LH opened ON	DOOR SW DI	Rear door LH closed	OFF
· ·	DOOK 200-KL	Rear door LH opened	ON

Monitor Item	Condition	Value/Status
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.	OFF
ODL LOCK OW	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
14EV 0V4 11N 0V4	Other than driver door key cylinder UNLOCK position	OFF
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	ON
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.	OFF
114.74 DD 014/	When hazard switch is not pressed	OFF
HAZARD SW	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
TD 0411051 0111	Trunk lid opener cancel switch OFF	OFF
TR CANCEL SW	Trunk lid opener cancel switch ON	ON
TD/DD 000000	Trunk lid opener switch OFF	OFF
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON
	Trunk lid closed	OFF
TRNK/HAT MNTR	Trunk lid opened	ON
	When LOCK button of Intelligent Key is not pressed	OFF
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed	OFF
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON
	When PANIC button of Intelligent Key is not pressed	OFF
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON
	When UNLOCK button of Intelligent Key is not pressed and held	OFF
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON
	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
ODTIONI OFNICOD	When outside of the vehicle is bright	Close to 5 V
OPTICAL SENSOR	When outside of the vehicle is dark	Close to 0 V
DEC 0W DD	When front door request switch is not pressed (driver side)	OFF
REQ SW-DR	When front door request switch is pressed (driver side)	ON
DEC 014 46	When front door request switch is not pressed (passenger side)	OFF
REQ SW-AS	When front door request switch is pressed (passenger side)	ON
	When rear door request switch is not pressed (driver side)	OFF
REQ SW-RL	When rear door request switch is pressed (driver side)	ON
	When rear door request switch is not pressed (passenger side)	OFF
REQ SW-RR	When rear door request switch is pressed (passenger side)	ON

Monitor Item	Condition	Value/Status
DEO SW DD/TD	When trunk request switch is not pressed	OFF
REQ SW-BD/TR	When trunk request switch is pressed	ON
DUCHEW	When engine switch (push switch) is not pressed	OFF
PUSH SW	When engine switch (push switch) is pressed	ON
IGN RLY 2-F/B	Ignition switch OFF or ACC	OFF
IGN KLT Z-F/D	Ignition switch ON	ON
ACC DLV E/D	Ignition switch OFF	OFF
ACC RLY-F/B	Ignition switch ACC or ON	ON
CLUTCH SW	NOTE: This item is displayed, but cannot be monitored.	OFF
BRAKE SW 1	When the brake pedal is not depressed	ON
BRAKE SW I	When the brake pedal is depressed	OFF
DETE/CANCL CV	When selector lever is in P position	OFF
DETE/CANCL SW	When selector lever is in any position other than P	ON
OFT DN/NLOW	When selector lever is in any position other than P or N	OFF
SFT PN/N SW	When selector lever is in P or N position	ON
0// 1 0 0 1 /	Electronic steering column lock LOCK status	OFF
S/L-LOCK	Electronic steering column lock UNLOCK status	ON
0/1 1 1 1 1 1 0 0 1 /	Electronic steering column lock UNLOCK status	OFF
S/L-UNLOCK	Electronic steering column lock LOCK status	ON
0/L DEL AV E/D	Ignition switch OFF or ACC	OFF
S/L RELAY-F/B	Ignition switch ON	ON
LINII K OEN BB	Driver door UNLOCK status	OFF
UNLK SEN-DR	Driver door LOCK status	ON
DUOLLOW IDDM	When engine switch (push switch) is not pressed	OFF
PUSH SW-IPDM	When engine switch (push switch) is pressed	ON
ION DIVA E/D	Ignition switch OFF or ACC	OFF
IGN RLY1 F/B	Ignition switch ON	ON
DETE OW IDDM	When selector lever is in P position	OFF
DETE SW -IPDM	When selector lever is in any position other than P	ON
OFT DN IDDM	When selector lever is in any position other than P or N	OFF
SFT PN -IPDM	When selector lever is in P or N position	ON
OFT D MET	When selector lever is in any position other than P	OFF
SFT P-MET	When selector lever is in P position	ON
OFT NIMET	When selector lever is in any position other than N	OFF
SFT N-MET	When selector lever is in N position	ON
	Engine stopped	STOP
ENGINE CTATE	While the engine stalls	STALL
ENGINE STATE	At engine cranking	CRANK
	Engine running	RUN
C/L L OCK IDDM	Electronic steering column lock LOCK status	OFF
S/L LOCK-IPDM	Electronic steering column lock UNLOCK status	ON
C/L LINII OK IDDM	Electronic steering column lock UNLOCK status	OFF
S/L UNLCK-IPDM	Electronic steering column lock LOCK status	ON

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
C/I DELAY DEO	Ignition switch OFF or ACC	OFF
S/L RELAY-REQ	Ignition switch ON	ON
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
	Driver door LOCK status	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
	Passenger door LOCK status	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
DOOR STAT-AS	Passenger door UNLOCK status	UNLK
ID OK EL 4 O	Ignition switch ACC or ON	RESET
ID OK FLAG	Ignition switch OFF	SET
DDMT ENO OTAT	When the engine start is prohibited	RESET
PRMT ENG STAT	When the engine start is permitted	SET
PRMT RKE STAT	NOTE: This item is displayed, but cannot be monitored.	RESET
1/51/ 01/ 01 OT	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key
	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
CONFRM ID ALL	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
CONFIRM ID4	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
CONFIRM ID3	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIDM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	YET
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIDM IDA	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
CONFIRM ID1	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TD 4	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
	The ID of second key is not registered to BCM	YET
TP 2	The ID of second key is registered to BCM	DONE

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
TP 1	The ID of first key is not registered to BCM	YET
IF I	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 REGST FL1	When ID of front LH tire transmitter is registered	DONE
ID REGGI FLI	When ID of front LH tire transmitter is not registered	YET
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE
ID REGGI FRI	When ID of front RH tire transmitter is not registered	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE
ID REGGI KKI	When ID of rear RH tire transmitter is not registered	YET
ID REGST RL1	When ID of rear LH tire transmitter is registered	DONE
ID REGST RET	When ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
WARNING LAWP	Tire pressure indicator ON	ON
DI 177ED	Tire pressure warning alarm is not sounding	OFF
BUZZER	Tire pressure warning alarm is sounding	ON

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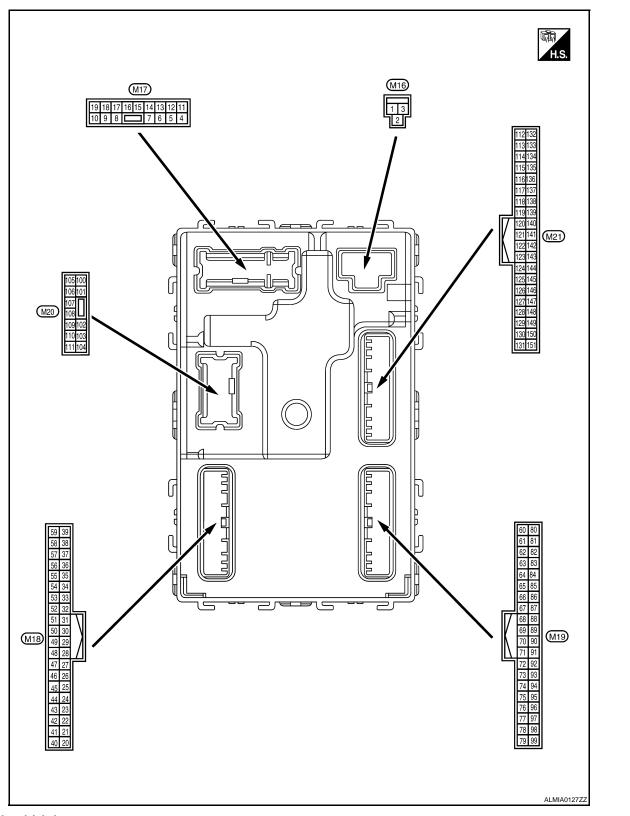
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Terminal Layout



Physical Values

Term	inal No.	Description				
(Wire	e color)	Signal name	Input/	Condition		Value (Approx.)
(+)	(-)	Oignai name	Output			, , ,
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OF	F	Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4	0	Interior room lamp	0 1 1	After passing the ir er operation time	nterior room lamp battery sav-	OV
(P/W)	Ground	power supply	Output	Any other time after lamp battery save	er passing the interior room roperation time	Battery voltage
5		Front door RH UN-	•	- · · · · · · · · · · · · · · · · · · ·	UNLOCK (actuator is activated)	Battery voltage
(G)	Ground	LOCK	Output	Front door RH	Other than UNLOCK (actuator is not activated)	ov
7	Ground	Step lamp	Output	Stop Jamp	ON	0V
(R/W)	Giodila	Зієр іапір	Output	Step lamp	OFF	Battery voltage
8	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
(V)	(V) Glound All doors EC	All doors Look	Output	Juiput All doors	Other than LOCK (actuator is not activated)	OV
9	9	Front door LH UN-	Outout		UNLOCK (actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	Front door LH	Other than UNLOCK (actuator is not activated)	ov
10	Ground	Rear door RH and rear door LH UN-	Output	Rear door RH	UNLOCK (actuator is activated)	Battery voltage
(G)	Ground	LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	OV
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0V
					OFF	0V
14 (GR/ W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brightening/dimming level is in the neutral position (V) 10 0 JSNIA0010GB
15	Graves	ACC indicator large	Outerist	Ignition outlet	OFF	Battery voltage
(Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	ACC or ON	0V

	inal No.	Description				Value
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF Turn signal switch RH	0V (V) 15 10 5 0 1 s PKID0926E 6.5 V
					Turn signal switch OFF	OV
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
21				Ignition switch	ON When outside of the vehicle is bright	OV Close to 5V
(P/B)	Ground	Optical sensor signal	Input	ON	When outside of the vehi- cle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
26	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is not depressed)	OV
(O/L)		· ·		· ·	ON (brake pedal is depressed)	Battery voltage
27 (O)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB
					UNLOCK status	0V
29 (Y)	Ground	Key slot switch	Input		ey is inserted into key slot	Battery voltage
30	0	A00 for H and 11 11	to a se	_	ey is not inserted into key slot OFF	0V 0
(V/Y)	Ground	ACC feedback signal	Input	Ignition switch	ACC or ON	Battery voltage
31	Ground	Rear window defog-	Input	Rear window de-	OFF	0V
(G)		ger feedback signal	L 41.	fogger switch	ON	Battery voltage

	Terminal No. Description				V/-I	
	e color)	Signal name	Input/	Condition		Value (Approx.)
(+)	(-)	G.g.rai riairie	Output		I	
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (when front door RH opens)	OV
37 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB
					ON	OV
38 (CB)	Ground	Rear window defog-	Innut	Rear window de-	OFF	5V
(GR/ W)	Ground	ger ON signal	Input	fogger switch	ON	OV
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms JPMIA0013GB
				Ignition switch OF	F or ACC	0V
41		Engine quitch (nuch		Engine switch	ON	5.5V
(W)	Ground	Engine switch (push switch) illumination	Output	(push switch) illu- mination	OFF	OV
42	Ground	LOCK indicator lamp	Output	LOCK indicator	ON	OV
(R)	Cidana	-	Caipat	lamp	OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		ov
46	Ground	Receiver & sensor	Output	Ignition switch	OFF	0V
(V/W)		power supply output	,	•	ACC or ON	5.0V

	inal No. e color)	Description	T		O 1111	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
47		Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 • • 0.2s OCC3881D
(G/O)	Ground	er signal	Output	ŎN	When receiving the signal from the transmitter	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
48	Ground	Selector lever P/N	Innut	Sologtor lover	P or N position	12.0V
(R/G)	Giodila	position signal	Input	Selector lever	Except P and N positions	OV
					ON	OV
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	Blinking	(V) 15 10 5 0 1 1 s JPMIA0014GB
					OFF	Battery voltage
					All switch OFF	0V
					Lighting switch 1ST	
				Combination	Lighting switch high-beam	(V) 15
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	switch (Wiper intermit- tent dial 4)	Lighting switch 2ND Turn signal switch RH	10 5 0 2 ms JPMIA0031GB
						10.7V
					All switch OFF (Wiper intermittent dial 4)	0V
					Front wiper switch HI (Wiper intermittent dial 4)	(V) 15
51 (L/W) Ground	Combination switch OUTPUT 1	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	15 10 5 0 2 ms JPMIA0032GB	

	inal No.	Description				Value	
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)	
(1)	()				All switch OFF (Wiper intermittent dial 4) Front washer switch ON	0V	
					(Wiper intermittent dial 4)	(V) 15	
52 (G/B)	Ground	Combination switch OUTPUT 2	UT 2 Switch Any of the conditions bel with all switch OFF Wiper intermittent dia Wiper intermittent dia	Output Combination switch	Switch Any of the conditions bel		10 5 0 2 ms JPMIA0033GB
					All switch OFF	OV	
					Front wiper switch INT		
				Combination	Front wiper switch LO	(V) 15	
53 (LG/ R)	Ground	Combination switch OUTPUT 3		switch (Wiper intermit-	Lighting switch AUTO	10 5 0 2 ms JPMIA0034GB	
					All switch OFF	0V	
					Front fog lamp switch ON		
					Lighting switch 2ND	(V)	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit-	Lighting switch flash-to- pass	15 10 5 0	
				tent dial 4)	Turn signal switch LH	2 ms JPMIA0035GB	
57 (W)	Ground	Tire pressure warn- ing check switch	Input		_	5V	
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 5 0 10 ms JPMIA0011GB	
					ON (front door LH OPEN)	0V	
59	Ground	Rear window defog-	Output	Rear window de-	Active	Battery voltage	
(G/R)	2.300	ger relay		fogger	Not activated	0V	

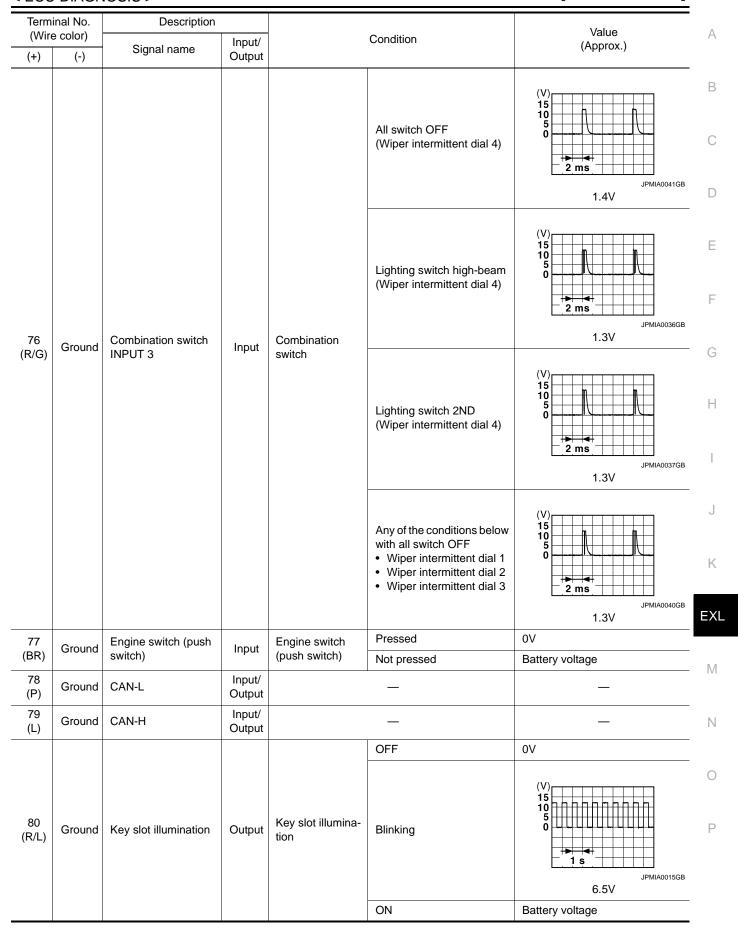
	ninal No.	Description		0 100		Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
60	Crown	Front console anten-	Outout	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(B/R)	Ground	na 2 (-)	Output	ÖFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
61	Ground	Center console an-	Outout	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 JMKIA0062GB
(W/R)	Ground	tenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
62	Constitution	Front outside handle	0.4	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	Ground	RH antenna (-)	Output	door RH request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

	Terminal No. Description (Wire color) Signal name			Condition	Value	
(+)	(-)	Signal name	Output		Condition	(Approx.)
63		Front outside handle		When the front	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(P)	Ground	RH antenna (+)	Output	door RH request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 1
64	Ground	Front outside handle	Output	When the front door LH request switch is operat- ed with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	Ciodila	LH antenna (-)	Cutput		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
65	Ground	Front outside handle	Output	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
(P)	Ground	LH antenna (+) Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	

inal No.	Description			0 1111	Value	
(-)	Signal name	Input/ Output		Condition	(Approx.)	
	Instrument panel an-		lanition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
Ground	tenna (-)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB	
Cround	Instrument panel an-		ut Ignition switch OFF	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB	
Glound	tenna (+)	Output		When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s	
Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.	
Ground	Ignition relay-2 con- trol	Output	Ignition switch	OFF or ACC	0V Battery voltage	
	Ground Ground Ground	Ground Instrument panel antenna (-) Ground Instrument panel antenna (-) Ground Instrument panel antenna (+) Ground NATS antenna amp (built in key slot) Ground NATS antenna amp (built in key slot)	Ground Instrument panel antenna (-) Ground Instrument panel antenna (-) Ground Instrument panel antenna (+) Ground NATS antenna amp (built in key slot) Ground Input/ Output Ground Input/ Output Output Output Output Output	Ground Instrument panel antenna (+) Ground Input/Output During waiting Ground Input/Output Input/Output Input/Output Input/Output Input/Output Input/Output Input/Output Input/Input/Output Input/Output Input/Output Input/Inp	Ground Instrument panel antenna (+) Output Ignition switch OFF When Intelligent Key is not in the passenger compartment When Intelligent Key is in the passenger compartment When Intelligent Key is in the passenger compartment When Intelligent Key is in the passenger compartment Unit in the passenger compartment Unput/Output During waiting Ignition switch is pressed while inserting the Intelligent Key into the key slot. Ground Ignition relay-2 con-Output Ignition switch OFF or ACC	

	inal No. e color)	Description	T		0 - 191 -	Value					
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)					
71	71 Ground Remote keyless entry		Input/	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB					
(L/O)	Ground	receiver signal	Output	When operating e	ither button on Intelligent Key	(V) 15 10 5 0 1 ms JMKIA0065GB					
	Ground	Combination switch INPUT 5	Input							All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB
75 (R/Y)				Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB					
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB					

< ECU DIAGNOSIS >



Terminal No.		Description				Value
(+)	e color)	Signal name	Input/ Output	Condition		(Approx.)
81	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
(Y/L)		•			ON	Battery voltage
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF	0V
					ACC or ON	Battery voltage
84 (Y/R)	Ground	A/T device	Output		_	Battery voltage
85 (L/O)	Ground	Electronic steering column lock condition No. 1	Input	Electronic steer- ing column lock	Lock status	0V
					Unlock status	Battery voltage
86 (G/R)	Ground	Electronic steering column lock condition No. 2	Input	Electronic steer- ing column lock	Lock status	Battery voltage
					Unlock status	OV
87	Ground	Selector lever P position switch	Input	Selector lever	P position	OV
(G/B)	Ground				Any position other than P	Battery voltage
88 (R)		Front door RH request switch	Input	Front door RH request switch	ON (pressed)	0V
	Ground				OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
					ON (pressed)	0V
89 (R)	Ground	Front door LH request switch	Input	Front door LH request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB
90	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0V
(Y)		lay control	1		ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage
94 (G/Y)	Ground	Steering wheel lock unit power supply	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	OV

< ECU DIAGNOSIS >

[HALOGEN TYPE]

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(Wire color) (+) (-)	Ciarral manage				Value	
	Signal name	Input/ Output		Condition	(Approx.)	
				All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V	
				Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB	
95 (R/W) Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V	
				Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB	
				Front washer switch ON	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3V	

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		O Ett		Value	
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)	
96 (P/B)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB	
					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V	
					Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V	
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB	

< ECU DIAGNOSIS >

[HALOGEN TYPE]

	inal No.	Description	1			Value
(+)	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V
					Lighting switch flash-to- pass	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3V
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3V
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3V
					Pressed	0 V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB

	inal No. e color)	Description			- W	Value			
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)			
					LOCK status	Battery voltage			
99 (L/Y)	Ground	Electronic steering column lock unit communication	Input/ Output	Electronic steer-ing column lock	LOCK or UNLOCK	(V) 15 10 50 50 ms JMKIA0066GB			
					For 15 seconds after UN- LOCK	Battery voltage			
			Output		15 seconds or later after UNLOCK	ov			
103	Crownd	Two kid ananing		Trunklid	Open (trunk lid opener actuator is activated)	Battery voltage			
(V)	Ground	Trunk lid opening.	Output	Trunk lid	Close (trunk lid opener actuator is not activated)	OV			
110	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V			
(V/W)	Ground	Trank room lamp	Output	Trunk room lamp	OFF	Battery voltage			
114	Ground	Trunk room antenna	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 1 s JMKIA0062GB			
(B)	Sidahu	1 (-)	Supur	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB			

< ECU DIAGNOSIS > [HALOGEN TYPE]

	ninal No.	Description				Value
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)
115		Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(W)	Ground	1 (+)	Output	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0063GB
118		Rear bumper anten-		When the trunk	When Intelligent Key is in the antenna detection area	(V) 15 10 1
(L/O)	Ground	na (-)	Output	is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
119				When the trunk	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB
(BR/ W)	Ground	Rear bumper antenna (+)	Output	lid request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

	inal No.	Description				Val.
	e color)	Signal name	Input/		Condition	Value (Approx.)
(+) 127	(-)		Output		OFF or ACC	Battery voltage
(BR/ W)	Ground	Ignition relay (IPDM E/R) control	Input Output Ignition switch Input Trunk room switch Ignition switch Ignition switch Ignition switch Ignition switch OFF (M/T vecle) Ignition switch Trunk request switch Input Trunk request switch Input Request switch	Ignition switch	ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (trunk is open)	0V
				Ignition switch	When the clutch pedal is depressed	Battery voltage
				·	When the clutch pedal is not depressed	ov
132 (R)	Ground	Starter motor relay control	Output	Ignition switch	When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	0V
-					ON (pressed)	0V
141 (BR)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 5 0 10 ms 10 ms JPMIA0016GB
144		Request switch buzz-	•	Request switch	Sounding	0V
(GR)	Ground	er	Output		Not sounding	Battery voltage
147	Ground	Trunk lid opener	Input	Trunk lid opener	Pressed	0V
(L/R)	Ciodila	switch	mput	switch	Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (when rear door RH opens)	0V

< ECU DIAGNOSIS > [HALOGEN TYPE]

		Description				Value
Terminal (Wire co (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 10 ms JPMIA0011GB
					ON (when rear door LH opens)	ov

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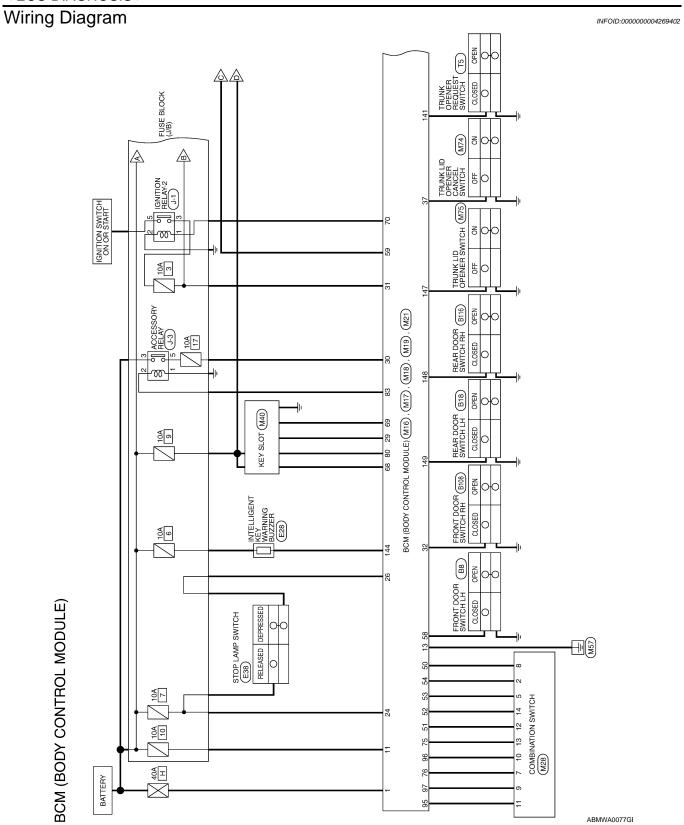
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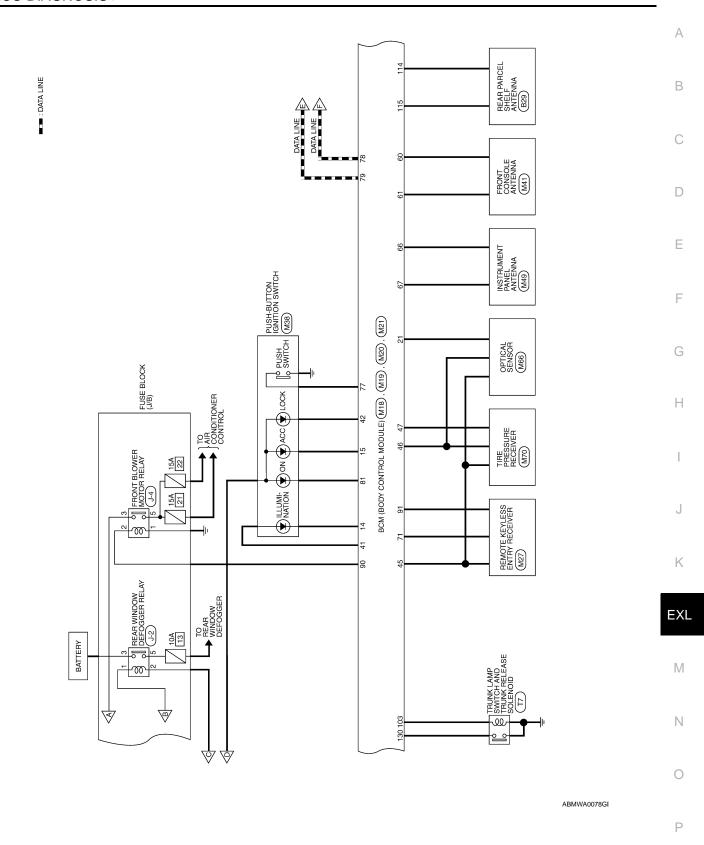
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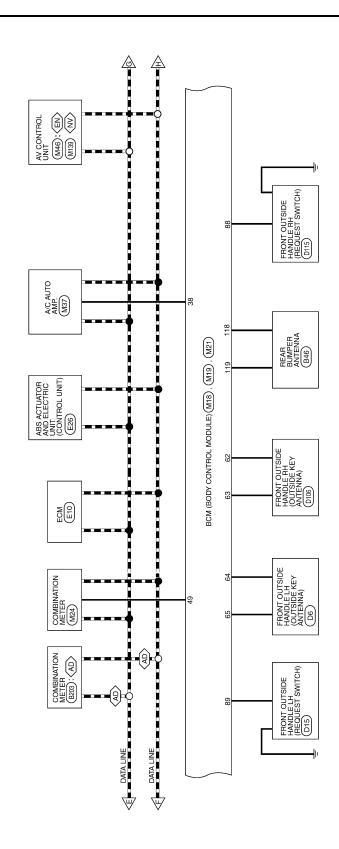
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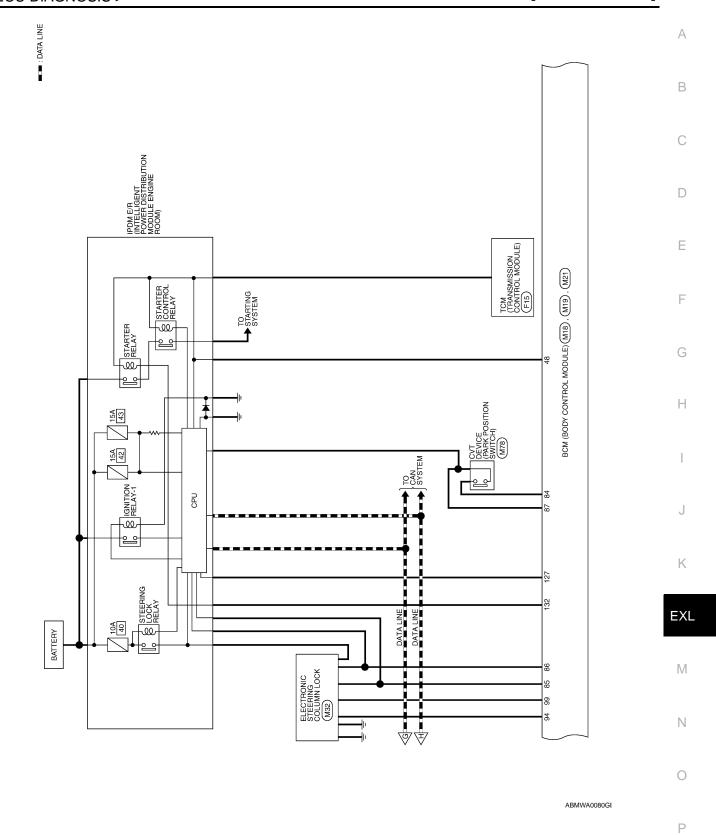
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(AD): WITH AUTOMATIC DRIVE POSITIONER

(EN): WITHOUT NAVI

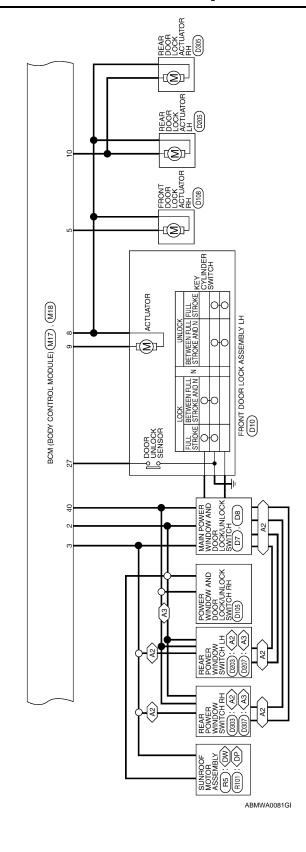
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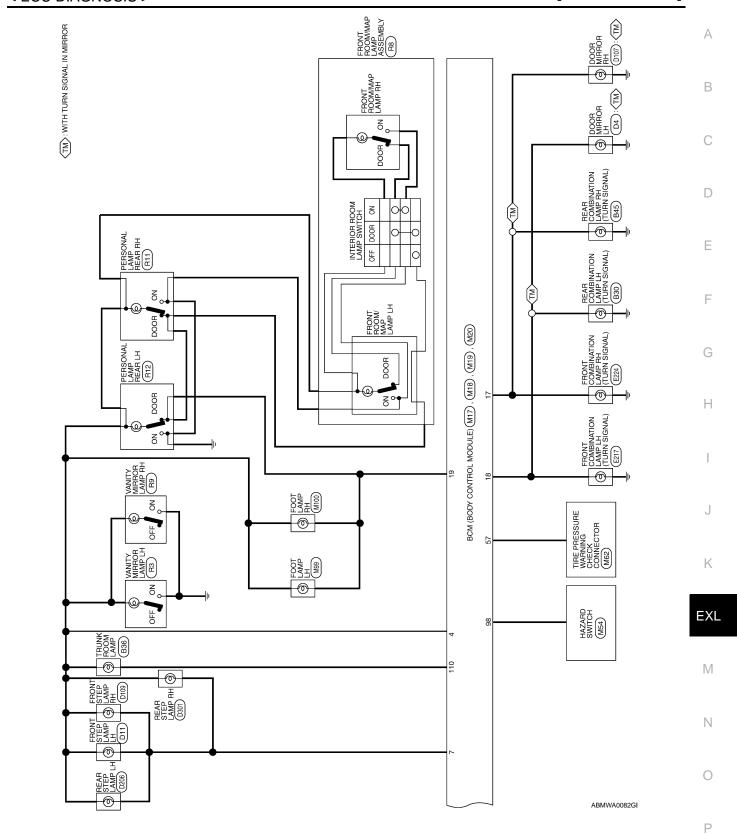












BCM (BODY CONTROL MODULE) CONNECTORS

M17

417	Connector Name BCM (BODY CONTROL MODULE)	WHITE	4 5 6 7 6 7 10 8 9 10 11 12 13 14 15 16 17 18 19	of Signal Name	V R/L POWER SUPP	DOOR UNLOCK OUTPUT AS	ı	
Connector No. M17	Connector Name E	Connector Color WHITE	(4 5 11 12 H.S.	Terminal No. Wire	4 P/W	5	ď	>
	CONTROL			Signal Name	BAT POWER F/L	P/W POWER SUPPLY	PERM	
M16	BCM (BODY (BLACK	1 3			B/Y P/W POV		0
Connector No.	Connector Name BCM (BODY CONTROL MODULE)	Connector Color BLACK	师 H.S.	Terminal No. Wire	1 W	2 B/		

R/L POWER SUPPLY

STEP LAMP CONT

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P/W POWER SUPPLY IGN

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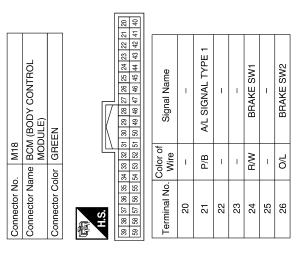
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DOOR UNLOCK OUTPUT (DR/FL) DOOR UNLOCK OUTPUT ALL

	Color of	
Terminal No.	Wire	Signal Name
10	В	DOOR UNLOCK OUTPUT (RR/RL)
11	Y/R	BAT BCM FUSE
12	ı	ı
13	В	GND1
14	GR/W	LOW SIDE PUSH LED
15	Y/L	ACC LED
16	1	ı
17	G/B	FR FLASHER
18	G/Y	FL FLASHER
19	٨	ROOM LAMP CONT
	Color of	
Terminal No.	Wire	Signal Name
45	Ь	GND RF2 A/L
46	V/W	A/L POWER SUPPLY 5V
47	G/O	RF2 TUNER SIGNAL
48	R/G	SHIFT N/P/ NEUTRAL SW
49	I/0	IMMO LED (SECURITY INDICATOR)
20	LG/B	COMBI SW OUT 5
51	LW	COMBI SW OUT 1
52	G/B	COMBI SW OUT 2
53	LG/R	COMBI SW OUT 3
53	G/Y	COMBI SW OUT 4
54	_	ı
55	-	I
26	×	TPMS MODE
28	SB	DR DOOR SW
29	G/R	REAR DEFOGGER

Signal Name	DOOR LOCK STATUS DR	I	FOB IN SW 1	ACC F/B	IGN F/B	AS DOOR SW 1	I	ı	I	ı	TRUNK CANCEL SW	REAR DEFOGGER SW	I	PW K-LINE	DUSH LED	S/L LOCK LED	I	_
Color of Wire	0	ı	>	٨/٨	g	B/B	ı	ı	ı	ı	0	GR/W	ı	Y/G	Μ	Œ	ı	ı
Terminal No.	27	28	29	30	31	32	33	34	32	36	37	38	39	40	41	42	43	44



ABMIA0177GB

< ECU DIAGNOSIS >

[HALOGEN TYPE]

Signal Name	AT DEVICE OUT	S/L CONDITION 1	S/L CONDITION 2	SHIFT P/ASCD CANCEL SW	AS REQUEST SW	DR REQUEST SW	BLOWER FAN RELAY	RF POWER SUPPLY 12V	_	ı	S/L POWER SUPPLY 12V	COMBI SW IN 1	COMBI SW IN 4	COMBI SW IN 2	HAZARD SW	S/L K-LINE
Color of Wire	Y/R	0/7	G/R	G/B	Я	В	Y	L/R	ı	1	G/Y	R/W	P/B	R/B	G/O	L/Y
Terminal No.	84	98	98	87	88	68	06	91	92	93	94	96	96	26	86	66

Signal Name	ROOM ANT 1 A	FOB READER CLOCK	FOB READER DATA	IGN REL OUTPUT 2	RF1 TUNER SIGNAL	ı	ı	ı	COMBI SW IN 5	COMBI SW IN 3	ENG START SW	CAN-L	CAN-H	FOB SLOT ILLUMINATION	IGN ON LED	1	ACC CONT	
Color of Wire	ŋ	G/O	0	B/B	0/1	ı	ı	ı	Р/Υ	B/G	BR	Д	٦	B/L	Y/L	ı	Г	
Terminal No.	29	89	69	70	71	72	73	74	75	92	77	78	62	80	81	82	83	

Collifector No.	2	2										_	
Connector Name BCM (BODY CONTROL MODULE)	ΜŽ	BCM (BOD MODULE)	@₹	<u>Q</u> (i)	≿	δ	Ż	Ě	2				
Connector Color BLACK	BI	ĕ	봈										
师 H.S.				I IV	l 117							1	
79 78 77 76 75 74 73 72 71 70 69	73 72	7	20	69	89	29	99	65	64	63 62	62	61	99
99 98 97 96 95 94 93 92	33 92	91	91 90	88	88	88 87	98	85	28	83	82	81	80
		ŀ											

Signal Name	ROOM ANT 2 B	ROOM ANT 2 A	AS DOOR ANT B	AS DOOR ANT A	DR DOOR ANT B	DR DOOR ANT A	ROOM ANT 1 B	
Color of Wire	B/R	W/R	^	۵	^	Ь	Œ	
Terminal No.	09	61	62	63	64	92	99	

Signal Name	ı	ı	ı	ı	1	ı	TRUNK LAMP CONT	1
Color of Wire	1	1	ı	1	ı	I	M/A	1
Terminal No. Wire	104	105	106	107	108	109	110	111

Connector No.	Σ	M20	
Connector Name BCM (BODY CONTROI MODULE)	B	BCM (BOD MODULE)	Y CONTRC
Connector Color WHITE	3	HITE	
é			
	90	1 102	103 104
0	115 110	111 011 801 107 108 109 110	110 111





Signal Name	I	I	ı	CDL BACK TRUNK
Color of Wire	1	-	ı	^
Terminal No.	100	101	102	103

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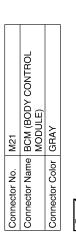
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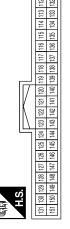
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Signal Name	ı	1	ı	1	1	TRUNK REQUEST SW	1	ı	BUZZER	1	ı	BACK TRUNK OPENER	RR DOOR SW	RL DOOR SW	ı	ı
Color of Wire	ı	1	1	ı	1	BR	_	1	GR	_	1	L/R	R/W	B/B	ı	1
Terminal No.	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151

Terminal No.	Wire	Signal Name
119	BR/W	BACK DOOR ANT A
120	-	ı
121	ı	I
122	ı	I
123	ı	ı
124	ı	ı
125	_	-
126	-	-
127	BR/W	IGN RELAY OUTPUT
128	ı	I
129	-	1
130	W	TRUNK SW
131	ı	1
132	В	ST RELAY OUTPUT
133	-	-
134	1	-
135	1	_



Fail Safe



Signal Name	=	-	TRUNK ANT 1 B	TRUNK ANT 1 A	_	-	BACK DOOR ANT B
Color of Wire	-	_	В	M	_	_	0/1
Terminal No. Wire	112	113	114	115	116	117	118

ABMIA0179GB

INFOID:0000000004269403

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC

< ECU DIAGNOSIS > [HALOGEN TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
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	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal
B2562: LO VOLTAGE	Inhibit engine cranking Inhibit electronic steering column lock	100 ms after the power supply voltage increases to more than 8.8 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN)
B2602: SHIFT POSITION	Inhibit electronic steering column lock	 5 seconds after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 km/h or more
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Ignition switch is in the ON position Power position: IGN Selector lever P/N position signal: Except P and N positions (0 V) Interlock/PNP switch signal (CAN): OFF Status 2 Ignition switch is in the ON position Selector lever P/N position signal: P or N position (battery voltage) PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Electronic steering column lock relay signal (Request signal) • Electronic steering column lock relay signal (Condition signal)
B2607: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal)

< ECU DIAGNOSIS >

[HALOGEN TYPE]

Display contents of CONSULT	Fail-safe	Cancellation
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN)
B2609: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When the following electronic steering column lock conditions agree BCM electronic steering column lock control status Electronic steering column lock condition No. 1 signal status Electronic steering column lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B2612: S/L STATUS	Inhibit engine cranking Inhibit electronic steering column lock	When any of the following conditions is fulfilled Electronic steering column lock unit status signal (CAN) is received normally The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B2619: BCM	Inhibit engine cranking	1 second after the electronic steering column lock unit power supply output control inside BCM becomes normal
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)

DTC Inspection Priority Chart

INFOID:0000000004269404

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

Priority	DTC
1	B2562: LO VOLTAGE
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)
3	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM

< ECU DIAGNOSIS > [HALOGEN TYPE]

Priority	DTC	
	B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY	_ /
	B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED	[
	 B2560: STARTER CONT RELAY B2601: SHIFT POSITION B2602: SHIFT POSITION 	
	 B2603: SHIFT POSI STATUS B2604: PNP SW B2605: PNP SW B2606: S/L RELAY 	
4	 B2607: S/L RELAY B2608: STARTER RELAY B2609: S/L STATUS B260A: IGNITION RELAY 	
	B260B: STEERING LOCK UNIT B260C: STEERING LOCK UNIT B260D: STEERING LOCK UNIT B260F: ENG STATE SIG LOST	
	B2612: S/L STATUS B2614: ACC RELAY CIRC B2615: BLOWER RELAY CIRC B2616: IGN RELAY CIRC	
	 B2617: STARTER RELAY CIRC B2618: BCM B2619: BCM 	
	 B261A: PUSH-BTN IGN SW B26E1: ENG STATE NO RECIV C1729: VHCL SPEED SIG ERR U0415: VEHICLE SPEED SIG 	
	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 C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR 	E
5	 C1715: [CHECKSUM ERR] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR 	
	 C1719: [PRESSDATA ERR] RL C1720: [CODE ERR] FL C1721: [CODE ERR] FR 	
	 C1722: [CODE ERR] RR C1723: [CODE ERR] RL C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] FR 	
	C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL C1734: CONTROL UNIT	_
6	 B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA 	

DTC Index

NOTE:

< ECU DIAGNOSIS >

[HALOGEN TYPE]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2619: BCM	×	×	_	<u>SEC-78</u>
B261A: PUSH-BTN IGN SW	_	×	_	<u>SEC-79</u>
B2621: INSIDE ANTENNA	_	_	_	<u>DLK-57</u>
B2622: INSIDE ANTENNA	_	_	_	<u>DLK-60</u>
B2623: INSIDE ANTENNA	_	_	_	<u>DLK-63</u>
B26E1: ENG STATE NO RES	×	×	_	<u>SEC-71</u>
C1704: LOW PRESSURE FL	_	_	×	<u>WT-48</u>
C1705: LOW PRESSURE FR	_	_	×	<u>WT-48</u>
C1706: LOW PRESSURE RR	_	_	×	<u>WT-48</u>
C1707: LOW PRESSURE RL	_	_	×	<u>WT-48</u>
C1708: [NO DATA] FL	_	_	×	<u>WT-13</u>
C1709: [NO DATA] FR	_	_	×	<u>WT-13</u>
C1710: [NO DATA] RR	_	_	×	<u>WT-13</u>
C1711: [NO DATA] RL	_	_	×	<u>WT-13</u>
C1712: [CHECKSUM ERR] FL	_	_	×	<u>WT-15</u>
C1713: [CHECKSUM ERR] FR	_	_	×	<u>WT-15</u>
C1714: [CHECKSUM ERR] RR	_	_	×	<u>WT-15</u>
C1715: [CHECKSUM ERR] RL	_	_	×	<u>WT-15</u>
C1716: [PRESSDATA ERR] FL	_	_	×	<u>WT-17</u>
C1717: [PRESSDATA ERR] FR	_	_	×	<u>WT-17</u>
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-17</u>
C1719: [PRESSDATA ERR] RL	_	_	×	<u>WT-17</u>
C1720: [CODE ERR] FL	_	_	×	<u>WT-15</u>
C1721: [CODE ERR] FR	_	_	×	<u>WT-15</u>
C1722: [CODE ERR] RR	_	_	×	<u>WT-15</u>
C1723: [CODE ERR] RL	_	_	×	<u>WT-15</u>
C1724: [BATT VOLT LOW] FL	_	_	×	<u>WT-15</u>
C1725: [BATT VOLT LOW] FR	_	_	×	<u>WT-15</u>
C1726: [BATT VOLT LOW] RR	_	_	×	<u>WT-15</u>
C1727: [BATT VOLT LOW] RL	_	_	×	<u>WT-15</u>
C1729: VHCL SPEED SIG ERR	_	_	×	<u>WT-18</u>
C1734: CONTROL UNIT	_	_	×	<u>WT-19</u>

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

Reference Value

VALUES ON THE DIAGNOSIS TOOL

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

< ECU DIAGNOSIS > [HALOGEN TYPE]

	Ignition switch ON		Off	Α
	At engine cranking		ST →INHI	
ST/INHI RLY	The status of starter relay or starter the battery voltage malfunction, etc starter control relay is OFF	UNKWN	В	
DETENT SW	Ignition switch ON	 Press the selector button with CVT selector lever in P position CVT selector lever in any position other than P 	Off	С
	Release the CVT selector button w	rith CVT selector lever in P position	On	D
	None of the conditions below are p	resent	Off	
S/L RLY -REQ	seconds)	nition switch is turned OFF (for a few witch when the steering lock is activat-	On	Е
	Steering lock is activated		LOCK	F
S/L STATE	Steering lock is deactivated		UNLK	
	[DTC B210A] is detected		UNKWN	
DTRL REQ	NOTE: This item is displayed, but cannot be	Off	G	
OIL P SW	Ignition switch OFF, ACC or engine	e running	Open	Н
OIL P SW	Ignition switch ON		Close	11
	Not operated		Off	
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE : TEM 	SECURITY (THEFT WARNING) SYS-	On	I
				J

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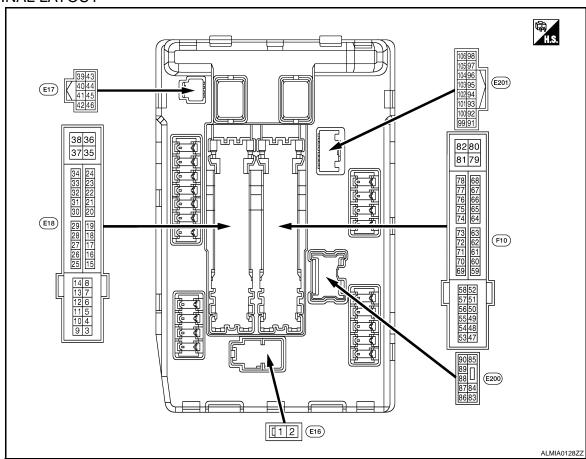
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TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
1 (R)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4	Cround	Front wiper LO	Output	Ignition	Front wiper switch OFF	0 V
(LG)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Ground	Front wiper HI	Output	Ignition	Front wiper switch OFF	0 V
(Y)	Giodila	Florit wiper fil	Output	switch ON	Front wiper switch HI	Battery voltage
6 (L)	Ground	Daytime light relay power supply (Canada models only)	Output	Ignition swi	itch OFF	Battery voltage
7	Ground	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V
(GR)	Giouria	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
10				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V
(BR)	Ground	ECM relay power supply Output	Output	Ignition s (More that	switch ON switch OFF an a few seconds after turn- on switch OFF)	Battery voltage

							Α
				Ignition switch OFF	A few seconds after opening the driver door	Battery voltage	В
11 (O)	Ground	Electronic steering column lock power supply	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage	С
				Ignition swi	itch ACC or ON	0 V	
12 (B)	Ground	Ground	_	Ignition sw	itch ON	0 V	D
40					tely 1 second or more after ignition switch ON	0 V	Е
13 (SB)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage	F
15	Cround	Ignition relay-1 power sup-	Outros	Ignition swi	itch OFF	0 V	Г
(W)	Ground	ply	Output	Ignition swi	itch ON	Battery voltage	
16				Ignition	Front wiper stop position	0 V	G
(R)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage	
19	Ground	Ignition relay-1 power sup-	Output	Ignition swi	itch OFF	0 V	Н
(Y)	Ground	ply	Output	Ignition swi	itch ON	Battery voltage	
20 (L)	Ground	Ambient sensor ground	_	Ignition swi	itch ON	0V	I
21 (LG)	Ground	Ambient sensor	_	Ignition swi	itch ON	5V	
22 (SB)	Ground	Refrigerent pressure sensor ground	_	Ignition sw	itch ON	0V	J
23 (GR)	Ground	Refrigerent pressure sensor	_	 Both A/C 	switch ON (READY) C switch and blower motor N (electric compressor oper-	1.0 - 4.0V	K
24 (G)	Ground	Refrigerent pressure sensor power supply	_	Ignition swi	itch ON	5V	EXL
25	Ground	Ignition relay-1 power sup-	Output	Ignition swi	itch OFF	0 V	
(GR)	Ground	ply	Output	Ignition swi	itch ON	Battery voltage	M
27	Ground	Ignition relay monitor	Input	Ignition swi	itch OFF or ACC	Battery voltage	
(W)	C. 5 GII G	-gon		Ignition swi	itch ON	0 V	Ν
28 (SB)	Ground	Push-button ignition switch	Input				
							0

	inal No.	Description			0 111	Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
33	Ground	Electronic steering column	Input	Electronic s	steering column lock is acti-	Battery voltage
(G)	Ground	lock condition-2	mput	Electronic s tivated	steering column lock is deac-	0 V
34	Ground	Cooling fan relay-3 control	Input	Ignition swi	tch OFF or ACC	0 V
(O)	Ground	Cooling lan relay 5 control	при	Ignition swi	tch ON	0.7 V
35	Ground	Cooling fan motor control	Output	Ignition swi	tch OFF or ACC	0 V
(P)		3		Ignition swi	tch ON	0.7 V
36 (G)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage
38	Ground	Cooling fan motor control	Output	_	itch OFF or ACC	0 V
(GR)	0.00	occining running received		Ignition swi	itch ON	0.7 V
39 (P)	_	CAN - L	Input/ Output		_	_
40 (L)	_	CAN - H	Input/ Output		_	_
41 (B)	Ground	Ground	_	Ignition swi	itch ON	0 V
42	Ground	Cooling fan relay-2 control	Input	Ignition swi	tch OFF or ACC	0 V
(SB)	Ground	Cooling lan relay 2 control	при	Ignition swi	tch ON	0.7 V
					Press the CVT selector button (CVT selector lever P)	Battery voltage
43 (Y)	Ground	CVT device (Detention switch)	Input	Ignition switch ON	CVT selector lever in any position other than P	
					Release the CVT selector button (CVT selector lever P)	0 V
44				The horn is	deactivated	Battery voltage
(W)	Ground	Horn relay control	Input	The horn is	activated	0 V
45		A (1) (1)		The horn is	deactivated	Battery voltage
(GR)	Ground	Anti theft horn relay control	Input	The horn is	activated	0 V
46					or lever in any position other I (ignition switch ON)	0 V
(BR)	Ground	Starter relay control	Input	CVT select switch ON)	or lever P or N (ignition	Battery voltage
					A/C switch OFF	0 V
48 (W)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage
49				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V
49 (R/G)	Ground	ECM relay power supply	Output	Ignition s (More that	witch ON witch OFF an a few seconds after turn- on switch OFF)	Battery voltage
51	Cround	Ignition roles now a sure also	Out	Ignition swi	itch OFF	0 V
(LG)	Ground	Ignition relay power supply	Output	Ignition swi	itch ON	Battery voltage

							Α
52 (Y/G)	Ground	Ignition relay power supply	Output	Ignition swi		0 V Battery voltage	В
5 0				Ignition swi (For a few s switch OFF	econds after turning ignition	0 V	С
53 (R/W)	Ground	ECM relay power supply	Output	,		Battery voltage	D
5 4		Throttle central motor re		Ignition swi (For a few s switch OFF	econds after turning ignition	0 V	Е
54 (G/W)	Ground	Throttle control motor relay power supply	Output	•		Battery voltage	F
55 (W/L)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage	G
56	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
(R/Y)	Giodila	igililioi relay power suppry	Output	Ignition switch ON		Battery voltage	Н
57	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	
(O)	Ground	igililion relay power supply	Output	Ignition switch ON		Battery voltage	
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V	
(Y)	Giodila	igilition relay power supply	Output	Ignition swi	tch ON	Battery voltage	
69				Ignition swi (For a few s switch OFF	econds after turning ignition	Battery voltage	J
(W/B)	Ground	ECM relay control	Output	•		0 - 1.5 V	K
						0 -1.0 V	EXL
70	Ground	Throttle control motor re-	Output	Ignition swi	tch ON \rightarrow OFF	↓ Battery voltage .l.	
(O)		lay control				0 V	M
				Ignition swi	tch ON	0 - 1.0 V	
72				Ignition	CVT selector lever in P or N position	Battery voltage	Ν
(R/B)	Ground 0 1Ttt11	PNP switch signal 1.7. ntBatto8 T	Input c5094.39	switch ON TwO23 0-4.	(For a few seconds after turning ignition switch OFF)	ning igni 0 - 1.5 V	0

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
				Ignition swi	tch ON	(V) 6 4 2 0 2ms JPMIA0001GB
76 (SB)	Ground	Power generation command signal	Output		on "Active test", "ALTERNA- " of "ENGINE"	(V) 6 4 2 0 2 2ms JPMIA0002GB 3.8 V
				80% is set on "Active test", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 2ms JPMIA0003GB
77 (GR)	Ground	Fuel pump relay control	Output	Approximately 1 second after turning the ignition switch ON Engine running Approximately 1 second or more after turning the ignition switch ON		0 - 1.0 V Battery voltage
80 (B/M)	Ground	Starter motor	Output	At engine of		Battery voltage
(B/W) 83				Ignition	Lighting switch OFF	0 V
(R/Y)	Ground	Headlamp LO (RH)	Output	switch ON	Lighting switch 2ND	Battery voltage
84	Ground	Headlamp LO (LH)	Output	Ignition	Lighting switch OFF	0 V
(L)	Giodila	Treadiamp LO (Li i)	Output	switch ON	Lighting switch 2ND	Battery voltage
86 (W/R)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada models) 	Battery voltage
					Front fog lamp switch OFF	0 V
87 (L/Y)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada models) 	Battery voltage
88 (R/W)	Ground	Washer pump power supply	Output	Ignition swi	Front fog lamp switch OFF tch ON	0 V Battery voltage

	inal No.	Description				Value	
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HI Lighting switch PASS	Battery voltage	
(L/VV)				SWILCH ON	Lighting switch OFF	0 V	
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch HILighting switch PASS	Battery voltage	
(G)				SWILCH OIN	Lighting switch OFF	0 V	
91	0	De l'es les se (DII)	0.1.1	Ignition	Lighting switch 1ST	Battery voltage	
(LG/ R)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch OFF	0 V	
92				Ignition	Lighting switch 1ST	Battery voltage	
(LG/ B)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch OFF	0 V	
99 (BR/ W)	Ground	Ambient sensor ground	_	Ignition switch ON		ov	
100 (SB)	Ground	Ambient sensor	_	Ignition switch ON		5V	
101 (W)	Ground	Refrigerent pressure sensor ground	_	Ignition swi	tch ON	0V	
102 (R)	Ground	Refrigerent pressure sensor	_	Ignition switch ON (READY) Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V	
103 (P)	Ground	Refrigerent pressure sensor power supply	_	Ignition swi	tch ON	5V	
105	Ground	Daytime light relay control	Output	Ignition switch ON	Daytime light system active	Battery voltage	
(V)	Ciodila	(Only for Canada models)	Calput	Ignition switch ON	Daytime light system inactive	0 V	-

EXL

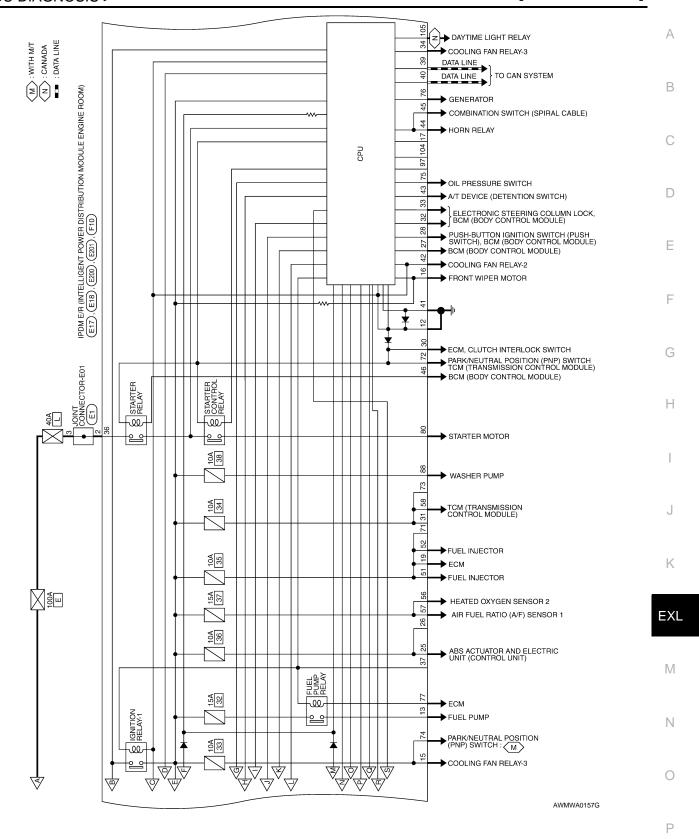
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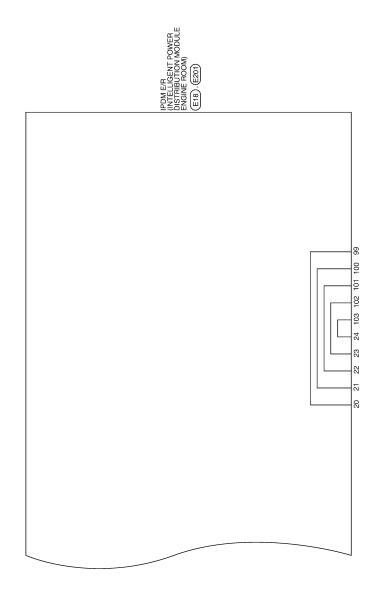
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< ECU DIAGNOSIS > [HALOGEN TYPE]





ALMWA0007GE

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [HALOGEN TYPE]

< ECU DIAGNOSIS >

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

	E17	Name IPDM E/R (INTELLIGENT	MODULE ENGINE ROOM)
	Connector No.	Connector Name	
1			
	E16	IPDM E/R (INTELLIGENT	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)
	Connector No.		Connector Name
	E1	JOINT CONNECTOR-E01	WHITE
	Connector No.	Connector Name	Connector Color

 Connector No.	E16
Sonnector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM
 Connector Color BLACK	BLACK

Connector No.	E16
Connector Name	Connector Name POWER DISTRIBUTION MODULE ENGINE ROC
Connector Color BLACK	BLACK



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WHITE

Connector Color

Color Wir	Н	BV	
Terminal No.	1	2	

Signal Name F/L_MAIN F/L_USM

o

Signal Name	1	-	
Color of Wire	ŋ	В	
Terminal No.	2	3	

		_	_			_		I r	r
CAN-L	CAN-H	S-GND	MOTOR_FAN_RLY_MID	DETENT_SW	YJR_NROH	WS_NAOH	START_CONT		
Ь	Г	В	SB	G/B	G/W	0/7	В		
39	40	41	42	43	44	45	46		
	۵	a –	g – a	a la BS	L L B B SB SB SB SB SB	L L B B SB SB SG/B SG/B SG/B SG/B SG/B SG/B	L L B B SB G/B G/B G/W C C C C C C C C C C C C C C C C C C C	P P P P P P P P P P	P

Color of	Signal Name	PD_SENS_SIG-E/R	PD_SENS PWR-E/R	ABS_ECU	ı	IGN_SIGNAL	PUSH_START_SW	I	CLUTCH_I/L_SW	-	SL_CONDITION_1	SL_CONDITION_2	MOTOR_FAN_RLY_HI	MOTOR_FAN_LO	F/L_IGNSW	-	F/L_MOTOR_FAN
N	Color of Wire	B/B	BR/W	GR	ı	BR/W	BB	ı	R/B	I	9	G/R	O/L	L/B	U	ı	R/W
	Terminal No.	23	24	25	26	27	28	59	30	31	32	33	34	35	36	37	38

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Signal Name	1	ı	ECM_VB	ESCL	P-GND	FUEL_PUMP	ı	START_IG-E/R	WIPER_AUTOSTOP	ı	ı	BCM_IGNSW	AMB_SENS_GND-E/R	AMB_SENS_SIG-E/R	PD_SENS_GND-E/R
Color of Wire	1	ı	R/B	P/L	В	Μ	-	G/W	۲	-	-	$\Gamma \mathcal{N}$	В/Υ	O/B	W/R
Terminal No.	8	6	10	11	12	13	14	15	16	17	18	19	50	21	22

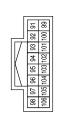
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	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE		ESERE/ZEROS 9331323333 37 38 1516171819 2021222324 35 36		Signal Name	_	FR_WIPER_LO	FR_WIPER_HI	DTRL	TAIL/ILLUMI
. E18				8 1516		Color of Wire	I	L/R	L/B	SB	R/L
Connector No.	Connector Name	Connector Color	H.S.	9 10 11 12 13		Terminal No.	8	4	9	9	2

AWMIA0301GB

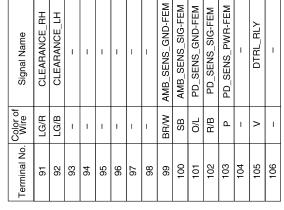
EXL-319

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [HALOGEN TYPE] < ECU DIAGNOSIS >









E200	Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	WHITE	
Connector No.	Connector Name	Connector Color	







	r of Signal Name	Y HEADLAMP_LO_R	- HEADLAMP_LO_L	-	/R FR_FOG_LAMP_R	L/Y FR_FOG_LAMP_LH	W WASHER_MTR	N HEADLAMP_HI_R	G HEADLAMP_HI_LH
o E	Terminal No. Wire	83 R/Y	84 1	- 82	86 W/R	/1 /8	88 R/W	M/T 68	06

ALMIA0034GB

Signal Name	ı	1	_	1	SSOF	MOTRLY	ı	NPSW	-	START_IG-EGI	OIL_PRESSURE_SW	ALT_C	FPR	_	I	STARTER_MOTOR	_	_
Color of Wire	I	ı	_	1	W/B	0	ı	B/B	_	Υ	P/L	GR	B/R	_	-	B/W	_	_
Terminal No.	65	99	29	89	69	20	71	72	73	74	22	92	27	78	62	80	81	82

		_	_			_	_	_	_	_			_	_	_	_
Signal Name	ı	INJECTOR_#1	INJECTOR_#2	IGN_SOL (WITH VQ35DE)	ENG_SOL (WITH VQ35DE)	ETC	ECM_BAT	O2_SENS_#1	O2_SENS_#2	AT_ECU	_	_	_	I	I	I
Color of Wire	1	LG	Y/G	R/B	B/R	G/W	M/L	R/Y	0	>	_	_	_	ı	ı	-
Terminal No.	50	51	52	53	53	54	55	56	22	58	29	09	61	62	63	64

tor Name tor Color view of the	
Olor Wire	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Color	WHITE
Color	
 	ESPROPTIZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZZ
-	
,	Signal Name
/4	ı
48 Y/R	A/C COMP
49 B/R	ENG SOL (WITHOUT VQ35DE)
49 R/B	IGN_SOL (WITH VQ35DE)

AWMIA0302GB

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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

EXL-321

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

< ECU DIAGNOSIS > [HALOGEN TYPE]

Control part	Fail-safe in operation
Cooling fan	 Signals cooling fans ON when the ignition switch is turned ON Signals cooling fans OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe in 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 lampsLicense plate lampsIlluminationTail 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 (if equipped)	Front fog lamp relay OFF
Horn	Horn 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.

NOTE:

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

FRONT WIPER CONTROL

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

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

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.

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

[HALOGEN TYPE] < ECU DIAGNOSIS >

STARTER MOTOR PROTECTION FUNCTION

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

DTC Index INFOID:0000000004269425

CONSULT-III display	Fail-safe	TIME	NOTE	Refer to	
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-18	
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-19	
B2099: IGN RELAY OFF	_	CRNT	1 – 39	PCS-20	
B2108: STRG LCK RELAY ON	_	CRNT	1 – 39	<u>SEC-81</u>	
B2109: STRG LCK RELAY OFF	_	CRNT	1 – 39	<u>SEC-82</u>	
B210A: STRG LCK STATE SW	_	CRNT	1 – 39	<u>SEC-83</u>	
B210B: START CONT RLY ON	_	CRNT	1 – 39	SEC-87	
B210C: START CONT RLY OFF	_	CRNT	1 – 39	SEC-88	
B210D: STARTER RELAY ON	_	CRNT	1 – 39	SEC-89	
B210E: STARTER RELAY OFF	_	CRNT	1 – 39	SEC-90	
B210F: INTRLCK/PNP SW ON	_	CRNT	1 – 39	SEC-92	
B2110: INTRLCK/PNP SW OFF	_	CRNT	1 – 39	SEC-94	

NOTE:

The details of TIME display are as follows.

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

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SYMPTOM DIAGNOSIS

EXTERIOR LIGHTING SYSTEM SYMPTOMS

Symptom Table

CAUTION:

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

Symptom		Possible cause	Inspection item	
Headlamp does not switch to the high beam.	One side	Fuse Harness between IPDM E/R and the front combination lamp Front combination lamp (High beam relay) IPDM E/R	Headlamp (HI) circuit. Refer to EXL-209.	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM" Refer to EXL-327.		
High beam indicator lamp is not turned ON. (Headlamp switches to the high beam.)		Combination meter BCM	Combination meter. Data monitor "HI-BEAM IND". BCM (HEAD LAMP). Active test "HEADLAMP".	
Headlamp does not switch to the low beam.	One side	Front combination lamp (Low beam relay)	_	
	Both sides	Combination switch Harness between the combination switch and BCM BCM	Combination switch. Refer to BCS-10.	
		High beam request signal BCM IPDM E/R	IPDM E/R. Data monitor "HL HI REQ".	
		IPDM E/R	_	
Headlamp does not turn ON.	One side	Fuse Bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Headlamp (LO) circuit. Refer to <u>EXL-211</u> .	
	Both sides	Symptom diagnosis "BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON" Refer to EXL-328, "Description".		
Headlamp does not turn OFF.	When the ignition switch is turned ON	BCM Combination switch	Combination switch. Refer to BCS-10.	
	The ignition switch is turned OFF (After activating the battery saver).	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 BCS-10.	
		Optical sensor Harness between the optical sensor and BCM BCM	Optical sensor. Refer to <u>EXL-221</u> .	

EXTERIOR LIGHTING SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

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Symp	otom	Possible cause	Inspection item
Daytime light system does not activate.		 Either high beam bulb Parking brake switch Combination switch BCM IPDM E/R Daytime light relay Harness between IPDM E/R and daytime light relay. 	Daytime light system description. Refer to EXL-11, "System Description".
Front fog lamp is not turned ON.	One side	Front fog lamp bulb Harness between IPDM E/R and the front combination lamp Front combination lamp IPDM E/R	Front fog lamp circuit. Refer to EXL-213.
	Both side	Symptom diagnosis "BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON" Refer to EXL-330.	
Parking lamp is not turned ON.	One side	Fuse Parking lamp bulb Harness between IPDM E/R and the front/rear combination lamp Front/rear combination lamp IPDM E/R	Parking lamp circuit. Refer to <u>EXL-215</u> .
	Both sides	Symptom diagnosis "PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON". Refer to EXL-329.	
Turn signal lamp does not blink.	Indicator lamp is normal. (The applicable side performs the high flasher activation).	Harness between BCM and each turn signal lamp Turn signal lamp bulb Door mirror (if equipped with turn signals in the door mirrors)	Turn signal lamp circuit. Refer to <u>EXL-218</u> .
	One side	Combination meter	_
Turn signal indicator lamp does not blink.	Both sides (Always)	Turn signal indicator lamp signal Combination meter BCM	Combination meter. Data monitor "TURN IND". BCM (FLASHER). Active test "FLASHER".
	Both sides (Does blink when activating the hazard warning lamp with the ignition switch OFF)	The combination meter power supply and the ground circuit Combination meter	Combination meter. Power supply and the ground circuit Refer to MWI-37.

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NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

NORMAL OPERATING CONDITION

Description INFOID:000000004262137

AUTO LIGHT SYSTEM

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

BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

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BOTH SIDE HEADLAMPS DO NOT SWITCH TO HIGH BEAM

Description INFOID:000000004262138

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

Diagnosis Procedure

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-10, "System Description".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (HI) REQUEST SIGNAL INPUT

©CONSULT-III DATA MONITOR

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

Monitor item	Condition		Monitor status
	HL HI REQ Lighting switch (2ND)	HI or PASS	ON
HL HI REQ		Except for HI or PASS	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3.HEADLAMP (HI) CIRCUIT INSPECTION

Check the headlamp (HI) circuit. Refer to EXL-209, "Description".

Is the headlamp (HI) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS >

[HALOGEN TYPE]

BOTH SIDE HEADLAMPS (LO) ARE NOT TURNED ON

Description INFOID:000000004262140

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

Diagnosis Procedure

INFOID:0000000004262141

1. CHECK COMBINATION SWITCH

Check the combination switch. Refer to BCS-10, "System Description".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK HEADLAMP (LO) REQUEST SIGNAL INPUT

(E)CONSULT-III DATA MONITOR

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3.HEADLAMP (LO) CIRCUIT INSPECTION

Check the headlamp (LO) circuit. Refer to EXL-211, "Diagnosis Procedure".

Is the headlamp (LO) circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON [HALOGEN TYPE]

< SYMPTOM DIAGNOSIS >

PARKING, LICENSE PLATE AND TAIL LAMPS ARE NOT TURNED ON

Description INFOID:0000000004262142

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

Diagnosis Procedure

INFOID:0000000004262143

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1.COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-10, "System Description".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK TAIL LAMP RELAY REQUEST SIGNAL INPUT

PCONSULT-III DATA MONITOR

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

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

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3.PARK LAMP CIRCUIT INSPECTION

Check the parking lamp circuit. Refer to EXL-215, "Description".

Is the tail lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

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BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

< SYMPTOM DIAGNOSIS > [HALOGEN TYPE]

BOTH SIDE FRONT FOG LAMPS ARE NOT TURNED ON

Description INFOID:000000004262144

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

Diagnosis Procedure

INFOID:0000000004262145

1. COMBINATION SWITCH INSPECTION

Check the combination switch. Refer to BCS-10, "System Description".

Is the combination switch normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning part.

2.CHECK FRONT FOG LAMP REQUEST SIGNAL INPUT

(P)CONSULT-III DATA MONITOR

- 1. Select "FR FOG REQ" of IPDM E/R DATA MONITOR item.
- 2. While operating the front fog lamp switch, check the monitor status.

Monitor item	Condition		Monitor status
FR FOG REQ	Front fog lamp switch (Lighting switch 2ND)	ON	ON
		OFF	OFF

Is the item status normal?

YES >> GO TO 3.

NO >> Replace BCM. Refer to BCS-87, "Removal and Installation".

3.FRONT FOG LAMP CIRCUIT INSPECTION

Check the front fog lamp circuit. Refer to EXL-213, "Description".

Is the front fog lamp circuit normal?

YES >> Replace IPDM E/R. Refer to PCS-40, "Removal and Installation".

NO >> Repair or replace the malfunctioning part.

< PRECAUTION > [HALOGEN TYPE]

PRECAUTION

PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

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

Precautions Necessary for Steering Wheel Rotation after Battery Disconnect

INFOID:0000000004394028

NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.

NOTE:

Supply power using jumper cables if battery is discharged.

- 2. Carry the Intelligent Key or insert it to the key slot and turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- 4. Perform the necessary repair operation.
- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- Perform self-diagnosis check of all control units using CONSULT-III.

General precautions for service operations

• Turn the lighting switch OFF before disconnecting and connecting the connector.

 When checking the headlamp on/off operation, check it on vehicle and with the power connected to the vehicle-side connector.

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PRECAUTIONS

< PRECAUTION > [HALOGEN TYPE]

- Leaving the bulb removed from the headlamp housing for a long period of time can deteriorate the performance of the lens and reflector (dirt, clouding). Always prepare a new bulb and have it on hand when replacing the bulb.
- When adjusting the headlamp aiming, turn the aiming adjustment screw only in the tightening direction. (If it is necessary to loosen the screw, first fully loosen the screw, and then turn it in the tightening direction.)

ON-VEHICLE MAINTENANCE

HEADLAMP AIMING ADJUSTMENT

Description INFOID:0000000004261226

PREPARATION BEFORE ADJUSTING

NOTE:

- For details, refer to the regulations in your area.
- Perform aiming adjustment if the vehicle front body has been repaired and/or the front combination lamp assembly has been replaced.

Before performing aiming adjustment, check the following.

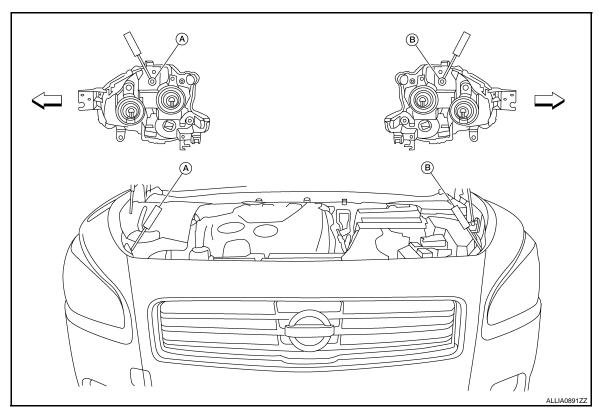
• Adjust the tire pressure to specification.

- Position vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Ensure engine coolant and engine oil are filled to correct level and fuel tank is full.
- Confirm spare tire, jack and tools are properly stowed.
- Wipe off dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.)

AIMING ADJUSTMENT SCREW



- A. Headlamp RH (UP/DOWN) adjustment screw
- B. Headlamp LH (UP/DOWN) adjustment screw
- ∠ Vehicle center

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

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Aiming Adjustment Procedure

INFOID:0000000004261227

1. Position the screen.

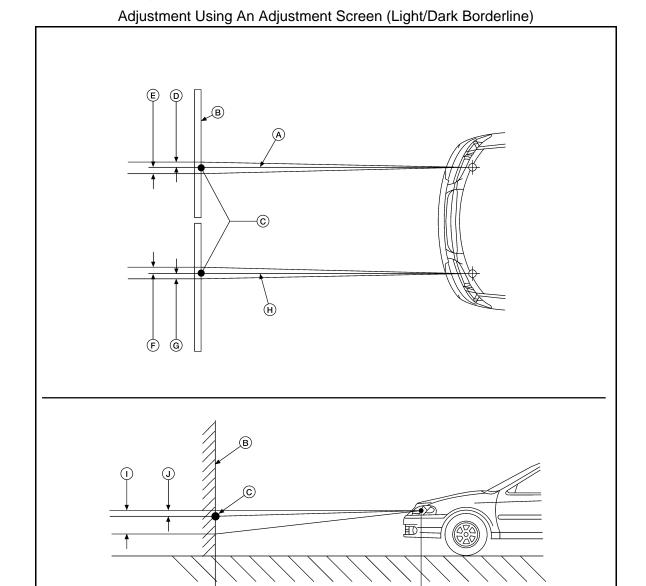
NOTE:

- Stop the vehicle facing the screen.
- Place the screen on a plain road vertically.
- 2. Face the screen with the vehicle. Maintain 7.62 m (25 ft) between the headlamp bulb center and the screen.
- Start the engine. Turn the headlamp (LO) ON.

CAUTION:

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

- Aim each headlamp individually and ensure other headlamp beam pattern is blocked from screen.
- For horizontal aiming, adjust headlamp until beam pattern is at horizontal center point.



A. Headlamp beam (RH)

D. 66.5 mm (2.6 in)

- B. Screen
- E. 66.5 mm (2.6 in)

- C. Horizontal/Vertical center point of headlamp
- F. 66.5 mm (2.6 in)

HEADLAMP AIMING ADJUSTMENT

< ON-VEHICLE MAINTENANCE >

[HALOGEN TYPE]

G. 66.5 mm (2.6 in)

H. Headlamp beam (LH)

I. 53.2 mm (2.1 in)

J. 13.3 mm (0.5 in)

K. 7.62 m (25 ft)

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FRONT FOG LAMP AIMING ADJUSTMENT

Description INFOID:000000004261228

PREPARATION BEFORE ADJUSTING

NOTE:

For details, refer to the regulations in your area.

Before performing aiming adjustment, check the following.

- Adjust the tire pressure to specification.
- Position vehicle and screen on level surface.
- Ensure there is no load in vehicle other than the driver (or equivalent weight placed in driver's position).
- Ensure engine coolant and engine oil are filled to correct levels and fuel tank is full.
- Confirm spare tire, jack and tools are properly stowed.
- Wipe off dirt on the headlamp.

CAUTION:

Never use organic solvent (thinner, gasoline etc.).

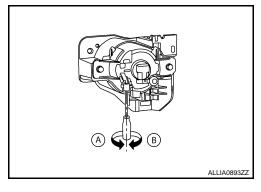
AIMING ADJUSTMENT SCREW

• Turn the aiming adjusting screw for adjustment as shown.

NOTE:

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

- A: Up
- B: Down



Aiming Adjustment Procedure

INFOID:0000000004261229

1. Position the screen.

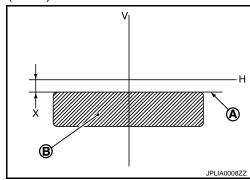
NOTE:

- Stop the vehicle facing the screen.
- Place the screen on a plain road vertically.
- 2. Face the screen with the vehicle. Maintain 7.62 m (25.0 ft) between the front fog lamp center and the screen.
- 3. Start the engine. Turn the front fog lamp ON.

CAUTION:

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

- Aim each fog lamp individually and ensure other fog lamp beam pattern is blocked from 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 100 mm (4.0 in).
 - Front fog lamp light distribution on the screen is as shown.
 - 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



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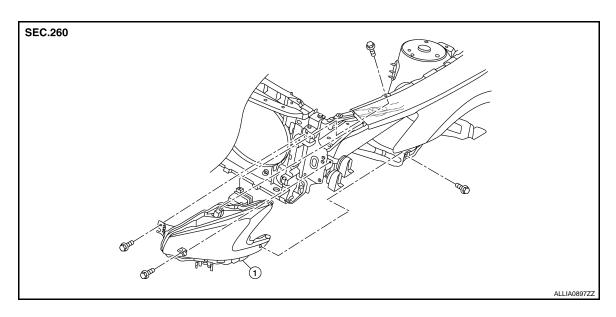
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ON-VEHICLE REPAIR

FRONT COMBINATION LAMP

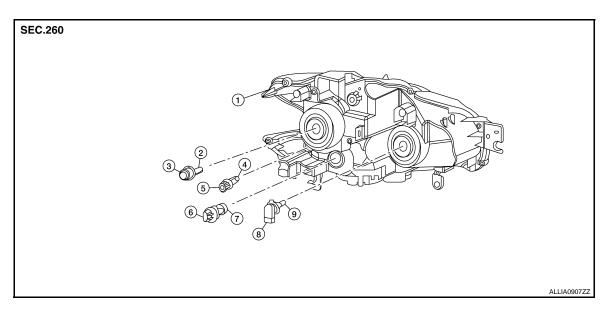
Exploded View

REMOVAL



1. Front combination lamp

DISASSEMBLY



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

Removal and Installation

Removal and installation

REMOVAL CAUTION:

Disconnect the battery negative terminal or remove the fuse.

INFOID:0000000004261233

< ON-VEHICLE REPAIR >

- Remove the front bumper fascia. Refer to EXT-14, "Removal and Installation".
- 2. Remove the front combination lamp bolts.
- 3. Remove the harness clips from the front combination lamp assembly.
- 4. Pull out the front combination lamp toward the front of vehicle.
- 5. Disconnect the harness connectors before removing the front combination lamp.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

After installation, perform headlamp aiming adjustment. Refer to EXL-333, "Description".

Replacement

WARNING:

· Never touch bulb by hand while it is lit or right after being turned off.

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 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.

HALOGEN BULB (LOW BEAM)

- 1. Remove the front combination lamp. Refer to EXL-337, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket

HALOGEN BULB (HIGH BEAM)

- 1. Remove the front combination lamp. Refer to EXL-337, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.
- Remove the bulb from the bulb socket.

FRONT TURN SIGNAL LAMP BULB

- Remove the front combination lamp. Refer to <u>EXL-337</u>, "Removal and Installation".
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

FRONT SIDE MARKER LAMP BULB

- Remove the front combination lamp. Refer to <u>EXL-337, "Removal and Installation"</u>.
- 2. Rotate the bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the bulb socket.

Disassembly and Assembly

DISASSEMBLY

- 1. Rotate the halogen bulb socket (low beam) counterclockwise and unlock it.
- Remove the bulb from halogen bulb socket (low beam).
- 3. Rotate the halogen bulb socket (high beam) counterclockwise and unlock it.
- 4. Remove the bulb from halogen bulb socket (high beam).
- 5. Rotate the front turn signal lamp socket counterclockwise and unlock it.
- 6. Remove the bulb from front turn signal lamp socket.
- 7. Rotate the front side marker lamp socket counterclockwise and unlock it.
- 8. Remove the bulb from front side marker lamp socket.

ASSEMBLY

Assembly is in the reverse order of disassembly.

EXL-338

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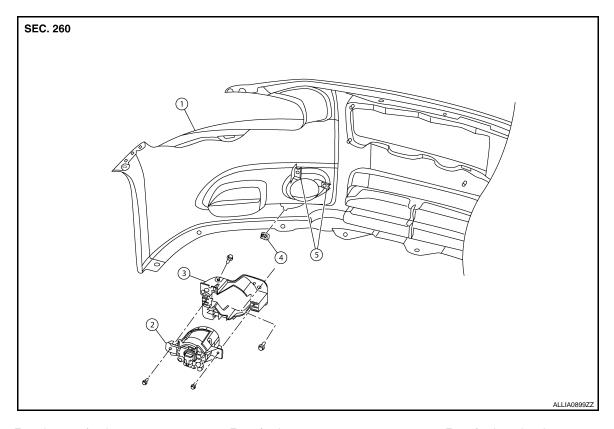
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FRONT FOG LAMP

Exploded View INFOID:0000000004261234



- Front bumper fascia
- Clip

- Front fog lamp 2.
- Spring nuts

Front fog lamp bracket

Removal and Installation

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the front bumper fascia. Refer to EXT-14, "Removal and Installation".
- 2. Disconnect the front fog lamp harness connector.
- 3. Remove the front fog lamp bolts.
- Remove the front fog lamp.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

After installation, perform front fog lamp aiming adjustment. Refer to EXL-336, "Description"

Replacement INFOID:0000000004261236

WARNING:

Never touch bulb by hand while it is lit or right after being turned off.

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 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.

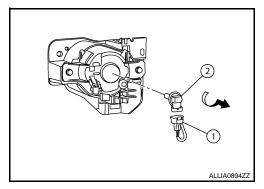
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INFOID:0000000004261235

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FRONT FOG LAMP BULB

- 1. Remove the front fender protector. Refer to EXT-20, "Removal and Installation".
- 2. Disconnect the front fog lamp harness connector (1).
- 3. Rotate the bulb (2) counterclockwise and unlock it.



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OPTICAL SENSOR

Exploded View

SEC. 253

- 1. Optical sensor
- 4. LH front speaker
- 2. LH front speaker grille
- Instrument panel

3. Optical sensor harness connector

INFOID:0000000004261238

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Removal and Installation

REMOVAL

- 1. Remove the LH front speaker grille.
- 2. Insert an appropriate tool between the optical sensor and the LH front speaker grille. Pull out the optical sensor upward.
- 3. Disconnect the optical sensor harness connector and remove the optical sensor.

INSTALLATION

Installation is in the reverse order of removal.

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LIGHTING & TURN SIGNAL SWITCH

< ON-VEHICLE REPAIR >

[HALOGEN TYPE]

LIGHTING & TURN SIGNAL SWITCH

Removal and Installation

INFOID:0000000004261239

NOTE:

The lighting and turn signal switch is integral with the combination switch assembly.

REMOVAL

- 1. Remove the spiral cable. Refer to SR-8, "Removal and Installation".
- 2. Disconnect the combination switch connector and remove the combination switch assembly.

INSTALLATION

Installation is in the reverse order of removal.

INFOID:0000000004261240

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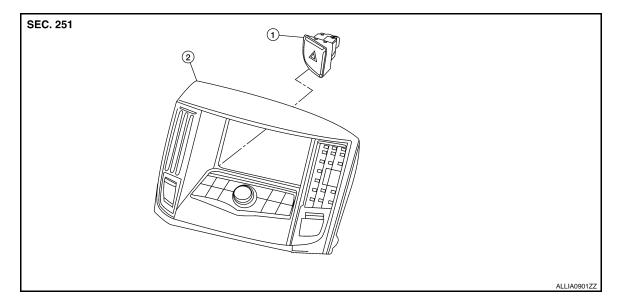
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HAZARD SWITCH

Exploded View



1. Hazard switch 2. Cluster lid D

Removal and Installation

REMOVAL

1. Remove cluster lid D. Refer to <u>IP-11, "Exploded View"</u>.

- 2. Disconnect the hazard switch harness connector.
- 3. Remove the hazard switch.

INSTALLATION

Installation is in the reverse order of removal.

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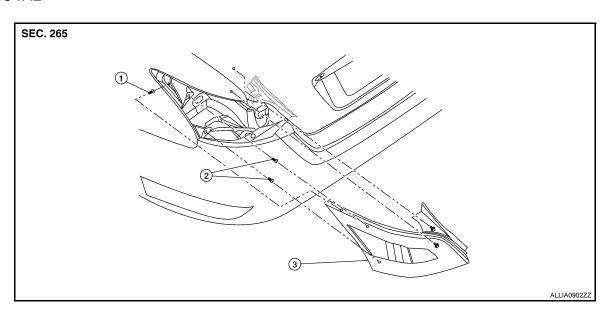
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REAR COMBINATION LAMP

Exploded View

REMOVAL

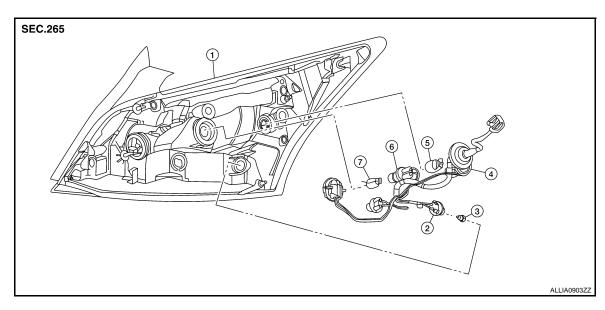


1. Slide clip

2. Grommets

B. Rear combination lamp

DISASSEMBLY



- 1. Rear combination lamp
- 4. Rear turn signal lamp socket
- 7. Back-up lamp bulb
- 2. Rear side marker lamp socket
- 5. Rear turn signal lamp bulb
- 3. Rear side marker lamp bulb

INFOID:0000000004261243

6. Back-up lamp socket

Removal and Installation

CALITION

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- Remove the trunk side finisher. Refer to <u>INT-35</u>, "Exploded View".
- Remove the rear combination lamp nuts.

EXL-344

REAR COMBINATION LAMP

[HALOGEN TYPE] < ON-VEHICLE REPAIR > Pull the rear combination lamp toward the rear of the vehicle to remove it. Α Disconnect the rear combination lamp harness connector. INSTALLATION Installation is in the reverse order of removal. В Replacement INFOID:0000000004261244 WARNING: Never touch bulb by hand while it is lit or right after being turned off. CAUTION: Disconnect the battery negative terminal or remove the fuse. D Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it. 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. Е STOP/TAIL LAMP Replacement is integral with rear combination lamp. Refer to EXL-344, "Exploded View". REAR SIDE MARKER LAMP BULB F Remove the rear combination lamp. Refer to EXL-344, "Exploded View". 2. Rotate the rear side marker lamp socket counterclockwise and unlock it. Remove the bulb from the rear side marker lamp socket. REAR TURN SIGNAL LAMP BULB Remove the rear combination lamp. Refer to EXL-344, "Exploded View". Н Rotate the rear turn signal lamp socket counterclockwise and unlock it. 2. Remove the bulb from the rear turn signal lamp socket. **BACK-UP LAMP BULB** 1. Remove the rear combination lamp. Refer to EXL-344, "Exploded View". 2. Rotate the back-up lamp socket counterclockwise and unlock it. Remove the bulb from the back-up lamp socket.

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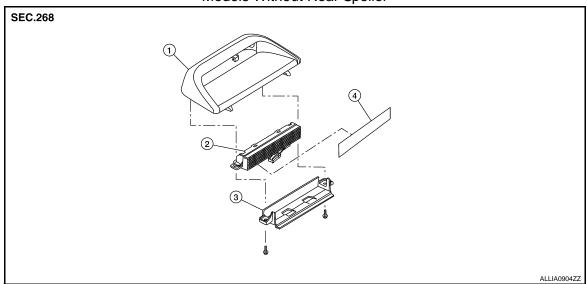
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HIGH-MOUNTED STOP LAMP

Exploded View

Models Without Rear Spoiler

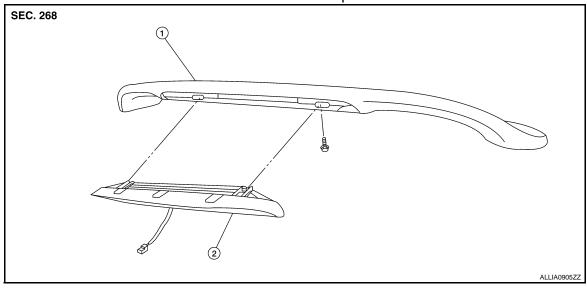


- 1. High-mounted stop lamp cover
- 2. High-mounted stop lamp bulb
- 3. High-mounted stop lamp bracket

INFOID:0000000004261246

4. Lens

Models With Rear Spoiler



1. Rear spoiler

2. High-mounted stop lamp assembly

Removal and Installation

WITHOUT REAR SPOILER

CAUTION:

Disconnect battery negative terminal or remove the fuse.

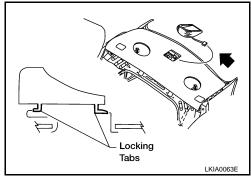
Removal

HIGH-MOUNTED STOP LAMP

< ON-VEHICLE REPAIR >

[HALOGEN TYPE]

- Slide the high-mounted stop lamp assembly rearward on the parcel shelf to give clearance to the front locking tabs.
- 2. Lift the front of the high-mounted stop lamp assembly up and slide it forward to give clearance to the rear locking tabs.
- 3. Disconnect the high-mounted stop lamp connector and remove.



Installation

Installation is in the reverse order of removal.

WITH REAR SPOILER

CAUTION:

Disconnect battery negative terminal or remove the fuse.

- 1. Remove the rear spoiler. Refer to EXT-28, "Removal and Installation".
- Remove the high-mounted stop lamp assembly screws. 2.
- 3. Remove the high-mounted stop lamp assembly from the rear spoiler.

Installation

Installation is in the reverse order of removal.

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LICENSE PLATE LAMP

< ON-VEHICLE REPAIR > [HALOGEN TYPE]

LICENSE PLATE LAMP

Exploded View

Removal and Installation

INFOID:0000000004261249

CAUTION:

Disconnect the battery negative terminal or remove the fuse.

REMOVAL

- 1. Remove the license lamp finisher. Refer to EXT-27, "Removal and Installation".
- 2. Position trunk lid finisher aside. Refer to INT-35, "Exploded View".
- 3. Remove the license plate lamp screw and remove the license plate lamp.

INSTALLATION

Installation is in the reverse order of removal.

Replacement INFOID:000000004261250

WARNING:

 Never touch bulb by hand while it is lit or right after being turned off. CAUTION:

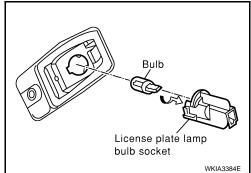
- Disconnect the battery negative terminal or remove the fuse.
- · Never touch the glass of bulb directly by hand. Keep grease and other oily matters away from it.
- Never leave bulb out of lamp reflector for a long time because dust, moisture smoke, etc., may affect
 the performance of lamp. When replacing bulb, be sure to replace it with1rman3.t or rig.it wit2033 fL7(it)5D2.2.8

LICENSE PLATE LAMP

< ON-VEHICLE REPAIR >

Position trunk lid finisher aside. Refer to <u>INT-35, "Exploded View"</u>.

- 2. Turn the license plate lamp bulb socket counterclockwise and unlock it.
- 3. Remove the bulb from the license plate lamp bulb socket.



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SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

[HALOGEN TYPE]

INFOID:0000000004261251

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Bulb Specifications

Wattage (W) Item Type* 55 Headlamp (low beam) H11 (Halogen) Headlamp (high beam) 9005/HB3 (Halogen) 60 Front combination lamp Park/Turn lamp 3457NAK 8/27 WY5W Front side marker lamp 5 Front fog lamp H11 55 Stop lamp LED LED Tail lamp Rear combination lamp Rear turn signal lamp WY21W 21 Rear side marker lamp W5W 5 Back-up lamp 921 16 License plate lamp 168 5 Without rear spoiler LED High-mounted stop lamp With rear spoiler LED

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